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INDUSTRY LEADING FLOW CONTROL NEWS FROM THE WORLD OF ROTORK

Innovative flow control technologies assist Australia's programme for clean LNG

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INDUSTRY LEADING FLOW CONTROL
NEWS FROM THE WORLD OF ROTORK

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Innovative flow control technologies assist Australia's programme for clean LNG

COVER STORY

Rotork flow control products have been selected for applications throughout the giant Queensland coal seam gas-to-LNG (Liquefied Natural Gas) projects in Australia. To date, Rotork's international sales network has received orders for more than 5000 valve actuators, embracing electric, electro-hydraulic, pneumatic and gas-over-oil technologies.

The three projects – Queensland Curtis LNG, Santos GLNG and Australia Pacific LNG - are developing coal seam gas in Queensland's Surat and Bowen Basins. Hundreds of kilometres of pipelines will link the natural gas production wells on the Queensland mainland with a world-class LNG production plant under construction on Curtis Island, which will initially produce more than twenty seven million tonnes of LNG for export each year. These coal seam gas projects are centred on a clean and efficient energy source with half the carbon dioxide emissions of coal.

For the upstream mainland wellheads, HART® (Highway Addressable Remote Transducer) enabled Rotork CVA modulating electric actuators have been ordered for process valve control at an eventual total of 2000 widely distributed sites. In addition to the natural gas, CVA actuators will also control the flow on the extraction process for coal seam water. This resource will be treated for use by agricultural and industrial customers as well as supplementing domestic water supplies.

CVA actuators deliver continuous, repeatable modulating control with a programmable fail to position option. Resolution, repeatability and hysteresis performance is less than 0.1% of full scale, offering suitability for the most demanding control valve applications. Among other advantages, innovative CVA electric actuation removes the expense of installing and maintaining instrument air supplies at these remote sites, where the pressure of the gas itself is too low to provide a viable source for actuator operation.

CVA actuators at the valvemaker's factory awaiting shipment to site.

CVAs are also preferred because electric actuation eliminates the release of any environmentally harmful gas into the atmosphere during valve operations as well as facilitating solar powered operations in the remote locations.

Nearly 1000 Rotork Skilmatic SI and EH range electro-hydraulic actuators have been ordered for control valves, shutdown valves, wellhead skids and metering skids. These self-contained actuators combine the simplicity and convenience of electrical operation with the modulating precision of hydraulic actuation and the reliability of mechanical failsafe motion. Designed to SIL3 standards for use in safety critical applications, Skilmatic actuators are also programmable for partial stroke testing, enabling valves to be tested without interrupting routine processes.

The orders for Rotork electric actuators are completed with IQ actuators for various isolating valve automation duties. All the Rotork electric actuator ranges feature advanced and user-friendly non-intrusive programming and commissioning technologies, combined with integral data logging, diagnostics and asset management capabilities.

The balance of Rotork orders on this giant project involves fluid power actuators for the pipeline and the LNG plants on Curtis Island. The majority of these are CP and GP range pneumatic actuators operating butterfly valves on LNG production lines.

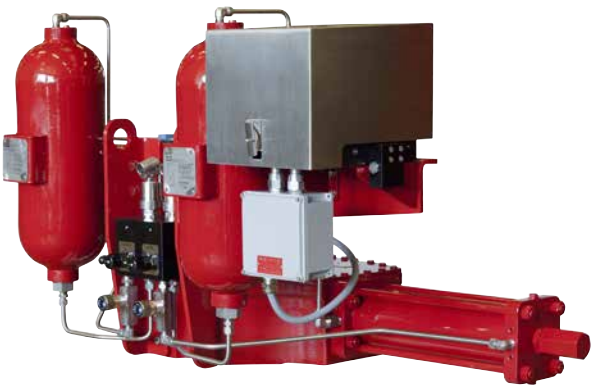
The actuators are customised with control packages to meet specific operating duties, including SIL2 and SIL3 applications.

The remainder are GO range gas-over-oil actuators, most of which are for the large mainline pipeline shutdown valves.

GO actuators are designed to use the pressure of the pipeline gas as the motive power source. Integral control functions facilitate a wide range of duties, usually safety related and including line break, low pressure close, high differential inhibit and ESD.

Rotork CVA and Skilmatic actuators installed on a typical Queensland Gas wellhead skid. On the left, a CVA actuator, model CVQ1200, operates a 3 inch (DN80) ball valve to control the gas flow and pressure. Behind the CVA, a Skilmatic Model SI-Q51 electro-hydraulic actuator operates a 2 inch (DN50) safety shutdown ball valve on the water extraction line. The Skilmatic Model SI-Q60 on the right is controlling a 4 inch (DN100) safety shutdown ball valve on the gas line.

Rotork IQ3 intelligent electric valve actuator (below) with non-intrusive bi-directional hand held setting tool for setting up, commissioning, monitoring, adjustment and downloading of data logger records for diagnostics and asset management. Rotork IQ, CVA and Skilmatic electric actuator designs share versions of this technology.



Rotork GO actuators (above) are built on a modular basis and incorporate integral control functions for a wide range of duties which are usually safety related.

Rotork's international sales network has made an important contribution to this success, with orders received at Rotork offices in Australia, China, Singapore, Italy and the USA. As well as providing a simplified contractual route for the different products, the Rotork global organisation has the ability to co-ordinate manufacture at various production centres and secure on-time deliveries to customers across the world. In Australia, Rotork has moved to larger premises in order to fully support the Queensland projects.

Rotork assists Wessex Water's **environmental improvement scheme for leisure beaches**

Rotork flow control equipment has been installed throughout a major water industry AMP5 environmental improvement project at a sewage treatment works serving Somerset's largest tourist resort on the south west coast of England.

Wessex Water has invested £26 million at the site to achieve improved bathing water quality for the resort of Weston-super-Mare. The improvements will ensure that the site can cope with increased population and continues to comply with standards set by the Environment Agency. The work has been completed ahead of the revised Bathing Water Directive, which comes into force in 2015 and introduces more stringent water quality standards.

New process plant and equipment has been constructed to improve secondary treatment by the replacement of submerged biological contactors with an efficient and reliable four-channel activated sludge plant (ASP), combined with increased final settlement capacity. This enables newly installed Ultra-Violet disinfection plant to achieve better microbial reduction and meet strict consent levels in the final effluent. The upgraded site is designed to deliver a flow to full treatment (FFT) rate of 1050 litres/second.

Additional work on the site has involved the introduction of storm settlement tanks with a capacity of 21,000 m^3 (tonnes) to assist the reduction of over-spills in combination with a separate programme to remove surface water flows into the area's foul sewer network.

Rotork's scope of supply for flow control in the project encompasses IQ multi-turn and IQT quarter-turn intelligent electric actuators and IB manual gearboxes for motorised and hand operated valves and penstocks throughout the new works. All electric actuators are Profibus-DP V1 network enabled and centrally controlled by a bespoke SCADA system designed by the Wessex Water Automation Team. The use of Profibus technology, a standard feature of Wessex Water's automation programmes, delivers significant savings in cabling, terminations, PLC hardware and labour.

The SCADA system runs the automated processes and collects control, status and diagnostic data from each actuator. This information is available on the site and at Wessex Water's regional operation centre at Bath, where remote diagnostics has proved to be a cost effective method of maintenance and service by identifying the right operational staff to be sent to site if required.The upgrade project at Weston-super-Mare STW has been performed by a partnership made up of the Halcrow Group, Dean & Dyball Civil Engineering, Nomenca and Wessex Engineering & Construction Services. The Rotork equipment was supplied in accordance with the Framework Agreement which the company holds with Wessex Water.

This IQ3 unit, the latest version of Rotork's intelligent actuation product range, drives through Rotork IB gearboxes and extension drive shafts to control the position of the two outlet modulating penstocks on the site's new Ultra-Violet disinfection plant.

Profibus-DP V1 enabled Rotork IQT intelligent electric valve actuators control the air supply to the new activated sludge plant (ASP) at Weston-super-Mare STW.

Rotork IB gearboxes are installed for the manual operation of isolating valves at site locations including the pumping stations.

Focus on Schischek actuators

For over 30 years Schischek has been supplying electric explosionproof products for building services and HVAC applications in many industries, including onshore and offshore oil and gas, refineries, chemical plants, laboratories, pharmaceuticals, water treatment and ship building. Schischek actuators enable Rotork to increase activity in hazardous and non-hazardous area HVAC markets and also fill a gap in the product range which is applicable to small valves, especially in the processing industries.

Left: Schischek ExRun actuator for linear on/off, three-way or regulating valve control
Right: Schischek ExMax explosionproof actuator operating a quarter-turn air control damper

Schischek manufactures electric actuators for quarter-turn and linear valve and damper operation, each available with a spring-return failsafe capability and with 'Ex' or 'Red' explosionproof or 'In' non-explosionproof enclosure specifications.

The Max range is manufactured in two body sizes for quarter-turn operation at output torques between 5 and 150 Nm with an on-site selectable stroke time of 3, 15, 30, 60 or 120 seconds. The selectable stroke time is one of a number of options that are built into the standard product, including the adaptable power supply and choice of on/off, three-position or modulating control. For position signalling and feedback a 4-20 mA or 0-10V supply can be utilised, whilst two end of travel auxiliary position switches are optionally available. The ExMax and ExRun actuators have a T6/T5 Temperature and IIC Explosion Group classification enabling them to be used safely in ATEX rated Zones 1 and 21 in the presence of dangerous gases, mists and vapours. The T6/T5 temperature classification enables the actuator to operate at ambient temperatures up to 40°C/50°C and an integral heater automatically maintains reliable actuator operation at temperatures down to -40 °C, facilitating the installation of standard products in extreme environments.

Robust stainless steel enclosures are available as an alternative to the standard aluminium in harsh and aggressive environments

For failsafe operation in either direction an integral spring return version is available for output torques up to 60 Nm, which can be programmed to operate with a 1, 3, 10 or 20 second stroke time. In its failsafe version the actuator is available with SIL2 safety integrity level approval. Max actuator duties in explosionproof environments include dampers for smoke, temperature or fire protection and the operation of ball and butterfly valves, typically in sizes up to 50 mm (2 inches).

For linear on/off, three-way or regulating control, Run actuators offer an output torque range of 500 to 10,000 N and stroke lengths between 5 and 60 mm. Up to five running times between 2 and 15 seconds per millimetre are selectable on-site, together with the self-adaptable power supply and choice of position signal and feedback supply. The Run actuator is not available in a linear failsafe configuration, but this function is achieved by the combination of a Max actuator and Lin gearbox. The Lin converts the actuator's quarter-turn output into a linear stroke, selectable at lengths between 10 and 42 mm.

Both Schischek and Rotork are known for manufacturing products of the highest quality and reliability. These products complement each other and enable Schischek to significantly extend its offering in the HVAC market, supported by Rotork's worldwide presence in almost 100 countries.

Rotork's rack and pinion pneumatic actuators are one example of a product that gives Schischek the ability to increase its offering to encompass electrical sensors and monitoring equipment with electric and pneumatic actuation. In another scenario, Rotork's range of larger explosionproof electric actuators can be used with Schischek actuators to increase versatility and scope of supply. Motorway tunnels in Melbourne, Heathrow Airport's T5 terminal and the London Olympic Village are just three of many locations where Rotork IQ intelligent electric actuators are used for fire control and HVAC applications. Power stations are another area of activity, where large linear and rotary Rotork electric and pneumatic actuators are used for applications including the modulating control of inlet and draft dampers for boiler combustion control.

At the other end of the size range, Rotork's abilities in the process industries benefit from the option of using Schischek electric actuators to control small linear valves requiring up to 10 kN operating force and quarter-turn valves with torque requirements up to 150 Nm. By providing isolating and modulating control with a failsafe function, these products sit neatly below Rotork's ranges of electric control valve actuation products, including CVA and CMA process control actuators, broadening the scope of supply in plants containing large and small bore pipework and introducing the option of an all-electric solution in every area of the process.

Retrofit upgrade replaces actuators **after sixty years unbroken aerospace industry service**

Some of the very first valve actuators to carry the Rotork name are being replaced with the company's latest intelligent IQ3 actuators after sixty years of unbroken service on a demanding and critical duty in the aerospace industry.

Dating from 1953, the Rotork Model 100A actuators were part of a contract to operate the valves on one of the world's first large scale supersonic wind tunnels. Designed and built by the then newly formed Aircraft Research Association at Bedford, the Transonic Wind Tunnel was an ambitious project created to keep the British aviation industry at the cutting edge of technology by testing the effects of supersonic speeds on new aircraft designs. The facility is operated by a 25,000 hp AC motor and a 13,000 hp DC motor. In addition a 10,000 hp compressor is used to provide extra power to enable testing at high transonic and supersonic speeds up to mach 1.4 (1065 mph approx).

In the early 1950s Rotork was still in its infancy and the award of this significant and prestigious contract was a milestone on the route to the establishment of what is now the world's leading manufacturer of valve actuators and flow control products. Since the wind tunnel was first commissioned in 1956 it has been in virtually continuous daily operation, testing military and civil aircraft from around the world. It has played a vital role in the development of legendry projects including the TSR2, Harrier jump-jet and Concorde. Today the work continues with programmes including Airbus, the Eurofighter Typhoon and the Lockheed Martin F-35 JSF.

Remarkably, although designed for isolating valves, the Rotork 100A actuators have been performing modulating duties throughout their sixty years of service, constantly altering the position of large gate valves by small degrees to control the level of wind speeds and provide the data that is needed for the highly accurate measurement of test results. It is the automation of this process with a bespoke control system incorporating a Modbus control network which has necessitated the replacement of these units with new IQ3M actuators that are specifically designed for modulating duties.

Because there is a constant demand to use the wind tunnel, careful and detailed planning has taken place to ensure that the retrofit operations can be successfully completed in the brief periods of time that are available between test programmes. The restricted access around the valves also demands particular attention. Detailed planning paid off when the first two actuators were removed and the replacement IQ3M actuators installed and commissioned in two days, half the allocated time allowed before the wind tunnel was due to re-start operations.

Richard Harvey, Senior Process Engineer at the Aircraft Research Association, is pleased with Rotork's contribution to the success of the project. He explains:

"We are currently undergoing a £1.5million upgrade programme for equipment that controls our Transonic Wind Tunnel. One of the packages of work that is being undertaken is to replace our auxiliary compressor valve drive units. These were selected because they are amongst the oldest pieces of equipment on site and they are being used on a daily basis. The existing Rotork 100A actuators have functioned very well considering they are being used well outside of their rated specification, but at 60 years old they were due for retirement.

"The replacement valve drives needed to be very reliable and have an accurate positional indication as they are vital for the operation of the tunnel and the data we collect. We approached Rotork with our specification who pointed us in the direction of the new IQ3M35 actuator. I was delighted with the vast amount of information and precise control that I could achieve using the Modbus interface card. The installation was a success and the tunnel drivers have reported that the new actuators provide them with much better control. We are now looking towards our next maintenance period where the remaining actuators are due to be replaced."

One of the original Rotork 100A valve actuator installations.

Richard Harvey, Senior Process Engineer at the Aircraft Research Association, inspects the same valve, now retrofitted with a new Rotork IQ3M actuator.

Rotork selected for routine and safety-related **valve control duties on Turkey's pipeline network**

Pipelines carrying products including natural gas from Asian countries traverse Turkey en-route for export to other final destinations or as a source of energy for domestic consumption.

Compressor stations along the route are designed to preserve the pressure level in the networks and transfer the gas for local area consumption. These are among the pipeline locations where Rotork valve actuation technologies are widely utilised.

The compressor station on the natural gas pipeline at Erzincan in eastern Turkey, serving the country's Anatolian area, is a typical example. Here, Rotork's well established agent Omas Teknik Pazarlama Temsilcilik has supplied, installed and commissioned actuators for operational and safety-related duties.

The Erzincan station consists of four turbine/compressor units maintaining a pipeline flow rate of between 1.6 and 2 million standard cubic metres per hour, which helps to increase the network's overall transportation capacity. Rotork valve actuators are integrated into an ABB automation system that controls the compressor station and other processes including a high integrity safety system for emergency shutdown, instrumentation and other electrical equipment.

The safety-related valve duties are performed by Rotork GO Range gas-over-oil actuators operating ISO Class 600 ball and plug valves in 16 inch and 48 inch sizes. The GO Range uses the pipeline gas as the motive power source. The gas is delivered to oil tanks that convert the gas into hydraulic pressure and this pressurised hydraulic oil is used to drive Rotork scotch-yoke quarter-turn or linear valve actuators.

Using pressurised oil as the driving force provides powerful and smooth actuator control and isolates the cylinder from the pipeline gas. This prevents contaminants from entering the hydraulic cylinder, eliminating corrosion and seal deterioration and extending actuator life.

At the centre of the gas-over-oil system, the multi-function manifold block integrates gas control functions to facilitate a wide range of valve control options. Standard gas control systems are complemented with optional equipment for functions including Line Break, Low Pressure Close, High Differential Inhibit and Emergency Shutdown (ESD). The manifold has the facility for a high-flow hand pump, pressure relief and a locking handle for safe commissioning. High pressure and low pressure control logic designs are also available, together with torque limiting devices for valve and drive train protection.

Rotork GO actuators are IP66M/67M third party certified and approved for environmental protection, together with CE and ATEX hazardous area certification. The standard working operating pressure range is 10 to 105 barg, enabling a quarter-turn operating torque of up to 600,000 Nm and linear thrust of 5,000,000 N to suit pipeline valves of virtually all sizes and description.

Operational isolating duties at Erzincan are performed by Rotork IQ intelligent valve actuators with secondary gearboxes, operating ISO Class 600 ball valves in 24, 28 and 48 inch sizes. The benefits of IP68 watertight and ATEX certified Rotork IQ actuator technologies are widely recognised for isolating and regulating valve duties in the oil, gas and pipeline industries. The use of solid-state electronics as an alternative to switch mechanisms and counter limiting devices, combined with programmable micro-processor based control and instrumentation functionality, offers many proven benefits.

Rotork GO Range gas-over-oil valve actuator installations at the Erzincan compressor station.

These include 'non-intrusive' configuration and data transfer by means of a hand held instrument via a secure, bi-directional link. This system is used to perform all switch setting and commissioning functions that were traditionally only achieved by removing electrical covers. Using the multi-lingual menu on the actuator display screen, it is quick and easy to commission the valve, with or without mains power connected.

The same instrument is used to download operating information from the actuator's data logger. The inclusion of a data logger enables an event-by-event history of valve activity to be generated, including torque profiles produced during each opening and closing. Using Rotork's IQ-Insight2 software, these can be compared with the valve torque signature profile logged during the commissioning process to identify the trend of valve operating wear or isolate tight spots and other problems. Analysis of this data improves asset management through fault diagnostics and preventative maintenance.

The compressor station at Erzincan is one of several in Turkey that have incorporated Rotork actuators into the automation system. Others include Kirsehir, Eskisehir, Hanak and Sivas, with more planned for the future. Rotork's abilities as a single source for electric and fluid power actuators, combined with the expertise, experience and comprehensive facilities available at a local level from Omas, provide vital contributions to the award of these contracts and subsequent product support.

Pakscan wireless valve control is the "*perfect fit*" for tank farm automation

The Rotork Pakscan wireless valve control system is described as a "perfect fit" for a petroleum tank farm automation project in the USA.

Rotork IQ valve actuator installations on one of the storage tanks at the MMLP Corpus Christi tank farm, illustrating the simplified site wiring (power cabling only) facilitated by the wireless Pakscan P3 control system.

Pakscan

In 2011, an operating division of Martin Midstream Partners (MMLP) began building a single product tank farm at the Port of Corpus Christi, Texas, consisting of six 100,000 barrel tanks and four booster pumps to serve nearby truck and ship loading terminals. Originally, the facility was designed for a single hydrocarbon product. The terminal's original specifications did not require any automated valves to isolate the individual storage tanks.

During construction, MMLP decided to upgrade and introduce the capability to handle a second product, which necessitated the requirement of isolating the tanks to avoid cross-contamination. To achieve this, MMLP specified Rotork electric valve actuation under centralised control. The explosion proof Rotork IQ non-intrusive intelligent actuators are monitored and controlled by a Rotork Pakscan P3 digital system, designed specifically for valve actuation duties and the environments associated with hazardous area petrochemical plants and storage areas. The Rotork system incorporates all appropriate interlocks which safeguard the integrity of the terminal operations.

For this project, MMLP has been able to take advantage of additional functionality and further economies through the introduction of Pakscan P3 with a wireless field network. Wireless Pakscan eliminates virtually all the costs associated with the installation of wiring, cable ducts, safety barriers and associated equipment required for network cabling, whilst enabling an increased level of information from the actuators to be communicated over the wireless network.

Chris Duke, Rotork's lead service technician on the project, explains:

"The customer didn't want to add a lot of new conduit and wiring to control the actuators, so the wireless Pakscan system was a perfect fit.

"The installation consists of 16 Rotork IQ40 non-intrusive intelligent actuators, one Pakscan P3 wireless master station and three network repeaters, which are used to overcome radio black spots and ensure the redundancy of the network. As far as start-ups go, this was by far the easiest of any type of control system that I have seen.

"Some pre-commissioning of the wireless system was performed at the Rotork factory in Rochester prior to delivery and, once in the field, I installed the wireless antennas on each actuator and gave each unit its unique address. When this was done I powered up the master station and, as if by magic, all sixteen actuators populated the network within a few minutes. The customer was very impressed with the job done and how quickly everything came together."

Following the success of this project, the same actuation and control system will be extended to three additional tanks to be built during the second phase of construction at this facility.

Rotork Pakscan P3 Master Station.

Rotork IQ40 actuators installed on the four booster pumps, again illustrating the simplified site wiring. Note the wireless Pakscan antennas on each actuator's terminal housing.

Another golden opportunity

At the same time as the network at the MMLP plant was being commissioned, the installation of another wireless Pakscan network was being completed for an application in an entirely different industry – gold mining.

The Newmont underground gold mine in Nevada utilises Geotube® dewatering technology to separate sediment from both ground and extraction process water. The filter systems, which are installed above ground, are fabricated from a woven material which is permeable to water while retaining solids and sludge. Excess water drains through small pores, resulting in effective dewatering of the contained material, which is then processed to extract the gold.

The large scale filtering operation has been automated by the motorisation of the filter inlet and isolating valves with Rotork IQ electric actuators. A total of 15 actuators have been installed on valves over a widely distributed area and a Modicon PLC has been introduced to supervise the operation of the plant.

Here again, the utilisation of the wireless Pakscan P3 network for the monitoring and control of the valve actuators has delivered a reliable and economical solution, eliminating the cost of installing any additional site wiring apart from the actuator power cables. All the actuators are in 'line-of-sight' of the Pakscan coordinator module, with the distance to each actuator ranging between 68 metres to 132 metres. The externally mounted coordinator is connected to the Pakscan P3 master station in the control room by a 15 metre cable. The master station communicates with the Modicon PLC using Modbus TCP Ethernet protocol.

A section of the Geotube® dewatering plant, with the Rotork IQ actuators installed on the inlet pipework on the right hand side. In total there are 12 filter bags, of which 3 can be seen in this view below.

James Hall and Mark Dennis from Rotork's service team complete the non-intrusive commissioning of one of the 12 Rotork IQT actuators that control the flow of water into the filter bags.

Rotork Pakscan P3 wireless

First introduced in 2009, the Rotork Pakscan P3 wireless network control system is a further development of the Pakscan system used in thousands of plants throughout the world today.

Simply stated, the system establishes a secure wireless mesh network that is used to control actuators and other field devices throughout the plant and to gather important operating data for asset management and preventative maintenance from the connected valve actuators.

IQ Pro actuator showing Pakscan P3 wireless network card installed.

The wireless system consists of three main hardware components:

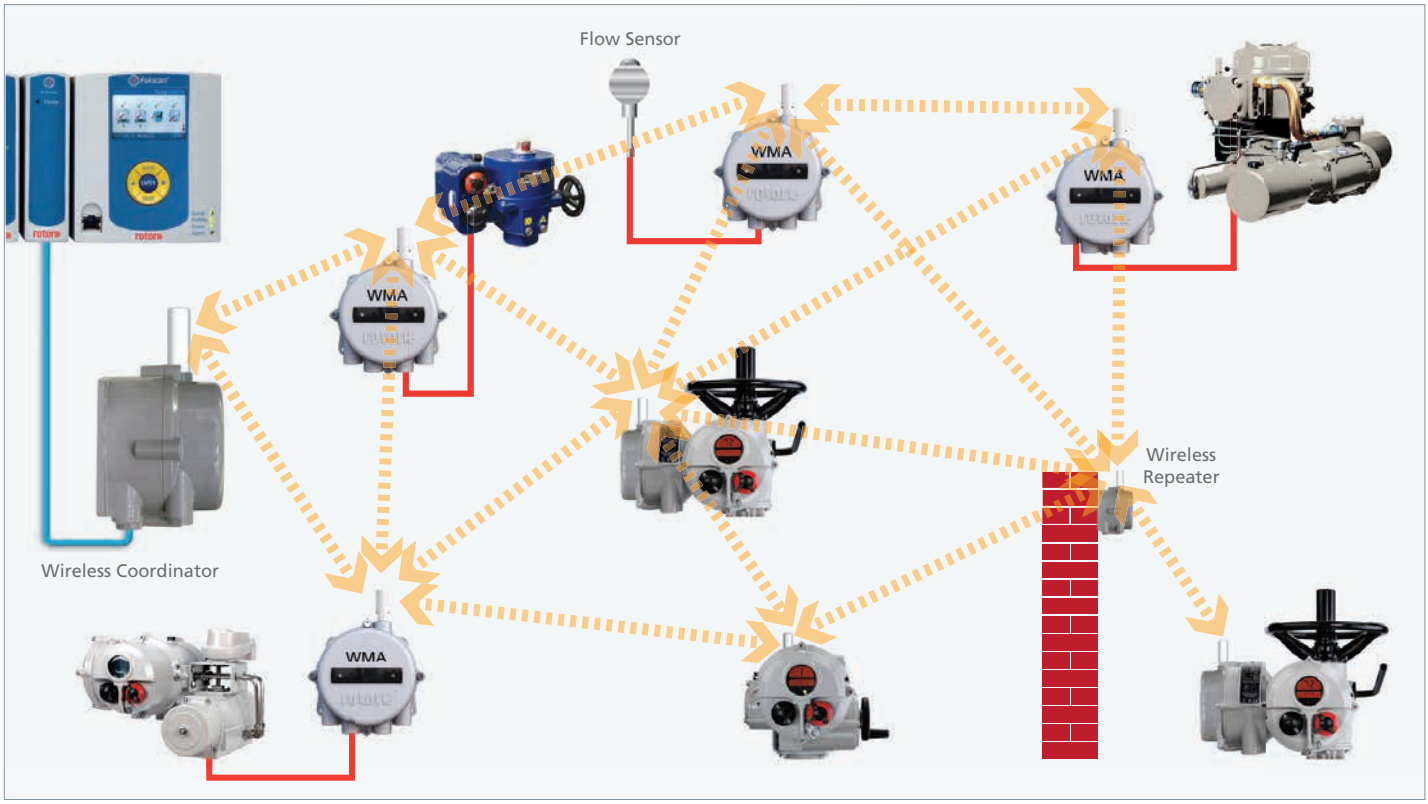
- A Pakscan P3 master station fitted with a wireless interface module, which is typically connected to the plant's control system using industry-standard Modbus protocol over either a serial or Ethernet connection.
- A Pakscan P3 wireless coordinator module, which can be mounted, either indoors or outdoors, up to 200 metres away from the P3 master station (further if standard fibre optic converters are employed) and which functions as the base station for the system's robust mesh network.
- A wireless actuator module installed on each actuator on the wireless network.

The wireless system operates on the license-free, globally recognised 2.4 GHz ISM (Industrial Scientific and Medical) frequency band and has a line-of-site operating range between each device of approximately 30 metres indoors and 100 metres outdoors. Up to 60 actuators can mesh with a wireless coordinator.

In a Pakscan wireless mesh network, each actuator on the network can act as an independent router to help signals get to their intended destination. A correctly designed network will be configured to provide two or more paths between each actuator and the wireless coordinator. Therefore, if the normal traffic route is blocked or if a hardware or communication failure should occur, it can be overcome as the network dynamically determines an alternate route for the data to travel. This self-healing network mimics the loop-back capabilities of the established Pakscan two-wire loop.

In such a network, privacy and security are high priorities. To prevent unauthorised commands being sent to devices over the wireless network, all control data is encrypted using the Advanced Encryption Standard (AES). Additional encryption is incorporated into the system to prevent unauthorised devices joining the network and to prevent a message replay attack.

The Pakscan P3 wireless network card gives the user access to all the standard control and monitoring features and data available from the wired Pakscan system, together with the diagnostic and asset management information stored as standard by Rotork IQ actuator data logger and configuration files, which is otherwise only downloadable locally, using the IQ hand held commissioning and communication tools. Using built-in web pages it allows easy extraction of these files from the control room over the wireless network.



This schematic illustrates how different actuator designs as well as instrumentation such as flow sensors can be monitored and controlled on the same wireless Pakscan P3 network.

Retrofit upgrade at **Turkey's largest refinery chooses Rotork valve automation**

Rotork valve actuation and two-wire digital control technology has been chosen for a major upgrade and automation programme at the Tupras Izmit refinery in Turkey.

Tupras is Turkey's largest industrial company and leading refiner, operating four refineries of which Izmit is the largest. First opened in 1961, production at Izmit of commodities including LPG, naphtha, petrol, jet fuel, kerosene and diesel is now running at over 11 million tons a year.

More than 900 explosionproof Rotork IQ intelligent electric valve actuators will be installed in a four stage project to motorise manually operated valves on the refinery's tank farms. Nearly 800 of the actuators will be retrofitted on existing valves whilst the balance will consist of new actuated valve packages.

Many of the actuators will be factory fitted with intumescent fireproof coatings, as shown picture bottom right.

The non-intrusive, explosionproof and permanently watertight design of the Rotork IQ has a proven record of long term reliability and low cost of ownership in the petrochemical industry. Secure non-intrusive and wireless technology is utilised for setting control parameters, commissioning and downloading integral dataloggers to provide vital diagnostic information for asset management programmes.

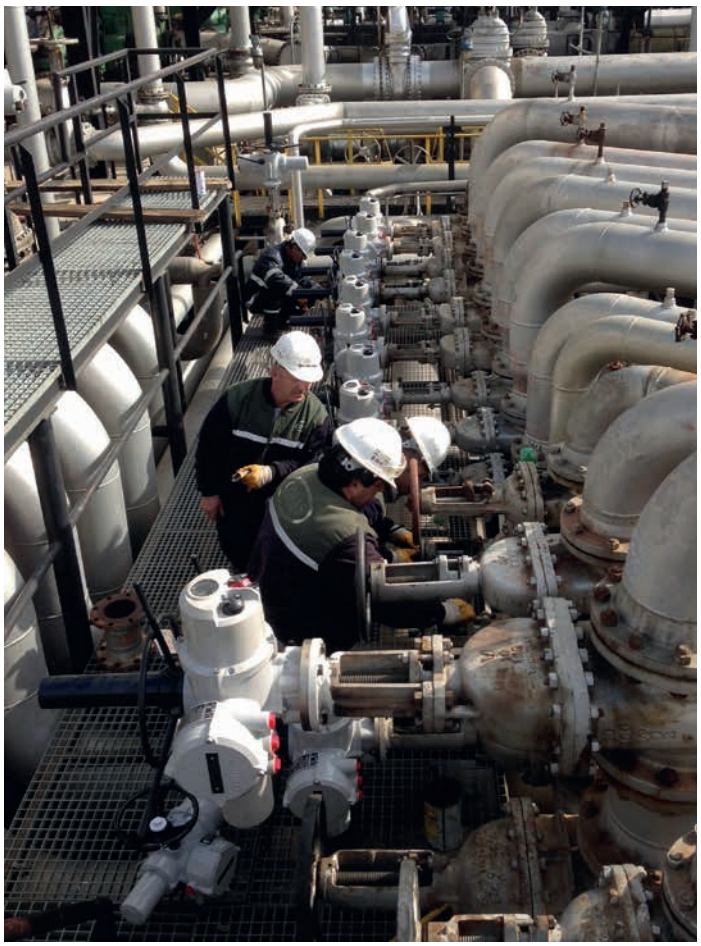
The retrofit project at Izmit is being performed by Rotork's well established agent in Turkey, Omas Teknik Pazarlama Temsilcilik. Omas's responsibilities include the design and fabrication of valve adaptation, installing the new actuators, commissioning and on-site support.

The new actuated valve packages are being assembled and tested in the Omas workshops prior to delivery to site.

The expertise, experience and comprehensive facilities available from Omas at a local level are key components in the success of this major retrofit project.

Due to the size of the refinery site, groups of IQ actuators in different areas will be monitored and controlled by a total of twenty Rotork Pakscan P3 digital bus networks. Designed specifically for valve actuation applications and the spacious environments associated with tank farm installations, Pakscan incorporates secure field communications with inbuilt network redundancy. Each network is controlled by a Pakscan P3 master station which provides a local centre for monitoring and control and links the network to the site's SCADA system.

The tank farm upgrade at Izmit is part of a massive modernisation and expansion programme at the Tupras refinery. This also includes the construction of new refinery facilities on an adjacent site by the Spanish company Técnicas Reunidas, for which more than 400 IQ electric actuators are being supplied through Rotork's Spanish subsidiary company.



Retrofit work in progress. Engineers from Omas work on one of the tank farm manifolds at the Tupras Izmit refinery.

Rotork Fairchild pressure regulators **selected for high accuracy research applications**

Rotork Australia has supplied Fairchild Model 10 pressure regulators for research applications demanding highly accurate pressure control at the TRI Australasia facility near to Queensland's Gold Coast.

Panel mounted Fairchild Model 10 Regulators are used on the 'Measurement of index flux through saturated geo-synthetic clay liner specimens using a flexible wall permeameter' test rig at TRI Australasia.

The Fairchild Model 10 Regulator is also used on the test instrument for 'Fluid loss of clay component of geo-synthetic clay liners'.

TRI Australasia offers highly specialised services including a range of geo-synthetic testing and quality assurance programmes for a multitude of industries. The Fairchild Model 10 regulators have been installed on two processes where compressed air is used to check for the content of water retention within clay. Both processes demand highly accurate set point pressure supplies in order for the tests to maintain reliable results.

Fairchild Model 10 regulators are designed for applications where high performance and reliable set point accuracy are essential. Suitable for system pressures up to 34 bar (500 psi) and flow capacities up to 63 cubic metres/hour (40 SCFM), the Model 10 offers nine set point pressure ranges and is easily able to achieve the +/- 0.5% accuracy required for the TRI application.

Commenting on the Fairchild product, TRI Australasia's Divisional Director Warren Hornsey said "We chose the Fairchild product due to the accuracy required and the strong name within the industry. It was also important for us to have the support that Rotork Australia can offer from their local Brisbane office."

Rotork selected for valve automation **at the Olivenza Thermosolar power plant**

Rotork intelligent electric valve actuation with digital two-wire monitoring and control has been specified for valve automation at the Olivenza Thermosolar power plant in Spain, a CSP (Concentrated Solar Power) technology facility generating eco-friendly electricity for up to 50,000 households.

More than 100 IQ actuators and two Pakscan P3 hot-standby master stations have been supplied, fully installed, cabled and commissioning by Rotork Iberia.

The Olivenza Thermosolar power plant is the second plant to be operated by the Spanish company Ibereolica. Rotork supplied IQ range electric actuators with Pakscan digital control at the company's first plant, Moron Thermosolar, and the satisfactory experience on this project, where installation and commissioning was performed on time and without incident, has enabled Ibereolica to select the same Rotork equipment again. As with the Moron project, Seridom has been the main contractor for Olivensa Thermosolar.

Right: One of the many Rotork IQ actuator installations at the Olivenza Thermosolar power plant.

Rotork Gears completes **landmark contract for Chinese subsea valve industry**

Rotork Gears has successfully completed a landmark contract in the history of the Chinese subsea valve industry.

In 2012 the government in China initiated an incentive policy to encourage the country's valve making industry to develop its own subsea valves to serve a market that has been traditionally dominated by foreign manufacturers. Through its factory in China, Rotork Gears has been working closely with the Chinese valve makers involved with subsea valve production to provide technical and engineering support, drawing on over 30 years experience of subsea gearbox design and manufacture.

Early in 2013 these efforts were rewarded with an order from the Shanghai Pudong Hanwei Valve Company. The contract involves two WGS Series subsea gearboxes fitted to a double block and bleed valve for a natural gas pipeline in the Bohai Sea. The 8 inch Class 600 valve is being installed a depth of 30 metres on a pipeline serving the Suizhong SZ36-1 oilfield and operated by the China National Offshore Oil Corporation (CNOOC).

Designed for heavy duty subsea applications, the Rotork WGS quarter-turn gearbox features a worm shaft supported on taper roller bearings, a high strength alloy steel worm screw and a membrane or piston type pressure compensator to enable operation at any depth. Gearboxes can be equipped with a high visibility position indicator, vertical or horizontal ROV inputs and a handwheel for diver operation. Self locking and available with many gearing ratios, WGS gearboxes are permanently lubricated and designed for output torques up to 500,000 Nm.

The Chinese manufactured subsea double block and bleed valve equipped with WGS gearboxes in a landmark contract for Rotork Gears.

Swift delivery of Rotork actuators **assists early completion of new gas pipeline**

Rotork GP actuators mounted on 30 inch pipeline ball valves await shipment from the valvemaker's factory for buried service installations on the Kochi-Kootanad Bangalore-Mangalore Pipeline.

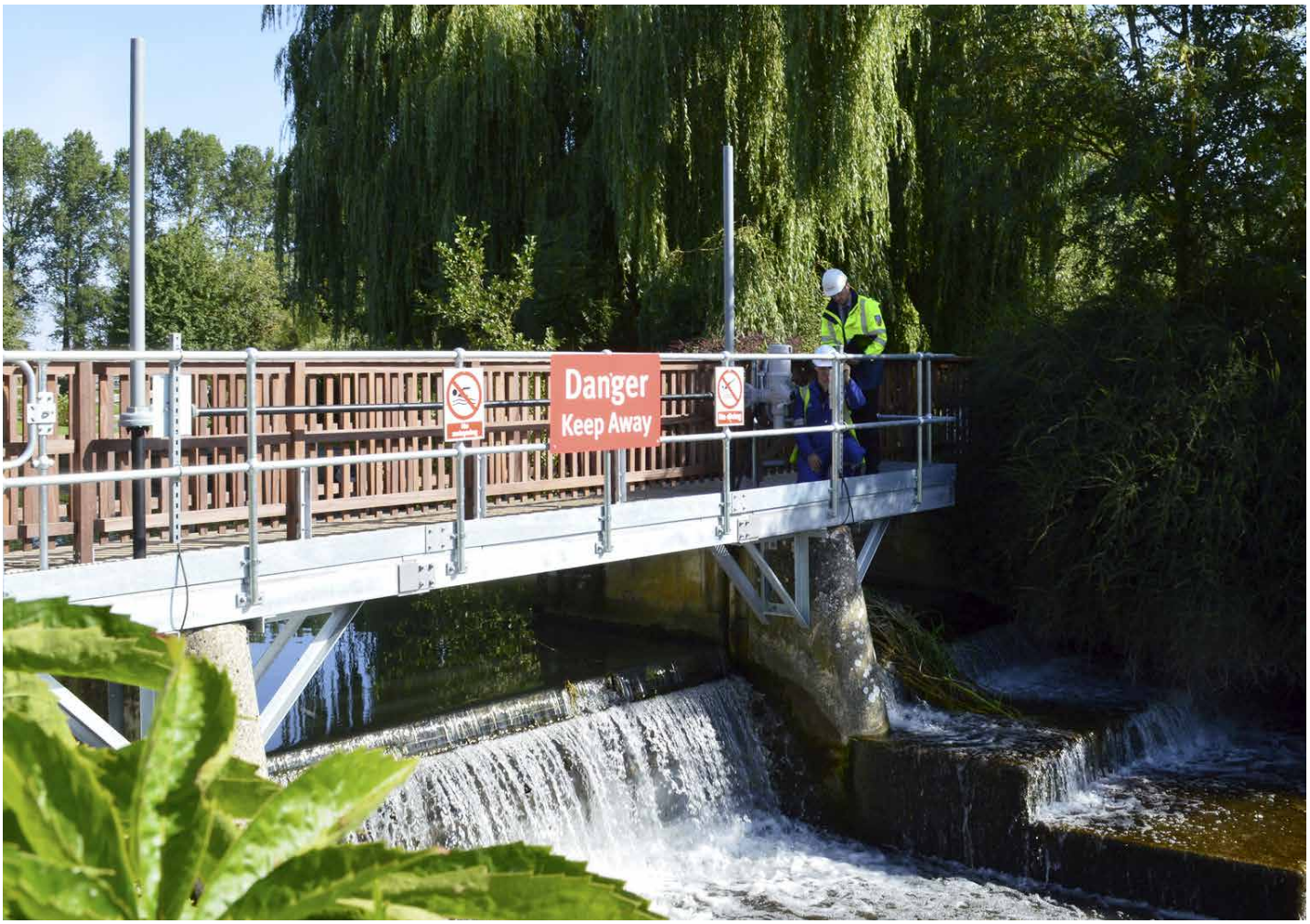
The swift delivery of a total of 82 large GP Range pneumatic valve actuators has assisted the completion of a natural gas pipeline owned by the Gas Authority of India Ltd many months ahead of the originally planned schedule. The order represents the largest supply of actuators from a single manufacturer on the entire pipeline.

Manufactured at the Rotork Fluid Systems factory in Lucca, Italy, the actuators have been supplied to valvemakers in India for installation on Phase 2 of the Kochi-Koottanad Bangalore-Mangalore Pipeline project.

The actuators will operate above ground and buried service ESD (Emergency Shutdown) ball valves along the length of the 30 inch diameter, 879 kilometre pipeline, which runs from a new 5 million tonne annual capacity LNG import terminal constructed by Petronet at Kochi, on India's south-west coast. Rotork's contract included packaging the actuators with cabinet mounted limit switches and controls, together with gas storage tanks for the ESD duty.

GP actuators are manufactured in double-acting and spring return configurations with torque outputs up to 600,000 Nm (5,000,000 lbf.in). Certifications include IP66M/67M, ATEX94/9/EC and PED 93/27/EC and the actuators are also suitable for use in SIL2 and SIL3 rated safety systems.

River weir upgrade **illustrates Rotork's extended scope capabilities**



Rotork is well known for supplying flow control equipment for new and upgraded industrial plants and processes on a global scale. In these contracts, often involving tens or hundreds of valve actuators and associated control equipment, Rotork works with valvemakers, engineering companies and end users as one of several members of a project team, each with different areas of expertise and generally all under the supervision of a main contractor.

Another part of Rotork's activity involves actuators that are retrofitted on site as part of improvement projects which often also include additional work such as mechanical, electrical and civil engineering. The members of Rotork's dedicated Site Services Division have many years experience of these projects, enabling them in many cases to organise the total supply of the work that is required together with project management services, embracing all of the project team disciplines in what is called an extended scope contract.

A major benefit for the customer is the simplified contractual route that the extended scope contract enables, by reducing the number of separate sub-contractor contracts. Extended scope contracts have become particularly popular with customers in areas including water, power and environmental improvement, where projects can be relatively modest in scale but still demand a diverse range of engineering skills and disciplines. A recent Rotork UK contract for the Environment Agency at the picturesque village of Buscot in Wiltshire is a good example.

Above: Buscot Weir after the completion of Rotork's extended scope contract, which encompassed project management, new valve actuation and adaptation, a new control panel in an adjacent building and the installation of a new walkway platform for inspection and maintenance.

For many years Buscot Weir on the River Thames had been equipped with electric motors that were used to adjust the position of two sluice gates in order to manage the river level and flow rate during fluctuating weather conditions. These motors, with the associated valve shafts and an electrical control panel in an adjacent building, had become obsolete and required replacement to safeguard the river banks from potential flooding in the future.

As well as replacing all the obsolete equipment, the Environment Agency wished to ensure that future inspection and maintenance could be carried out safely. To achieve this it would be necessary to construct a new access walkway platform along the length of the weir. Following the preliminary site survey of the existing

Close-up of the obsolete sluice gate motor drives.

A Rotork engineer confirms the successful operation of the new control panel during site commissioning.

Installation nearing completion on the new walkway platform; the IQ3 actuator in the foreground is fitted with its vandal-proof cover.

installation, Rotork Site Services submitted a contract proposal to the principle contractor AMCO Engineering which encompassed project management services and the total supply of all the elements of the project – new valve actuation, valve adaptation, wiring and control panel, new walkway platform, removal of old equipment, installation of new and commissioning.

Upon acceptance of the proposal, Rotork engineers returned to site to carry out a detailed survey to enable the replacement equipment to be dimensioned, designed and fabricated and to organise all the other equipment needed for the installation work such as scaffolding and temporary access. In this case it included the provision of pontoons by a company that specialises in safeguarding working environments when the presence of water is a potential hazard.

Rotork's design team was able to replace the two existing electric motors with a single IQ3 electric valve actuator to operate both sluice gates simultaneously, driving through a combination of new shafting and three gearboxes supplied by Rotork Gears. The IQ3 actuator is certified as watertight and temporarily submersible to IP68, providing secure environmental protection for long term reliability in all anticipated ambient conditions. As the installation is adjacent to a public footpath, additional security is provided by the fitting of a vandal-proof cover over the actuator's local control buttons to prevent any unauthorised operation or interference.

Rotork Site Services co-ordinated the manufacture and fabrication of all the new equipment and materials required for the upgrade. When this was completed, engineers from Rotork and the sub-contractors were back on site to remove the old equipment, install the new actuator and valve shafting with control panel, wiring, walkway platform and all associated ancillaries, completing the installation and commissioning within seven days.

Above: Buscot Weir prior to the upgrade

Rotork adds **rack and pinion actuators to its product range**

Rotork recently announced the acquisition of the GTA Group, comprising of GT Attuatori Srl, GT Attuatori Europe GmbH and Max Process GmbH.

GT Attuatori was established in 1963 and is a leading manufacturer of rack and pinion pneumatic valve actuators. The product range encompasses single and double acting actuators, solenoid valves, switchboxes and mounting accessories, providing packaged valve solutions for flow control applications in many industrial processes. For safety critical duties, the actuators are available with SIL3 certification to IEC international standards 61508 and 61511.

The GTA Group is based in Italy and Germany, where the company also has a centre of excellence. Commenting on the acquisition, Rotork Chief Executive Peter France said: "The acquisition of GTA brings to the Rotork family of companies one of the longest established, best regarded, rack and pinion actuator manufacturers in our markets. The acquisition will further enhance the range of products Rotork offers to our customers."

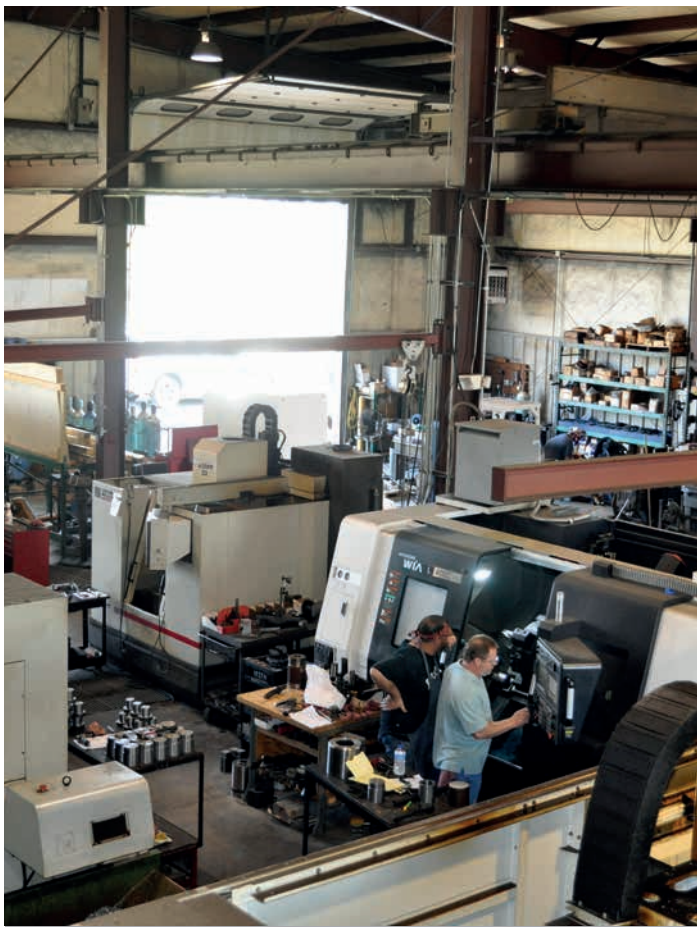
Acquisition expands **Rotork's valve adaptation business**

The addition of Renfro Associates Inc. to the Rotork Group heralds the expansion of Renfro's valve adaptation and accessories business to cover all of the USA.

From its home in Broken Arrow, Oklahoma, Renfro Associates has been designing and manufacturing valve automation packages encompassing actuators, gearboxes, instrumentation and fabricated adaptation for flow control applications in industries including oil & gas, water treatment and food processing since 1979.

The company's in-house CAD facilities, combined with a modern machine shop and welding equipment, have earned an impressive reputation for the manufacture of quality actuated valve packages of all sizes to meet the demands of virtually any duty.

When asked about the acquisition, Rotork Chief Executive Peter France explained: "Renfro is a long established business with an excellent reputation for delivering high quality product and service to its customers. The acquisition provides us with the opportunity to repeat the success of our UK based Valvekits business by expanding the Renfro offer across the USA."



Rotork Middle East **opens purpose-built factory**

An Open Day at the end of April celebrated the opening of Rotork Middle East's purpose-built factory in Dubai. Situated in the Jebel Ali Free Zone, the new premises contain offices and workshops, with initially 15 sales and technical staff and plans for further expansion.

The new 600 square metre facility provides increased local support for business in flow control markets throughout the Middle East, where Rotork has been active since the 1950s. A Rotork regional presence was first established in Abu Dhabi in the 1970s.

Recent projects involving the Middle East oil and gas industries include the Abu Dhabi Crude Oil Pipeline linking Habshan and Fujairah, the Ruwais Refinery expansion and the New Doha International Airport. Rotork valve actuation and control technologies are also widely utilised in the area's water and waste treatment, power generation, desalination, infrastructure and environmental improvement industries.

As well as holding stocks of products and spares locally, the new facility will provide a full range of valve adaptation, retrofitting, site service and asset management activity encompassing electric and fluid power actuators and associated equipment. A driving force behind the expansion is the demand for reduced project downtime, with more scope for planned, emergency and preventative maintenance. Rotork Chief Executive Peter France and Edward Hobart, HM Consul

During the Open Day customers and agents were invited to see the workshops and product presentations by the Rotork Middle East team.

General in Dubai, performed the ribbon-cutting ceremony, at which Graeme Mullin, HM Trade and Investment Advisor in Dubai and Terry Willis, Regional Director of the Energy Industries Council, were also present.

When asked about the new factory, Peter France replied:

"The Middle East region has always been an important market for Rotork. Our success has been built on the need for high quality products that will work in some of the most challenging environmental conditions. The new facility will enable us to respond to the needs of our local customer base and provide expanded services for the complete range of Rotork products. We look forward to further growth as the region continues to develop."

The full address for Rotork Middle East is:

Rotork Middle East Fze

R8 OA LC07, Jebel Ali Free Zone,
PO Box 262903
United Arab Emirates 262903

tel: +971 04 887 6408
fax: +971 04 887 6409
email: rme.sales@rotork.com

First orders for Rotork's **robust and compact 242 Series manual gear operators**

Part of a consignment of Rotork Model 242-30 gearboxes attached to 150 mm (6 inch) China Valves Hanwei ball valves for a natural gas project.

Rotork Gears reports that international markets have reacted positively to the introduction of its range of 242 Series manual gear operators and orders have been received. Significant activity in China includes an important order from the valve manufacturer China Valves Hanwei for a natural gas project.

242 Series manual quarter-turn gear operators benefit from the latest design technologies to provide optimum robustness and durability with minimal non-structural mass and reduced overall size.

Suitable for the operation of ball, butterfly and plug valves or other quarter-turn devices in most general industrial applications, all 242 Series manual gear operators feature a sturdy cast iron IP67 watertight enclosure, a ductile iron wormwheel, PTFE thrust washers and adjustable end stop screws.

A range of five sizes is available to accept valve stem diameters of up to 70 mm (or 58 mm square section) and deliver an output torque range of up to 2100 Nm. Built with standard ISO base dimensions between F05 and F25, simple and rugged 242 Series gear operators are ideally suited for low torque manual applications.

Options include stainless steel input shafts and fasteners, Namur and Westlock mountings, an IP68 temporarily submersible enclosure and a padlock kit.

Rotork Gears introduces **new valve gearbox with GOST Standard dimensions**

Rotork Gears has introduced the NTBG series of bevel gearboxes, designed specifically to comply with the Russian GOST-R Standard CKBA 062-2009 for valve and actuator mounting dimensions.

GOST is the predominant standard for valves in the oil, gas, power generation and utility industries throughout Russia and its neighbouring countries.

The NTBG Series bevel gearbox from Rotork Gears.

Developed from the proven and rugged Rotork IB gearbox range, the NTBG design is intended for the manual or motorised operation of multi-turn gate, globe, sluice and penstock valves where the operating thrust is contained within the valve itself.

The multi-turn lug drive is suitable for non-rising and rising valve stems. Housed within an environmentally sealed ductile iron enclosure, precision engineered input pinion and output bevel gears with low friction PTFE hub bearings provide an extended service life and smooth operation under high load conditions.

The fully sealed enclosure is grease filled for life and certified as watertight to IP67 as standard. IP68 certification is optionally available for harsh environments including buried service duty.

Other options include auxiliary spur, bevel or two-speed input drive reducers, flexible extensions and high or low temperature trims beyond the standard -60 to +120 °C for maximum operational adaptability.

GOST Standard output lug drive interface, suitable for rising or non-rising valve stems.

The range of four model sizes delivers an output torque range of 250 to 10,000 Nm. All models are available with suitably sized handwheels for manual operation or can be motorised with electric actuators.

Schischek launches **explosion-proof controller for decentralised HVAC control structures**

With more and more applications in the building automation sector requiring high performance, cost effective and easy to use explosion-proof control systems, Schischek now provides the solution with the introduction of ExReg.

The ExReg control unit is designed to ensure smooth operation when controlling HVAC systems for variable air volume (VAV), pressure, temperature and humidity by minimising the number of separate components required.

Developed from the successful ExCos and ExBin HVAC sensor series used extensively in hazardous area locations including ATEX zones 1,2,21 & 22, the new ExReg control unit features a compact design which incorporates an internal proportional-integral-derivative (PID) control structure.

The parameterisation process is easy to use and automatically achieved for standard applications. The system provides support, especially during the start up process, with many predefined settings and damper characteristics. Features retained from the globally established ExCos and ExBin series include the elimination of intrinsically safe wiring, digital adjustment, actual value indication and LED status display. Designed for electrical and mechanical compatibility with market standards, the ExReg is suitable for 24 VAC or DC supplies and environmentally protected to IP66.

The introduction of this exciting development further expands the Schischek range of market leading explosion-proof control products, backed by worldwide support and engineers experienced in explosion-proof applications.

For over 30 years Schischek has supplied electric explosion-proof control products for building automation in a wide range of industrial sectors including oil & gas, (onshore and offshore), ship building, chemicals, pharmaceuticals and water treatment.

Right: The Schischek ExReg is designed for decentralised control structures in explosion-proof areas.

New products from Rotork Fairchild

All–new low pressure regulator on two week delivery

Rotork Fairchild announces the introduction of the all-new Model 11 low pressure regulator. Available on a 1-to-2 week delivery, the Model 11 provides a reliable and highly accurate solution for very low pressure control applications.

Designed to handle the most challenging duties, typical applications include leak detection systems, tank blanketing, air and gas sampling systems, analytical equipment, soil sampling and test stands.

Available in a range of five sizes, the Model 11 features superior repeatability and sensitivity of 0.05 inches of water column (1.25 mm WC) for ease of setting. Flow is critical for most applications and to meet this demand the Model 11 delivers a flow capacity of 24 SCFM (28 litres/second).

The Model 11 design incorporates a diaphragm diameter engineered for optimum performance within a compact package, offering an ideal solution when the overall envelope size must be minimised.

Tamper-proof, screw or standard knob actuation alternatives provide versatility and ease of use. Nitrile or optional fluorocarbon elastomers enable the Model 11 to work in any environment.

Increased high pressure capacity for pneumatic regulator range

Rotork Fairchild has increased the high pressure capacity of its compact leak-free pneumatic regulators for instrument and industrial control applications with the introduction of a new HPP range.

A companion to the recently announced HPD diaphragm style range of regulators, the new HPP (High Pressure Piston) range incorporates a piston design to manage supply pressures up to 413 Bar (6,000 psi) at temperatures up to 260 °C and deliver high output pressures between 207 Bar (3,000 psi) and 69 Bar (1,000 psi).

The HPP high pressure performance complements that of the HPD, which will also manage supply pressures up to 413 Bar (6,000 psi) and accurately regulate lower output pressures down to between 35 Bar (500 psi) and 1.66 Bar (25 psi).

Constructed with 316 stainless steel bodies, the HPP and HPD ranges feature patent pending improved valve seat sealing that eliminates the risk of media leakage often associated with conventional high pressure regulators. Both ranges are available with 6 mm (¼") ports in either 2 or 4 port configurations and in multiple output pressure ranges.

Standard knobs can be replaced with tamper proof caps for high temperature and/or non-adjustment applications.

Rotork Fairchild regulators can be mounted at the ports, the bottom surface or in panel mounted configurations.

Innovative high performance polymer pressure regulator

A new polymer pressure regulator with innovative features is designed for high precision pressure control duties.

The Model 55 pressure regulator features a non-rising stem within a small footprint design, delivering high precision control in a lightweight and compact package.

Manufactured entirely from polymer and stainless steel, the Model 55 offers compatibility with medical and scientific gases such as nitrogen, helium and oxygen.

Applications include precision pressure decay and leak testing, medical ventilators, respiratory diagnostic systems, balloon pumps and sterilisation equipment.

A patent-pending venturi design compensates for downstream pressure droop under flow and provides highly accurate pressure output control under all conditions. The separate control chamber isolates the control diaphragm from the main flow to eliminate hunting and buzzing.

With supply capacity up to 150 psi (10 Bar) and flow capacity up to 10 SCFM (283 litres/minute) the Model 55 controls output pressures up to 100 psi (7 Bar) to within +/- 0.2 psi (14 mBar) or better, even with fluctuating or rapidly decreasing supply pressure. This high pressure capability, combined with pinpoint accuracy at low control pressures of 7.5 psi (0.5 Bar) or less, sets the Model 55 apart from conventional regulators for demanding applications.

The Model 55 is available on a fast-track two week delivery and is swiftly available for engineers seeking a top performance unit to complete the design and testing of their new product.

Rotork Gears SRL awarded **FMC Technologies Global Qualification Certificate for Subsea gearbox**

Rotork Gears specialised BGS1 subsea gearbox has been awarded a three-year Global Qualification Certificate by FMC Technologies.

Rotork Gears SRL has been awarded a three-year Global Qualification Certificate by FMC Technologies for a specialised product from its range of subsea gearboxes.

FMC Technologies is a leading worldwide provider of solutions for the energy industry, designing, manufacturing and servicing advanced technological products and systems in areas including subsea oil and gas production and processing.

The Global Qualification Certificate is awarded to the Rotork BGS1 gearbox, a specialised product designed for torque inputs of up to 3500 Nm at operating depths of 3000 metres. On choke valve installations this 1:1 bevel gearbox is a vital component in the clamp used for diver-less retrievable systems. The gearbox is designed for heavy duty applications with carefully selected materials to offer the highest level of reliability in the harsh subsea environment.

Rotork Gears SRL General Manager Roberto Boldorini speaks on behalf of Rotork when he says: "FMC Technologies is recognised as a market leader in the subsea oil and gas industry, where Rotork Gears has an extensive reference list of projects stretching back to the early 1990s.

To have FMC Technologies as a customer and to receive a Global Qualification Certificate is a proud achievement for Rotork Gears SRL."

Valvekits to stock **Pneumatrol solenoid valves and Centork positioners**

Rotork Valvekits, the specialist valve mounting kit company in the Rotork group, is now the official stockist and distributor for the industry-leading Pneumatrol Namur range of solenoid valves and the well established Centork range of valve positioners.

The Pneumatrol range, formerly known as RGS Davis, has a long history and excellent reputation for providing pneumatic solenoid valve solutions within hazardous and non-hazardous environments. User markets include petrochemicals, pharmaceuticals, distilling, food, beverages and paper making.

Examples of the Centork range of positioners, showing, top-to-bottom: PR-640 Series positioner for linear process control valves and cutaway diagram of PR-700 Series positioner for quarter-turn valve actuators.

With an extensive range of approvals, Pneumatrol solenoids are the standard specification within many world class companies.

Designed for direct mounting on quarter-turn actuators meeting Namur standards, the valves are available with a complete range of approved pilot solenoid operators. The innovative designs are suitable for operation in a wide range of temperatures and include valves for high flow applications.

Hazardous area solenoids are available with ATEX Category 1, 2 and 3 approvals. Further international hazardous area approvals include IEC, FM and GOST.

Commenting on his company's appointment, Rotork Valvekits General Manager Craig Mellins said: "We are very proud to be appointed as the stockist and distributor for the world-leading Pneumatrol Namur range of solenoid valves. The addition of Pneumatrol further enhances our product offering as well as enabling off-the-shelf delivery of these products to our customers in the valve making, valve actuation and associated industry areas."

Centork pneumatic positioners are designed for the operation of quarter-turn or linear actuated valves in accordance with a proportional control signal. The design utilises a robust aluminium enclosure and stainless steel components for long-term reliability in harsh operating environments.

Standard features include simple, user-friendly zero and span settings and NAMUR interfaces for easy valve and accessory adaptation.

Examples of the Pneumatrol Namur (formerly RGS Davis) range of solenoid valves, showing top-to-bottom: Namur Reflex valve; Namur C1518PP00B safe area valve; Namur C1518PD00BA EXD 11C T6 ATEX valve, with stainless steel terminal box coil housing.

Optional limit switches, position indicators, gauges for main and control signal pressure and electronic position transmitters can be fitted to meet the demands of most operating requirements, whilst a 'smart' positioner is also available, incorporating micro-processor based electronics for valve monitoring and diagnostics.

Excellent operating performance delivers repeatability of less than 0.3% of full range, hysteresis of less than 0.5% of full range and 99% full range linearity. All models are available with ATEX certification for operation in hazardous areas.

Subsea actuators and gearboxes assist first-of-kind commercial wave energy project

Rotork Australia has supplied subsea rack and pinion hydraulic valve actuators and subsea gearboxes for an innovative renewable energy wave technology project on Garden Island, near Perth in Western Australia.

The patented CETO (Carnegie Wave Energy) technology.

The patented CETO (Carnegie Wave Energy) technology converts ocean swells into a source of energy for power generation and water desalination plants. Unlike other wave technology systems, the CETO wave power converter is fully submerged and produces high pressure water from the power of waves. A submerged buoy moving up and down with the movement of the waves drives a pump attached to the seabed.

The pump in turn delivers water ashore through a pipeline at high pressure that enables zero-emission electricity or fresh water to be produced.

Due for completion early in 2014, the Perth Wave Energy Project will be the first demonstration of a complete grid-connected, commercial scale CETO power generation system anywhere in the world.

Rotork actuators and gearboxes have been ordered by Severn Glocon Australia and include double-acting hydraulic actuators equipped with top-mounted diver operated override gearboxes, controlling subsea ball valves installed at a depth of 25 metres. The override gearbox incorporates a 'lost quadrant' system in the gear pinion, providing a simple but highly effective mechanism for switching between hydraulic and manual operation.

All the diver has to do is rotate the handwheel to the three positions – remote (hydraulic), open (manual) or close (manual) – which are visible through the indicator on top of the gearbox. Co-operation between Rotork Fluid Systems and Rotork Gears has enabled a rugged, compact, well engineered and cost-effective solution to be delivered for this application.

Rotork equipment includes double-acting hydraulic actuators equipped with top-mounted diver operated override gearboxes.

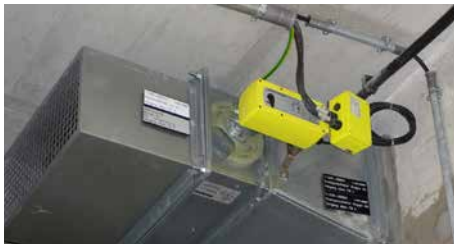
Schischek boosts biogas production at Munich waste water plant

Schischek ExMax explosionproof actuators have been selected to assist the production of biogas for district heating systems in the German city of Munich.

Biogas is produced during the effluent treatment process at the city's largest waste water plant Klaerwerk Gut Grosslappen, situated close to the world famous Munich Allianz Arena, home to Bayern Munich football club.

The Schischek actuators have been installed in the digester and fermentation tanks, where all electrical equipment must be approved for use in hazardous areas. Built inside four large towers, the fermentation tanks mix the waste at a defined temperature to produce the biogas. For optimum performance the inner tank temperature must be maintained at 38 °C. Six Schischek actuators are installed in an area known as the lamp at the top of each tower for the operation of air dampers to balance the inside temperature with fluctuating ambient temperatures on the outside. Factors favouring the Schischek products for this application include their compact size, ease of installation, standardised connections and Zone 1 hazardous area explosionproof certification. In addition Schischek, which is now part of the Rotork Group of flow control companies, has developed established relationships with the damper OEM, local engineering companies and the end user. All Schischek products are manufactured with colour coding to indicate at a glance the appropriate hazardous or non-hazardous area of application. Yellow denotes hazardous zones 1, 2, 21 and 22, red denotes hazardous zones 2 and 22 and green denotes non-hazardous areas only.

One of the four fermentation tank towers at the Munich waste water treatment works. The Schischek actuators are installed in the lamp at the top of each tower.



Schischek ExMax actuator installation on one of the air dampers.

Rotork grows into **extended head office facilities**

Rotork has expanded into new office, workshop and production storage facilities at its worldwide headquarters in Bath.

The new building will home Rotork PLC, as well as the southern office for Rotork UK, which was set up in 2012 to rationalise all of Rotork's home market electric, fluid power and manual valve actuation activities under a single banner. Rotork UK's northern office, actuator and gearbox factory will be moving into larger new premises in Leeds early in 2014.

The new Bath offices also house Rotork's systems sales department, reflecting the increased demand for Rotork's digital control network solutions including the advanced wireless Pakscan system.

Enlarged office and workshop space is also provided for Rotork Site Services, the company's specialist retrofit, maintenance, repair and asset management organisation. Under the same roof, 872 square metres of new warehouse space has been created to give additional support to burgeoning production at the main electric actuator manufacturing plant, where IQ3, IQT and CVA actuators are built.

The new facilities have freed up space in Rotork's original head office building, facilitating expansion of international sales, marketing, engineering, research & development and business development departments, positioning Rotork for continued growth in Bath for the foreseeable future.

Rotork's new office, workshop and production storage facilities at Brassmill Lane in Bath.

New offices for Rotork UK ready for occupation.

Part of the new Rotork Site Services workshop.

Rotork opens **Valve Automation Centre in Mexico**

Rotork is proud to announce the opening of its new Valve Automation Centre in Mexico. Strategically located in Mexico City, it is the first full shop facility for Rotork in the country.

Team photograph of Rotork staff to commemorate the opening of the Valve Automation Centre in Mexico City.

The 1360 m² building houses the new headquarters for Rotork's Mexican subsidiary company, incorporating inside sales, contracts, after sales and service departments as well as a training centre for customers and end users.

The new factory and warehouse is a complete service and overhaul facility equipped with large overhead cranage capacity and full electrical, pneumatic, hydraulic and gas power supplies. The factory will focus on actuated valve factory fit operations and carry comprehensive stocks of actuators, gearboxes and key spare parts to provide swift deliveries to customers.

These include PEMEX, the national oil company, and CFE, the national power company.

The number of employees in Mexico is expected to nearly double in 2014 as Rotork continues to increase its market share in the country's utilities and industries including mining, marine and steel.

Contact details for the new facility are:

Rotork Servo Controles de Mexico SA de CV

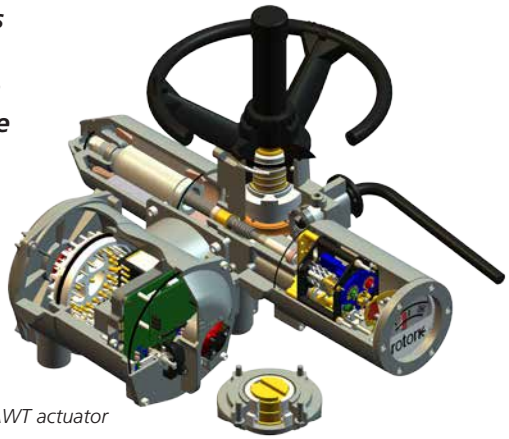
Centeotl #223
Col. Industrial San Antonio C.P. 02760, Delegacion, Azcapotzalco, Mexico D.F.

Tel: +52 (55) 5559 2959

New factory **boosts production in Malaysia**

The Rotork factory in Malaysia has relocated to a brand new 5,148 square metre facility in Shah Alam to increase production and provide more storage space for finished goods.

The new offices and production plant, strategically located close to Kuala Lumpur and its international airport, feature an improved manufacturing layout to enable more production of the AWT range of actuators without sacrificing prompt lead times.



AWT actuator

AWT actuators meet the demand from worldwide markets for reliable low cost watertight electric actuators with separate or integral motor controls and instrumentation.

The new address for Rotork Malaysia is:

Rotork Actuation Sdn. Bhd.
No 32, Jalan Anggerik Mokara 31/47,
Section 31 Kota Kemuning,
40460 Shah Alam
Malaysia

Tel: 03-55251665
Telefax: 03-55253937
Email: rotork@rotork.com

Essar introduces IQ actuation **training at its Power Learning Centre**

The Power Learning Centre at the Essar Salaya Power Plant in the Indian state of Gujarat has installed a Rotork IQ actuator as an integral part of its training programme.

Essar engineers mounted the actuator on a butterfly valve to create a working demonstration unit, enabling them to learn about the technical advantages and asset management functionality of IQ intelligent valve actuation, whilst also getting 'hands-on' experience of setting up, commissioning and maintaining the actuators.

Essar is an important energy industry customer for Rotork in India and throughout the world. The Power Learning Centre at Salaya has been established as a training facility for the engineers at all their power plants in India.

Pictured here, Mr. KVB Reddy – the head of all Essar power plants in India, Mr. MG Gupta – Chief Executive Officer of the Salaya Power Plant and Mr. KB Makadia – Chief Executive Officer of the Vadinar Power Plant inspect the new IQ demonstration unit with two Essar engineers.

Rotork Product Selector

Product Selector is **now available** on the Rotork website.

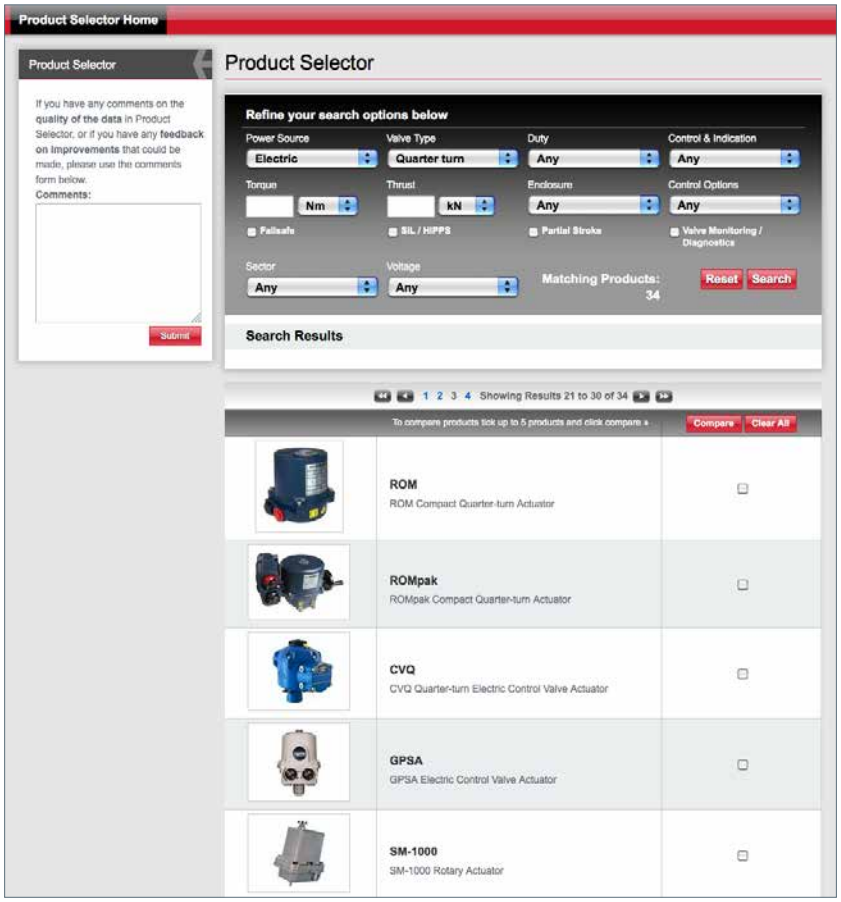
The Rotork Product Selector is a simple way to search and compare the Rotork range of products. The selector has been designed to enable you to filter your chosen results by selecting from a drop down list of variants.

You will be able to select the products based on the following criteria:

- Power Source
- Valve Type
- Duty
- Control and Indication
- Torque / Thrust
- Industry
- Enclosure
- Control Options
- Also, Failsafe, SIL/HIPPS, Partial Stroke and Valve Monitoring/Diagnostics

You are then able to compare up to 5 products in the range and from there progress to the product information page or actuator sizing guide.

The Product Selector currently has 82 Rotork products listed, and this list will be kept up to date as new products become available.



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