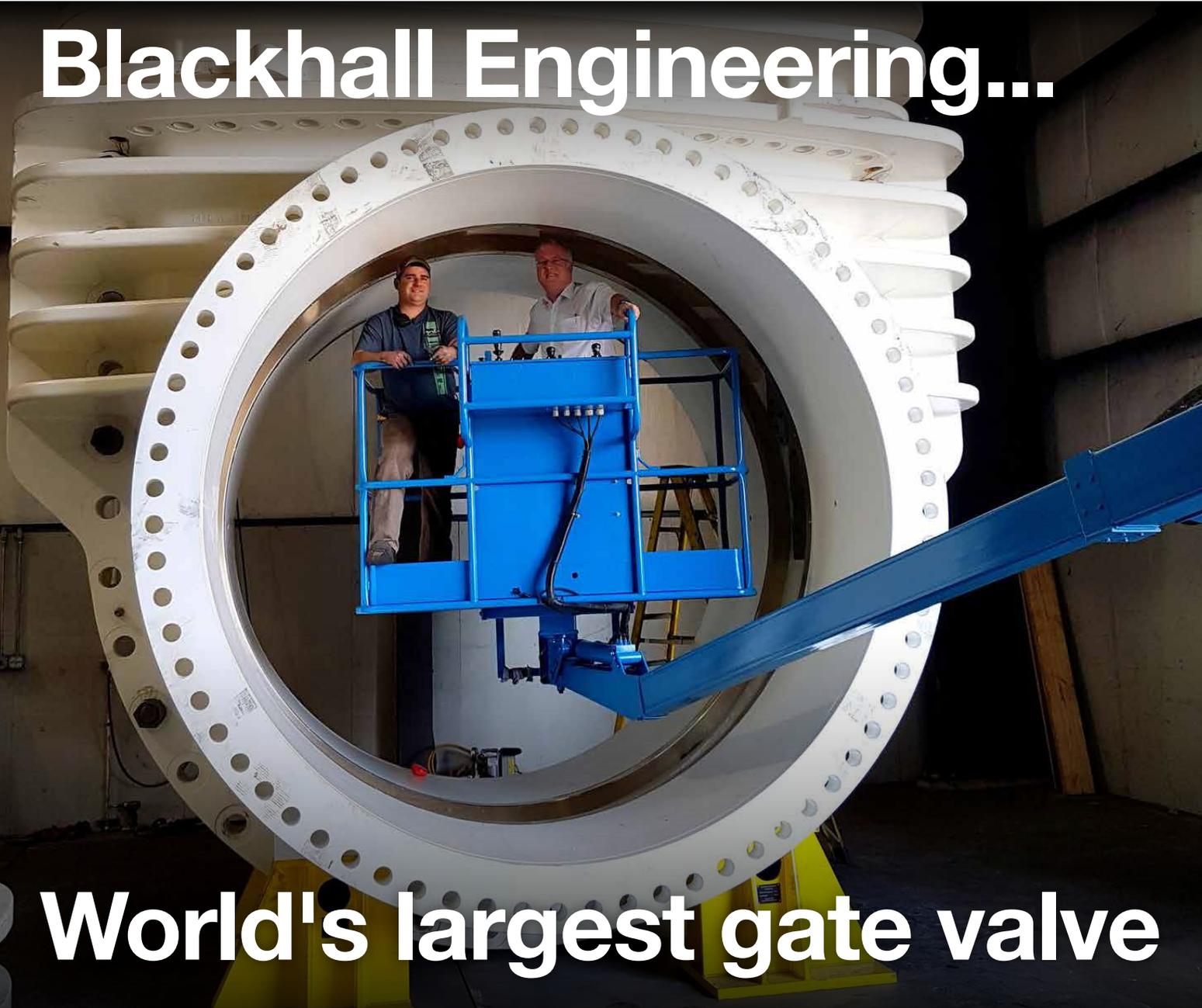


valveuser

Magazine

Blackhall Engineering...



World's largest gate valve

J+J
Automation.
24-240V New
S Type from
J+J

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Actuated
Solutions. Next
Generation
Electric
Quarter Turn
Actuator

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Flow Technology
Services. The
always reliable
DeZurik plug
valve

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Moontown
Ltd. UK
manufacturer
of PTFE seals

Page: 49



THE ESTABLISHED NAME IN CHECK VALVES

→ **NOW** ←

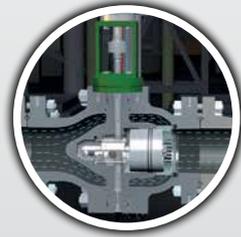
THE NEW NAME IN ISOLATION & CONTROL VALVES



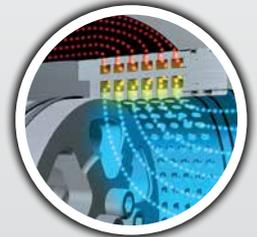
Rack-Pinion-Rack
Gear Train



Tight Shut
Off



High Capacity Single
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High Pressure Drop
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VALVEuser® is a controlled circulation magazine, free of charge to genuine users of valves, actuators and related products and at the discretion of BVAA Ltd.

Cover: Blackhall Engineering,
World's largest gate valve



Comment

by BVAA Director,
Rob Bartlett

Another Round Anyone?

Sir Thomas Comyn-Platt is a name unknown to most people. He was however the step-father (or, depending on whose books you read, father) of the famous 20th century British actor, David Niven.

Knighted, as many were, for some obscure, early 20th century service to the Conservative party, he was regarded as rather a dullish diplomat. He did however make one well-informed if unsung observation that the world would be a considerably less-troubled place if only the embassies remained closed for half the year. I'm certain there's some truth in this wry observation.

Right now, we're being subjected to another round of political maneuvering that Machiavelli would have applauded.

The UK has officially fired the Brexit start canon. Two years and counting.

France appears to be flirting with the far right again. And Spain appears has leapt on the opportunity to try to secure Gibraltar. Indeed, the UK and the other EU countries have such interwoven strands of dispute and self-interest, built up over decades, it will be a miracle if a deal, be it 'hard,' 'soft' or whatever other adjective you want to use, can be found in the time period. The mood music, at the moment, seems to indicate more countries might be minded to leave the EU, rather than close ranks.

So, the likely outcomes on Brexit are there will either be 'no deal,' or a rushed deal with a fee very like what we were already paying, but without the benefits of membership (*if only trade associations could swing that one!*).

Domestically we have troubles of a different kind in Northern Ireland that on any other day would be occupying the news anchors for hours. And even if the current issues there can be resolved, there's the not inconsiderable matter of an open border between the UK and the EU remaining on

the island of Ireland. Great for trade, slight handicap to controlling migration. So, no 'gain' there either.

Then we have Scotland. Changing circumstances or outright opportunism? I'm all for 'reviewing the situation,' and there's no doubt Brexit changes the scene there, as it does in all the home countries, but arguing to leave one solid, well-trying Union because we are together leaving, er, well, a Union, is a tough sell to the voters. Particularly so close to the last rejection of the idea, when the core of the fiscal argument - North Sea oil - was thrice the current price.

And then there's the USA... Well let's just move on shall we?

Moving on is precisely what will happen. Currency unions have come and gone. Countries have been bankrupted many times (Greece surprisingly one less time than Germany). All the uncertainty will lead to winners and losers on the global stock markets. It will be rough for a while. And as always things will eventually settle down once everyone has come to terms with the new landscape. The costs however will be considerable, one way or another.

So what to do? Well as I write Mrs. May has called a snap election. We all get a vote so I'd start voting I think! The rub here is that there might be, indeed may have to be, unprecedented 'tactical voting' by Brits - not so much for what people want, but to stop something happening that they don't want even more.

But from a valves perspective, despite the uncertainty we need to keep reminding customers of our capabilities, and positioning ourselves as their best option. That means responding to their needs, and using our opportunity to advise more as well as sell. I do sense a realisation is dawning that we are all in this together and do need to co-operate.

Training, delivered in a brand new way



Course split over two days

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Brighthouse

Introduction to Valves

Tuesday 6th June 2017 &
Tuesday 13th June 2017

Held at DoubleTree
Hilton, Aberdeen

Introduction to Valves

Wednesday 21st June 2017

Valves - Advanced Level

Thursday 22nd June 2017

HOW TO BOOK

To book your place on either of these courses please contact
Karen Webb on **+44(0)1295 221270** or **karen@bvaa.org.uk**



Training support for Torness



BVAA recently provided their Valves – Advanced Level training course to a group of System Health and Reliability Engineers at Torness Nuclear Power Station.

The BVAA expertise in valve related training was recognised by the station's operator EDF Energy and they were keen to build this into the comprehensive training programme that they provide for their staff.

Torness was commissioned in 1988 and is the last of the second generation Advanced Gas Cooled reactors to be built. It has the same design as Heysham 2. It is expected to continue to operate until at least 2030. The station has two reactors each capable of generating 682MW of electricity. It makes a very important contribution to electricity base load generation.

The importance of industrial valves in our day-to-day lives is all too easily forgotten. In reality without the valve industry the modern life we enjoy today would not be possible. Electricity generation is just one example of where the industrial valve is fundamental to the successful operation of the process.

So when the plant operates for more than 40 years not only do the valves have to be maintained and/ or replaced but so do at least two generations of staff. Training is therefore vital to ensure that those responsible for the operation of the power station have the necessary knowledge and capability. BVAA Director Rob Bartlett commented "There is no better provider of Valve related training in the UK so we were delighted when EDF Energy asked us to help achieve their training needs."

The Valves- Advanced Level Course is suitable for EPC Piping Engineer/Valve Specialist/Valve Specifier, Operations Plant Manager, BVAA - member Technical Staff with an engineering background. Those attending will achieve a high level of understanding of the main technical issues for procurement, design, materials, inspection, installation, operation and maintenance of industrial valves. The feedback from the EDF Energy engineers attending the course rated it as "Excellent."

The course content assumes a minimum level of knowledge for the attendees, equivalent to having attended the Introduction to Valves course. It is available at a number of locations around the country: BVAA offices Banbury, West Yorkshire and Aberdeen. It can also be provided at the end user location for groups of 10 or more. If you want to know more please visit http://www.bvaa.org.uk/training_courses.asp

M Greenhalgh, Technical Consultant, CEng FIMechE

BVAA New Members

The following companies have joined BVAA since the last issue of Valve User Magazine:



Clive Johns, Business Development Director of Tomoe Valve Ltd with the BVAA plaque.



Some of the team at Festo Ltd with their BVAA plaque.

Charity Event? Hat up!

If you are planning an event for charity, take a picture in a BVAA hat and we'll donate £50 to the cause. BVAA hats available free of charge on request to enquiry@bvaa.org.uk



The Cat Pumps UK Ltd team with their BVAA plaque

Valve & Actuator ‘Zone’ at Fluid Power & Systems

Following the success of the BVAA’s inaugural outing at the **Fluid Power & Systems exhibition** in 2016, the Association has signed-up for next year’s show, which will again be staged at the NEC, Birmingham from 10 to 12 April 2018; providing guidance, advice and updates to attendees.

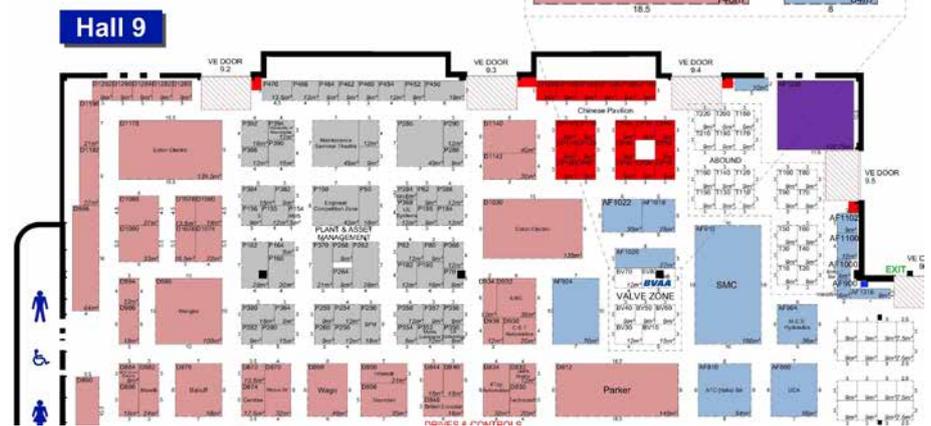
The BVAA’s stand will feature within Fluid Power & Systems’ ‘Valves & Actuators Zone’ and Offshore Energy Zone.

The exhibition and conference is the only event in the UK that is 100 per cent focused on a comprehensive range of hydraulic and pneumatic equipment, together with products that facilitate better electro-mechanic system design and application for improved process automation, control and monitoring.

BVAA Director and CEO, Rob Bartlett, commented: “Fluid power is a critically important power and motion control-related technology segment for the valve industry and its end-users and OEMs. Therefore, many BVAA members understandably specify, manufacture, supply or use fluid power-related technology. Exhibiting for the first time at Fluid Power & Systems in 2016 proved to be a very worthwhile exercise for us, and we had no hesitation in signing-up again for 2018; recognising that the show offers clear benefits and synergies to the Association and its members. Indeed, one of our main goals at the exhibition will once again be to represent our members and bring their products and services to the attention of the very wide customer base that the show attracts. The Association will also have the opportunity to promote our independent training courses, Guidelines, publications and technical support.”

“We are also delighted that BVAA Members will benefit from a special pricing structure – an added benefit of BVAA Membership!”

Ryan Fuller, commercial director of Fluid Power & Systems organiser, DFA Media,



commented: “We look forward to welcoming the BVAA again as an exhibitor at Fluid Power & Systems next year. There is much synergy between the visitor profile of our shows and what the BVAA membership offers in terms of product and services within a variety of industry sectors. We are confident that the BVAA and its members will again gain major benefit from the show, and also make a valuable contribution to the event.”

Co-located exhibitions

Fluid Power & Systems will again be co-located with Air-Tech, Drives and Controls and Plant & Asset Management, together with a brand-new show for 2018 – Smart Industry. These co-located events will also be staged with ‘MACH’ and ‘What’s New In Electronics Live.’ The combined exhibitions bring over 40,000 visitors to the NEC over a single week. Fluid Power & Systems will also include a full programme of free technical seminars supported with top-class speakers offering expert insight

and practical advice on the issues that affect you the most.

www.fluidpowersystems-expo.com
www.bvaa.org.uk



Pictured at Fluid Power & Systems 2016 are, from left to right: Martin Greenhalgh, the BVAA’s Technical Consultant, Veronica Willard, John Savage, Director of the National Fluid Power Centre (NFPC) and Rob Bartlett, CEO of BVAA.



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for Hydraulics &
Pneumatics Industries

10-12 APRIL 2018
NEC BIRMINGHAM

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www.fluidpowersystems-expo.com

Co-located with: Air-Tech, Drives & Controls, Plant & Asset Management,
Smart Industry Expo, MACH and National Electronics Week

In association with




Regional Dinner & Supplier Day



Tuesday, February 21st 2017 saw the start of our very successful Regional Dinner and Supplier Day.

Regional Dinner

The Brighthouse venue - being at the heart of so-called 'Valvehalla' - is a popular choice with members and there was an excellent attendance of 70+ at the Dinner.

A new feature this year was the guest speaker, featuring world-renowned journalist (The Independent, The Standard) and political commentator Anthony Hilton. Anthony, blessed with an amazing memory for detail and using no notes, appraised the group with some incredible information and knowledge about Brexit, and the impacts this could have on the UK economy.

The Survey

Following on from the talk we asked attendees to answer 10 quick questions about their opinions on Brexit, so we could gain an understanding of our attendees' overall opinions. Some very interesting,

and largely optimistic, results were found, which were later promulgated for all to see.

And once again we have received some fantastic feedback on the event:

"Excellent dinner and networking opportunity..."

"Worked brilliantly for us."

Supplier Day

The day after the Regional Dinner we held our Supplier Day.

This event was kindly supported by Alco Valves Group, Cameron (a Schlumberger company), Colson X-Cel, CraneCPE, Goodwin International, KT Hydraulics, Rotork, Severn Glocon & Weir who all hosted 1-2-1 meetings - a vital part of the day!

The outcome was 90 official interactions between our hosts and suppliers, a fantastic achievement in just a morning!

Alongside the 1-to-1s we also had 18 exhibitors who showcased their products to attendees and manufacturers, which added an extra element to the event.

So far our feedback collected from this event has shown that 100% of attendees would recommend this event to a colleague. We can think of no better endorsement!



Providing In-situ Valve Testing Since 2001



Dismounting safety valves from their operational location can be time-consuming and expensive.

The Seetru Tru-Test® provides the capability to test safety and relief valves in-situ, eliminating the need to remove the valve from the system or shut the system down.

In-situ testing of this form is part of a carefully planned and monitored test and maintenance regime, which also includes periodic strip down, inspection & overhaul, and a highly cost effective means of managing safety valve and relief valve inventories. The Seetru Tru-Test® System offers the opportunity to test valves in real / normal operating conditions, thereby providing added confidence in the protection offered by your safety valves.

It also supports the optimisation of your plant by minimising or removing the required downtime for certification and can also be used in conjunction with the unique Seetru Condition Rating® to extend maintenance frequencies.

Features of the Tru-Test® System

- Objective, accurate and reproducible evaluation of set pressure.
- Tests can be 'hot', i.e. in-situ with medium pressure acting on the safety valve, or "cold", i.e. on or off site and in-situ with no medium pressure acting on the safety valve.
- Highly accurate transducers (0.1% accuracy) are used to measure force and lift.
- Fully automatic test and control of test, the test takes place without human operator intervention.
- Pre-programmed computer controlled test cycle.
- Pre-programmed safety limits are sensed and managed automatically during the test cycle in order to prevent damage and to provide fail-safe operation.

- An integrated pressure transducer can be used to provide the most accurate measurement of actual system pressure at the time of the test and as the test evolves.
- Seetru Tru-Test® equipment is ATEX approved for operation in potentially explosive atmospheres.
- Lift limitation is pre-established and provided to minimise the risk of valve damage or a full lift safety valve popping open during test. The computer controlled pre-programmed test eliminates the chance that the inherent vagaries of a human operator manually controlling the lift might result in the safety valve lifting.
- Ability to provide power driven closure of safety valve, should the valve pop open during test.
- Equipment and procedures designed to enhance operational Health and Safety.
- The Seetru safety valve test method using the Tru-Test® system is widely approved, for instance, by Lloyds Register of Shipping and the Insurance Industry.
- Both set pressure and full lift tests available.
- Fully reproducible and objective footprint/benchmark tests for valve health monitoring.

What is the Tru-Test® Measuring?

The Tru-Test® System measures the force necessary to lift the disk away from the seat. Given this force and the effective seal area of the valve it is possible to calculate the equivalent pressure at which the disk lifts away from the seat. This compares with the set pressure as measured by a bench test.



Tel: +44(0)117 930 6148
Email: ses@seetru.com
Web: www.seetru.com

Total Lifecycle Approach to HIPPS Provides Reliable Pressure Protection for Downstream Systems

HIPPS lifecycle management ensures optimal functionality in an emergency

From oil and gas production facilities through to refineries, overpressure events can cause lost production and also severe damage to the environment, infrastructure, and personnel. Mitigating that risk on production wells and flowlines is a challenge that can be addressed using an appropriately designed High-Integrity Pressure Protection System (HIPPS).

HIPPS are safety instrumented systems (SIS) having a primary function to detect high- or low-pressure scenarios, and, through the fast acting operation of the final elements (valves), isolate the pipeline to protect the lower-pressure-rated downstream infrastructure. These systems are designed in accordance with the IEC 61508 and IEC 61511 functional safety standards and replace other traditional high-cost pressure relief and flare systems that have the disadvantage of releasing media to the atmosphere. The systems typically operate autonomously and are independent of the facilities process shutdown (PSD), emergency shutdown (ESD), or control systems. HIPPS are fail-close by design and include redundancies that reduce the risk of failure on demand and maximize availability for operators.

Evolution to fully electronic systems

In 1985 the first safety shutdown valve (SSV) was installed by Cameron (now a Schlumberger company) and since then has evolved to skid-mounted mechanical HIPPS packages and now to fully electronic systems. Of the more than 200+ installed systems, many are high-pressure systems for production facilities. SIL 3-certified, HIPPS can be provided in a variety of configurations, including mechanical and electronic skid-mounted packages. The system incorporates final elements, such as the FLS* extreme service API 6A slab-style gate valves and GROVE* valves manufactured to API 6A/6D for critical



A Schlumberger expert prepares the HIPPS prior to testing. (Image courtesy of Schlumberger)

service. Pneumatic and hydraulic actuation and control options are available depending on requirements.

A lifecycle approach to HIPPS

Given the importance of selecting, designing, manufacturing, and operating the optimal safety system for each application, Schlumberger promotes following a complete lifecycle management approach to maximize customer value from HIPPS. This starts from the front-end design phase where it is critical to have early engagement in identifying the most cost-effective HIPPS design for the application. Engaging design experts upfront helps ensure the system design meets the functional Safety Requirements Specification (SRS) while minimizing proof testing and service requirements.

Once the functional safety inputs are defined, a multi-disciplined team of engineers and certified safety professionals design the HIPPS using a combination of patented in-house technology and high-

quality components with the objective of achieving maximum performance from the safety system. Manufacturing is then executed in accordance with the company's industry leading standards. With the company's extensive service footprint, system integration and installation can be performed where it is most valuable for the customer including onsite when size and weight limitations exist. Commissioning



Suitable for onshore and offshore installations requiring high-integrity pressure protection of downstream systems, HIPPS is used to prevent a system from exceeding its rated pressure level. (Image courtesy of Schlumberger)

and validation must be completed in accordance with the manufacturer's requirements. Project on-time delivery is key and a dedicated team will manage the complete execution process.

In accordance with IEC 61511, HIPPS must be periodically proof tested in order to maintain the safety integrity level (SIL) rating. Smart diagnostics can be installed on the system to perform intermediate health checks between service intervals without shutting down production. Partial stroke testing can help to verify system functionality; however, operators should be aware that it only grants partial proof test coverage as not all elements of the system are tested. The partial and full proof test intervals are established in the design phase. IEC standards require the effectiveness of the proof testing to be documented and only then can operators maintain the SIL rating. Performing the necessary verifications of the HIPPS is essential in ensuring it will respond in a real emergency situation. Schlumberger focuses on minimizing downtime and supports customers in performing system proof testing and service work.

Following the above total lifecycle approach ultimately leads to a system that is designed, manufactured, and maintained with safety as a priority. This ultimately reduces total cost of ownership for the operator and maximizes dependable functionality of the safety system.

*Mark of Schlumberger



Web: www.cameron.slb.com/hipps

Independent Valve Testing Seminar and Tour

Thursday 12th October 10.00 am - 3.00 pm



BHR Group exclusively invites Valve User Magazine readers to a free seminar on independent valve testing.

The event, delivered in partnership with the BVAA, will be held at our Cranfield premises and includes a private tour to view our extensive valve testing and product development facilities.

Come and meet our expert engineers and view the test facilities first hand. We've tested over 160 valves and actuators since 2008 and our comprehensive expertise can support even the most complex of requirements. Our test facilities can accommodate high pressure, high flow, extremes of temperature and full-size testing of components.

We can provide test and qualification services for most types of flow devices and pressure containing envelopes, including valves and actuators, flowmeters, pumps and pipework.

This half-day event gives you the opportunity to network with peers, tap into our independent knowledge and experience, and see for yourself how we can work together to meet your testing needs.

For more information and registration email: events@bhrgroup.co.uk or call Benoit Post on + 44 (0) 1234 750422



Tel: + 44 (0) 1234 750422
Email: events@bhrgroup.co.uk
Web: www.bhrgroup.co.uk

World's Largest Gate Valve (DN2800 dia) Made for Texas

When the world's most impressive pipeline scheme asks for **100-year asset life valves**, you listen.

Blackhall Engineering Limited the UK Valve Design and Manufacturer has a proven track record of making 100-year asset life valves, and has recently designed and manufactured the World's Largest Gate Valves ever for Texas, USA.

Texas, the second largest state in the USA both in area and population faces enormous demand for drinking water. Within Texas lies America's largest inland metropolitan area, Dallas – Fort Worth Metroplex (DFW) province which is the economic and cultural hub of North & Central Texas.

The water in DFW is both sourced and managed by two major Texas water authorities, Tarrant Regional Water District (TRWD) & Dallas Water utilities (DWU). With the rapidly growing population in this area it is expected that more than 13 million residents will need water by 2060 which is more than double the population served by the authorities today. As a result, they have partnered to execute the 2-billion-dollar Integrated Pipeline Project (IPL) which will enable them to increase the water supply by 350 million gallons per day (1.59 billion litres per day) meeting the ever-increasing demand in the long term.

The project involves the construction of 150 miles of pipeline extending and integrating from multiple lakes. In addition, it involves the construction of 3 Lake Pump Stations and 3 Booster Pump Stations.

Blackhall Valves are playing an essential role on this mega project by regulating the water in the largest and longest segments of the pipeline. This involved the design and manufacture of High Pressure DN2800 / 108-inch Parallel Faced Metal Seated Gate Valves, considered to be the World's Largest Gate Valves weighing in at over 100 tons and standing a majestic 40 feet tall.

TRWD placed the order after evaluating Blackhall's award winning design expertise, capability, utilisation of manufacturing technology & exceptional project management skills. Furthermore, Blackhall's proven track record of manufacturing 100-year asset life valves matched perfectly with TRWD's 100 year sustainability promise on the IPL project.

Design and Manufacturing

Blackhall Engineering has always been at the forefront of embracing advancements in computational technology for the development of their products, thus delivering improved performance & efficiencies for their customers.



These Parallel Faced Metal Seated Gate Valves are an excellent example of a world class product that has been designed with these advancements in technology fused with the experience of the Blackhall Design Team.

Along with the theoretical knowledge and empirical data, Finite Element Analysis (FEA) has been comprehensively used to simulate and to predict both the structural behaviour of the valve during its operation, and its capability of sealing under various flow and pressure conditions. The geometry of the components have been optimized for enhanced stress distribution. The FEA results were validated by performing Strain Gauge testing on the valve. The design of the valve also incorporated external loading factors, for example Computational Seismic (Modal) Analysis that was performed to ensure the sustainability and robustness of the valve during earthquakes & such events.

The success of any highly engineered product depends not only on the design, but equally on the manufacturing and assembly processes involved. Advanced Casting Simulation Programme was employed to optimise the casting process to ensure the castings manufactured were free from any residual stresses that could potentially develop during the solidification of metal.

This prevents any over stressing of the components during operation and helps in ensuring the prolonged life of the valve. Extensive NDE and inspection techniques are also used to guarantee that the valves are manufactured to the highest quality standards. By employing all of the methods above Blackhall provides our customers with the ultimate peace of mind over the life cycle of their assets.

Highly reputed and technologically advanced machining facilities were sourced for machining of the valve components to achieve dimensional and geometric accuracy which are critical for the functioning of the valve. The complete valve was assembled with the utmost care and diligence by employing Blackhall's trained & highly experienced personnel to ensure the exceptional reliability of the valve build.

The first valve to be installed on the pipeline successfully passed all hydraulic tests; Shell Strength at 375psig and Seating Capability tested for Zero Leakage 250 psig.

Five further valves are currently in production for this impressive pipeline scheme, designed in the UK and manufactured in the USA with delivery running On-Time & In-Full.

Dave Richmond (Service Director) and John Lewthwaite (Technical Director)



standing inside the installed valve which opens into the mega pipeline that promises the most sustainable water supply for people of Texas.

James Blackhall the Managing Director of Blackhall Engineering commented "It has been a joy working with TRWD, both engineering teams worked exceptionally closely with a true sense of purpose to deliver this legacy project".



Tel: +44(0)1484 713717
Email: sales@blackhall.co.uk
Web: www.blackhall.co.uk

Crystal Ball Valves?

Back in 1998 when **Red Dragon Limited** started trading, computers weren't on every desk and very few companies were using the internet which gave a much different valve marketplace to that we see today.

Hand written faxes, delivery notes and orders were common place; the telephone was the essential tool, sales enquiries were largely reliant on personal relationships and sourcing unusual products was limited to known contacts that may be able to suggest a solution.

Ten years later, the internet, email and websites were vital to almost every company and the traditional regional distribution model was struggling against the rapidly widening market horizon this communication brought. Product enquiries could appear on email from anywhere in the world and any company with a website now had the opportunity to achieve direct export sales.



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Today we have new buzz words to consider in our market like Industry 4.0 and the Internet of Things (IoT), the implications of which are likely to affect future business in some way but it's difficult to anticipate what this may be. Certainly, new products may develop that offer benefits in plant communication and control, many of which may be 'wireless' or self-powered and not needing a traditional power supply connection but can we predict future products and their benefits in a way that will help our businesses?

With the increasing availability of software Personal Assistants and speech control of devices, how will this translate to industrial usage and the way that products are sourced, supplied and employed? Websites will continue to be important but it is inevitable that speech based browsing will drive further developments in website design and use, requiring increased investment for every company to keep up.

For distributors that are reliant on their partner manufacturers and not having as much awareness of the manufacturer product development pipeline as they would like, the result is likely to be fairly rapid changes in technology with little opportunity for forward planning. Equally, with rapid development of new technologies and their application in our industry, will the reduced time before product obsolescence actually increase plant MRO cost, contrary to what the market wants? How will 3D printing and delivery by drone affect the supply chain?

Closer communication between manufacturers and distributors will be essential in this changing environment to capitalise on the strengths of both for the benefit of the end user. At Red Dragon, we have significantly widened our scope of supply since 1998 and each of our partner manufacturers is essential to our future plans. By working together we understand each manufacturer and can feed back customer experiences to reinforce or redirect their goals so that we all benefit.

The next ten years are likely to bring a great many changes not just to our industry sector but in all our daily lives, let's embrace change with enthusiasm.

Red Dragon

Measure | Monitor | Control



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Web: www.reddragonvalves.co.uk

Double export award nomination for Schoolhill Hydraulic Engineering

Schoolhill Hydraulic Engineering

(Schoolhill), a family-owned firm with a 67-year history in Aberdeen, attended the Scottish Export Awards 2017 after being nominated in two categories: Micro Exporter of the Year and Most Entrepreneurial Exporter of the Year.

The company was delighted to receive highly commended recognition in the Micro Exporter of the Year category, from a shortlist of 16 other organisations.

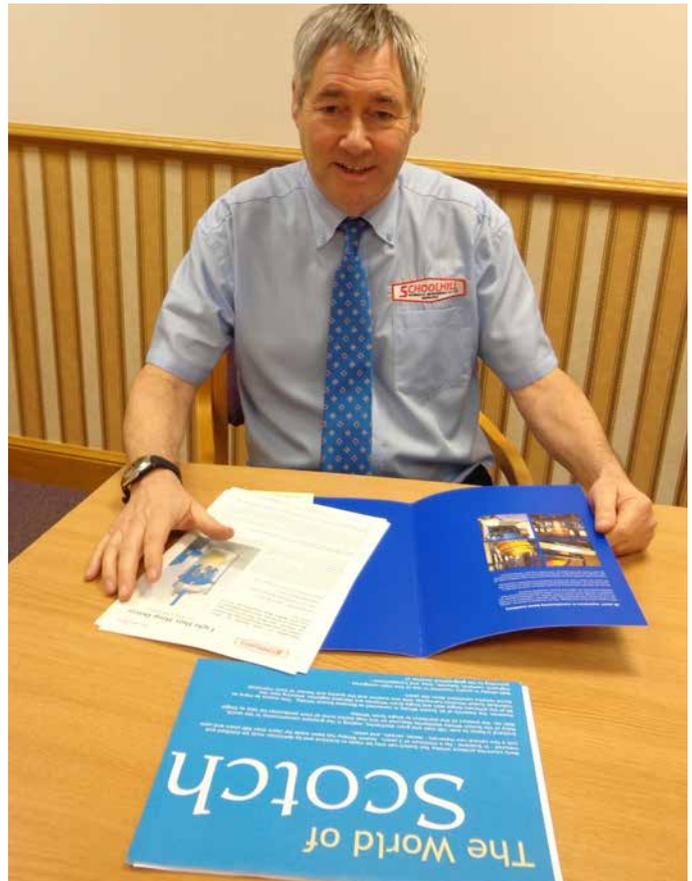
Schoolhill, which employs a team of 30, designs and manufactures tailored hydraulic solutions to meet client companies' specific requirements. The company delivers specialist equipment and support services across a diverse range of business sectors, including oil and gas, subsea and whisky distilling.

The Scottish Export Awards, which are run in association with Scottish Enterprise, recognise excellence in international trade across Scotland. Schoolhill has gained a strong foothold in the USA with clients across Texas, Louisiana, Kentucky, South Carolina, New York State and California. The company exports to a further 27 countries worldwide spanning Asia, Africa, the Caribbean and Australia.

Schoolhill's selection as a finalist and recognition follows the company's successful penetration of the overseas cooperage and whisky distilling industry. In the past year, it has gained substantial orders from the sector, with a value of over £1 million. A long history of supplying the Scotch whisky industry with barrel working machinery has acted as a springboard for the international expansion.

Ronald Whyte, managing director, Schoolhill Hydraulic Engineering, said: "This is the first time we have entered an awards scheme of this type and we are honoured that our exporting efforts have been acknowledged by the Scottish Export Awards judging panel. Our international expansion comes as a result of considerable business development work at home and abroad over the past 18 months. This work allowed us to identify new business opportunities and was followed up with two significant research and development projects for new machines.

"We continue to retain strong links with the energy industry, however the oil and gas downturn prompted us to actively pursue new markets and business areas. This strategy has been particularly successful in terms of creating overseas interest in our whisky and wine barrel operations. We are delighted to be able to export the expertise we have accumulated over the years



in developing bespoke and specialist machinery for Scottish cooperages and distillers.

"We are hopeful that we can take advantage of further opportunities. Our work with the whisky industry has led to several equipment enquiries for 'drain and fill' operations and we are now seeking to broaden our machinery offering into this area. This is an area we had not previously targeted but we have responded to client interest and can now offer a turnkey solution, including palletising and barrel conveying equipment.

"Our overarching aim is to create diversity, security and growth for the company and the Schoolhill team, who were delighted to learn of our finalist status in two award categories."



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Diaphragm Valves for Control Applications

Introduction

An important regulating element of any control loop within a processing plant, the control valve works with other parts of the loop to ensure the programmed parameters of the process variable (e.g. pressure, flow, temperature, or fluid level) remain within a required operating range.

Control valve and control loop assembly specification is typically based on performance characteristics such as speed, precision, and stability. However, the selection of the most appropriate control valve for a specific location is also governed by the nature of the process fluid. Traditional control valve technology is often restricted to use on “clean” fluids, and is not suitable for services which include the presence of slurries or abrasives. In addition, incorrectly tuned or “over specified” control valves can lead to operational wastes and inefficiencies.



Saunders® on/off industrial diaphragm valve

Control Valves

The selection of the most appropriate control valve for a specific plant location is governed by basic process parameters, e.g. the nature of the fluid, temperature and pressure of the system, the flow rate, and the pressure drop. Safety, reliability, and maintenance are also important aspects which subsequently influence the engineer’s choice of valve for a particular process.

The globe control valve, or sliding stem valve, is the most commonly used control valve. Offering the greatest range of control, it moves/pushes an element of the valve into a closed position. Some of the benefits and factors behind the widespread use of this valve type include:

- A high pressure and temperature rating
- Variable trim geometry to suit the required valve characteristics
- Relatively simple actuation and actuation control.

However, use of globe control valves in highly corrosive services requires expensive valve materials and such technology is not typically suitable for abrasive services. In addition, globe valves are not necessarily designed to provide 100% shut-off, rather various degrees of leak-tightness are available, and often an inline “companion” shut-off valve is needed to provide complete closure when required.

Quarter-turn, or rotary valves, on the other hand, feature a rotating closure element (i.e. ball, disc or plug), that when rotated 90 degrees, completely closes or opens the valve. They have become a popular alternative to sliding stem valves in control applications, despite not offering the same level of control. Generally quarter turn valves are smaller in size and weight than linear valves, and they also address some of the limitations of globe valve technology:

- Handling of corrosive fluids
- Tight shut-off capabilities
- The ability to handle high flows and lower pressure drops.

Diaphragm Valves

PK Saunders invented the diaphragm valve in 1929 consisting of three main components: the body, the diaphragm and the operating mechanism. The diaphragm is the dynamic component which restricts or isolates the media flow, and the original valve design included a “weir” in the valve body over which the media flows and against which the diaphragm seals. A straight-through (or full bore) design was subsequently introduced as a valve for handling solids, and both designs can utilize a wide range of different diaphragm and lining materials.

Simplicity of design, coupled with more than 85 years of innovation, has resulted in the diaphragm valve’s ability to handle a wider range of fluids than any other valve type. However, the diaphragm valve’s success as an on/off valve has meant that its ability to operate as a modulating control valve is often over-looked. There are a number of performance features that make diaphragm valves a viable alternative to traditional control valve technology, particularly in ‘tough’ abrasive or corrosive applications:

- The weir type valve’s inherent linear flow characteristics. Throttling and control characteristics are enhanced by a streamlined flow path that is cavity free and provides excellent flow control capabilities. The straight-through design also demonstrates a linear flow characteristic, albeit within a more limited range of travel.
- Under both positive pressure and vacuum services (from 1 x 10⁻⁵ torr to 16 bar, valve size dependent), diaphragm valves deliver 100% leak-tight shut-

off in accordance with standard BS EN 12266-1. This performance is maintained even after thousands of operations and with solids present in the line.

- The lack of stem packing or glands minimizes potential leak paths. The diaphragm forms a natural seal between the operating mechanism and process fluid, isolating the valve's working parts from the line media.
- A wide range of valve body, valve lining, and diaphragm material options ensure suitability for use on abrasive and corrosive media. These material options provide an effective and economical solution by eliminating the need for the exotic alloys used in alternative valve technology.
- In a similar fashion to the rotary valve, diaphragm valves demonstrate a high flow capacity, particularly when compared against globe valve technology.
- A wide range of ancillaries can be attached to diaphragm control valves to meet the plant requirements and maximise operational efficiencies. Pneumatic, electro-pneumatic, intrinsically-safe, explosion-proof and smart positioners are available with features including characteristic cams which are able to alter the valve performance to produce the desired flow profile.
- The relatively low purchase price and maintenance costs of the diaphragm valve ensure value. During servicing the valve can be disassembled without having to remove the body from the pipeline.

Case Study

Industry & Location: Chlor-alkali, India

Plant(s): Cell House, HCl Plant, Chlorine Liquefaction, Brine Preparation

Media: Chlorine Water, Sodium Hypochlorite, Hydrochloric Acid, Brine, Demineralised Water

Valve specifications:

- Weir type
- DN20 – DN80
- Plastic (PVDF or ETFE) and hard natural rubber linings with two-piece PTFE faced diaphragms. For the most severe services, the three-piece PTFE diaphragm, including PVDF interlayer, was utilised

- Fail-to-close and fail-to-open diaphragm operated actuators with either explosion proof or weather proof Electro-Pneumatic positioners

Control Purpose(s): Flow Control, Level Control

A key industry/application for diaphragm valves, the existing manual and actuated valve installed base at this end user was successfully extended to include diaphragm valve control valves. The originally installed butterfly valves demonstrated poor flow control, resulting in the plant repeatedly "tripping". In addition, with the only solution being direct one to one replacement, the maintenance costs for such valves were significant. As a result of the highly corrosive nature of the fluids to be handled, material selection for both linings and diaphragms was advised on an individual line basis. Sizing of individual valves, to accommodate factors including process conditions and pipe sizes, enabled a complete package of manual and actuated control valves to be installed on site (in 2008), where they have worked well without issue, to date.

Conclusion

There is not one single valve type suitable for use in every service, and this holds particularly true for control applications. Over specification is incredibly wasteful and the performance accuracy of the installed control valves should exactly match the required degree of control.

The diaphragm valve has been presented as a viable alternative to "traditional" control valve technology, where the strengths of the diaphragm valve as an on/off valve can be equally applied in control applications:

- Suitability for use on corrosive/abrasive fluids (wide range of diaphragm and lining options)
- Leak tight shut off even with solids present
- Relatively low cost (both purchase price and ownership costs)
- In-line maintenance capabilities

Albeit a versatile option, it should be highlighted that the diaphragm valve is suitable only for use on services which fall within the natural temperature and pressure windows of operation, as they are heavily influenced by the valve materials



Saunders® control diaphragm valve utilizing a PMV EP5 Electro-pneumatic positioner

and linear valve movement. However, continual innovation from diaphragm valve manufacturers has led to developments and improvements in diaphragm valve materials, actuators and accessories. As a result, the potential window of operation has been expanded to include higher temperature and more severe services (in terms of corrosion and abrasion), and is therefore greater than ever.

This article was written and supplied by David McClymont, Saunders® Industrial Diaphragm Valve Application Specialist, CRANE ChemPharma and Energy, a Crane Co. business.

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Advanced Valve Solutions (UK) Ltd
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Advanced Valve Solutions UK Ltd has moved offices and is now settling in nicely. We have remained within the Crewe Business Park as the location is close to the M6 and central to the UK.

The reason for the move was the growth of the business and the addition of new staff during, a very successful, 2016. The new location gives us much needed, additional sales office and meeting space and also gives us our own in-house training facilities.

We will be making extensive use of the training facilities over the coming months so watch this space for more news! If you would be interested in AVS running a Valves & More workshop for your organisation, then please contact us.

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automation
VALVE ACTUATION SPECIALISTS



J+J Release the New S Type Smart Electric Actuator



SINGLE MULTI-VOLTAGE 24-240V AC or DC

With quick and easy connection via the supplied DIN plugs, the S Type boast a multi-voltage range of 24-240V AC or DC with automatic voltage sensing, an innovation J+J have a patent pending on.

DIGITAL MAGNETIC POSITIONER

An all new DPS modulating plug and play kit accompanies the new S Type and elevates the positioner to a new level by introducing digital magnetic position sensing technology, uplifting the performance specifications. A new multi-dip switch has been added to enable users to specify the control signal parameters.

CREATE FAILSAFE & MODULATING FUNCTION FROM A STANDARD ON-OFF ACTUATOR

All functions derive from a standard on-off smart actuator by installing the user friendly function conversion kits. Whilst typically J+J install the kits and function test to create failsafe, modulating or failsafe modulating smart electric actuators, from stock, the plug and play kits can be retro-fitted should a system requirement change.



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Now incorporating the industry standard green for open or opening, red for closed or closing, plus a vivid blue for modulating versions, users can instantly see the current functional status of every type S Type actuator.

A WEALTH OF EXPERIENCE:

For 21 years J+J Automation UK have been supplying electric ball and butterfly valves, or actuators only, to all types of industries and a huge range of applications, and with their approach to find innovative new developments, look forward to the next 21 years with eager anticipation.



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01629 55577

SMC Recognised for Environmental Achievements

Automation experts and world leaders in pneumatics, **SMC**, have scooped an accolade at the Milton Keynes Business Achievements for a second consecutive year – this time, for excellence in the Energy and the Environment category.

In 2016 the company was recognised for excellence in its manufacturing processes.

A glittering ceremony, held at Stadium MK on Thursday 9 March was attended by award nominees including the world-famous Marshall Amplification, and hosted by badminton former World Champion and Olympic silver medallist Gail Emms.

SMC triumphed against tough opposition in the shape of Cawleys Recycling, which provides sustainable recycling and resource management solutions, and electronic office equipment suppliers EasyCopiers – which, coincidentally has its head office just 100 metres away from SMC!

Directors and senior managers at SMC make an annual commitment to promoting environmental best practice which is displayed in the company's UK manufacturing and logistics facility.

Last year almost 1,400 fluorescent tubes around the company's 24,000m² site were replaced with LED fittings. The result will be an average reduction in CO₂ of more than 330,000kg and a cut in energy costs of around two-thirds compared with previous levels.

SMC has also established an environmental committee to collect, evaluate and help implement suggestions from the workforce.

As part of its site on the western flank of Milton Keynes, SMC has around three acres of land left to grow naturally and only cut late in the year, helping preserve the diversity of flora in the local area. This, in turn, helps nurture a beehive on site which is managed by an SMC employee who is a certified bee keeper.

SMC's commitment to reducing its environmental footprint is taken seriously by everyone at the company, explained Bob Hitner, Marketing Manager: "Visitors to our headquarters can see examples everywhere of how seriously we take our responsibilities. From recycling packaging materials on components that we receive for knock-down assembly, and reusing them for packaging of customer orders, to less obvious measures like composting tea bags and fruit peelings; it's a responsibility that we ask all our colleagues to embrace as soon as they start work with us. So, we're delighted that these efforts have been officially recognised, and customers can be reassured that they really are working with a responsible supplier."

For more information on SMC Pneumatics visit their website.

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Rotork Actuators Support Portugal's Plan for Advanced Wastewater Treatment

The **Viseu Sul WWTP** in Portugal's Viseu County is the first in the country to adopt advanced membrane filtration (MBR) wastewater treatment technology.

The highly automated treatment facility, serving a population of 90,000, was recently inaugurated by the President of Portugal, Marcelo Rebelo de Sousa, and is named as a national environmental benchmark for future developments.

MBR treatment plants work without the addition of chemicals and with relatively low energy consumption, combining secondary and tertiary treatment and eliminating traditional sand and carbon filtration. Centralised process control and automation at

Viseu Sul is facilitated using Profibus DP network technology, utilising Rotork's latest multi-turn and part-turn intelligent non-intrusive electric actuators (IQ and IQT respectively) to operate penstocks and butterfly valves for flow control throughout the wastewater treatment process.

The Rotork IQ Profibus DP interface card provides comprehensive control and feedback data about the valve and actuator using DP-VO cyclic communication. Extensive actuator diagnostics and configuration information is included in the DP-V1 acyclic data supported by the card, enabling valve profiling and diagnostic data collected by the IQ actuator to be incorporated into asset management systems.

"national environment benchmark for future developments"

The Rotork reputation for all-weather reliability in the global water and wastewater treatment industries, combined with the local availability of technical support from the manufacturer available from Rotork Iberia, also made important contributions to the selection of IQ actuation technology for this landmark project. In addition to being the most advanced WWTP in Portugal, the new Viseu Sul plant will enable the closure of other treatment plants in the area which do not meet the latest environmental regulations.



Profibus DP-enabled Rotork IQ intelligent non-intrusive valve actuators support Portugal's plan for advanced wastewater treatment.

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Actuated Solutions Launches Next Generation Electric Quarter Turn Actuator

The UK's leading independent provider of valve automation products, **Actuated Solutions**, has announced the launch of its hotly-anticipated HQ-005 electric quarter turn actuator.

Building on the reliability and versatility of its bestselling HQ-004 product, the innovative HQ-005 adds further functionality and features that make it one of the most advanced general purpose actuators on the market.

Key innovations of the HQ-005 include a high visibility beacon, LED status indicators and a manual override hand wheel for ease of use. It will also automatically detect 110v or 240v and whether AC or DC is present on the 24v option. Precision engineering, including a brushless motor for increased reliability, means the HQ-005 delivers an impressive 70% duty rating, and its hard-anodised finish is certified to IP67. What's more, a built-in electronic torque limiter will automatically cut the power, if required, to prevent damage to the motor. These new features, as well as 10NM more torque and attractive price point, are sure to make the HQ-005 an instant hit - as Actuated Solutions' Managing Director, Paul Slaughter, confirms:

"The new HQ-005 is pushing the boundaries of what is possible to achieve with an actuator of this size. We thought we'd exhausted functional potential with our bestselling HQ-004, but we've managed to go a stage further with this new product and I'll be very interested to see how the market reacts. I am sure our customers will find



the new features on the HQ-005 incredibly useful and, in some cases, game changing."

Available in Europe exclusively from Actuated Solutions, the HQ-005 is fully interchangeable with the HQ-004 and will act as an advanced alternative in many applications. Additional feedback switches and unique direct mounting system (covering F3, F4, F5, and F7) offer greater flexibility as well as functionality. The most popular market applications are likely to be in the water, building services and general process sectors, although wider uses are expected.

For more information please contact your local independent distributor, or visit their website.



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Parker Secures 'Fit for Nuclear'



Parker IPDE Barnstaple Plant

Instrumentation Products Division, Europe of **Parker Hannifin**, the global leader in motion and control technologies, has joined a select group of companies that have successfully achieved 'ready to supply' status through the Fit for Nuclear (F4N) programme.

F4N is designed to assist UK manufacturing companies in taking advantage of opportunities within the country's rapidly developing £60bn civil nuclear new build programme. Launched five years ago, F4N was developed by the Nuclear Advanced Manufacturing Research Centre (Nuclear AMRC) with the support of its top tier industry partners and Government.

Deborah Pollard, Business Development Leader Capital Projects for Parker's Instrumentation Products Division, Europe (IPDE), said: "This is a significant achievement for our IPDE division, as we seek to develop new opportunities in the nuclear sector. We have supplied to the nuclear industry in the past, but now we have successfully completed the F4N programme, this gives us even more credibility and means we have an even stronger offer to the market. There are exciting opportunities that lie within the nuclear industry in the UK and Europe and we see it as a growth area for the future for our instrumentation fittings, tubing and valves."

The rigorous F4N programme includes an online assessment, site visit and verification and a final audit, with the whole programme normally taking 18 months to complete. F4N audits systems such as health and safety, quality, human resources, training, innovation and sales. As Instrumentation Products Division, Europe already

had robust systems in place, the company managed to complete the programme in under 12 months. Although IPDE has met the F4N standard, the company will be audited annually to ensure it continues to meet the nuclear industry's stringent requirements.

Mark Knowlton, Fit for Nuclear's Industrial Advisor, said: "Fit For Nuclear is designed to help UK manufacturers to prepare for the huge global business opportunities in nuclear new-build. Achieving the F4N standard demonstrates Parker Hannifin's commitment to the highest industry standards in nuclear decommissioning and new power generation as the energy market undergoes significant change."

F4N allows companies to measure their operations against the standards required to supply the nuclear industry – in new build, operations and decommissioning – and take the necessary steps to close any gaps. It is delivered exclusively by the Nuclear AMRC, part of the government-backed High Value Manufacturing Catapult.

For more details about Fit for Nuclear, visit www.namrc.co.uk to find out about Parker Hannifin, Instrumentation Products Division's products and services, visit their website.



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J+J Partner with Power Genex



Power Genex Exd Valve Position Monitor LSB7000



Power Genex Exd Smart Positioner SS3



J+J Automation, a leader in valve actuation solutions in the UK for over 20 years, is delighted to announce that they have partnered with Power Genex - the quality South Korean manufacturer of pneumatic actuator position monitoring, feedback and control devices, to stock and distribute their products.

Power Genex have over 20 years of experience designing and manufacturing quality positioners, volume boosters, switchboxes and other air control products, and with J+J's own brand range of CH-air branded pneumatic actuators. J+J can offer a complete package in the supply of, and control and monitoring of pneumatic actuators and air actuated valves.

At the core of the PG range are their rotary or linear positioners, from basic robust EP positioners through to their auto-calibrating, programmable smart series suitable for hazardous area applications, with HART, Profibus PA and Foundation Fieldbus communication options, ATEX certified.

Supporting the positioner range are the SIL3 rated heavy duty ATEX approved volume boosters, available up to 3/4" offering high flow outputs and tight shut off, and extended temperature options down to -4°C or up to +12°C. Exhaust filters supplied as standard prevent unwanted foreign object ingress into the boosters.

PG's Snap acting relays and lock-up valves offer security against air system pressure malfunctions, and their air filter regulators

protect the positioners and other devices from malfunction caused by dirty supply air.

The more commonly supplied position monitoring and feedback requirements are covered with the Power Genex safe area and ATEX approved hazardous area limit switchboxes, with optional 2 or 3-way valve flow indication, and a wide variety of switch options including hermetically sealed switches, and feedback options including 4-20mA position transmitter or by potentiometer. Pilot solenoid control is covered by the PG series of ATEX approved SIL3 rated pipe to pipe or Namur solenoids for hazardous area applications, or a low power consumption durable single or dual coil quality Namur series for safe areas.

A shining jewel in the Power Genex crown however, is their Valve Position Monitor series which offer robust ATEX approved switch box with built in pilot solenoid and many feedback options which provide outstanding performance under harsh working environments. These all-in-one position monitors offer simple wiring to a single unit which adds to the cost savings a quality single monitoring and control device offers over purchasing a separate ATEX switchbox and ATEX solenoid valve.

Service will be as expected from a manufacturer and distributor with 20 years' experience supplying the valve distribution, OEM and end user markets, and J+J look forward to assisting with your valve position, feedback, control and monitoring requirements.



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ATI Announces Regional Partnership with Hekaph Koda Pte Ltd.



Automation Technology, LLC (ATI) announces the partnership with Hekaph Koda Pte Ltd as its representative and valve automation solutions provider for Malaysia, Singapore, and Thailand.

Hekaph Koda has a portfolio that includes valves, valve actuators, flow meters and high-quality hand tools. They have more than 10 years' experience and provide valve automation, engineering support and MRO services in the Asia-Pacific region including Malaysia and Thailand.

Aneil Ali, Global Accounts Manager said: "We are pleased to further solidify our partnership with Hekaph Koda and look forward to working closely together to support growing energy needs in the Asia-Pacific region. Hekaph's knowledge, areas of expertise, and relationships within the valve and automation sector will enhance our customer-support in Malaysia, Singapore, and Thailand."

Founded in 1995, ATI is an integrated manufacturer of valve automation solutions, customized for specific client requirements. The company's Gevalco® engineered products are prominent on major pipeline systems and are on more than one-half of the world's refining operations. ATI products include linear actuators for rising stem valves, quarter-turn hydraulic and gas-over-oil actuators, multi-turn direct gas actuators, power systems, and cutting-edge controls.

Find out more about Hekaph Koda Pte Ltd by visiting their website www.hekaph.com



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Allvalves Online Ltd: Continued Growth and Expansion



Following another successful exhibition in Germany with the BVAA, **Allvalves Online Ltd** are benefiting from contacts made at the show.



Having worked closely with the BVAA since the company's launch in 2012, it seems fitting that they use the Valve User Magazine to share and update on the latest news at Allvalves HQ.

Allvalves have a busy year ahead with exhibitions at the AD Biogas in Birmingham, visiting the Valve World show in Texas and trips to meet manufacturing partners around the world including, the major brands that they are working with such as EBRO, Stafsjo, Genebre, Adler and Hidroten.

Allvalves has continued its growth in 2016 and the growth has already continued in the first quarter of 2017, which has led to Allvalves being presented with many opportunities that will be explored this year. These include launching operations in mainland Europe, Africa and USA.

Allvalves have been approached by many independent valve and actuator distributors that want to represent the Allvalves brand locally, utilizing the global brands that they offer and the globally found and used website, allvalves.co.uk. More and more manufacturers look to work with Allvalves, with a European brand of plastic valves being the latest to look to work with Allvalves. Within the next couple of months,

Allvalves Online will look to showcase one of the most competitive range of PVC, CPVC, ABS and PP manual and actuated valves in the UK.

The success of Allvalves is not only down to the global distribution agreements in place with the world's leading brands, but the technical sales and after sales offered. Only this week, they received a complementary email from a customer in Dubai who described them as a *'breath of fresh air and a pleasure to work with'*. The approach to every sale is ensuring the correct products are sold for the customer's application. Allvalves are becoming known as a specialist in the marketplace, and not simply a *'stack them high sell them cheap'* company.

The business model has developed over the years to work with OEM applications offering solutions such as, utilizing the AVA compact actuator and v-notch ball valves for a lucrative customer in Europe for mobile skids - which has seen over 200 modulating actuators ordered already this year. Again, using hi-speed AVA units with Hidroten ball valves, on a UK OEM project with hundreds of actuated valves to be supplied this year. Allvalves have also worked with a high end UK OEM, supplying custom made stainless steel housings

with ATEX actuated pneumatic ball valves, after a year of working with the OEM on the design and specification.

Finally, Allvalves are currently working with a leading Biogas company in the UK, to make mobile Biogas skids in which they specify Stafsjo knife gate valves.

Allvalves Online are now ISO 9001-2015 approved, with full accreditation being awarded at the end of last year. Allvalves have always worked in line with ISO 9001 with its internal process control, but now have a certificate to give further peace of mind that customers are not only working with one of the UK's fastest growing Valve Actuator companies in the UK, but a company that takes quality very seriously - in both the product supplied and the process controls in place for handling customer orders.



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Ultravalve Boosts its RPZ Test Team



Midlands-based valve supplier **Ultravalve** has increased its number of accredited RPZ test engineers in the wake of increased demand for the service.

The company; which was acquired last year by leading process valve and actuator specialist Bonomi (UK) Ltd, has recently recruited a further engineer, bringing its dedicated RPZ test team to three.

RPZ (Reduced Pressure Zone) valves are commonly used to prevent backflow; thereby protecting mains drinking water supplies from potential contaminants. By law they must be checked annually to eliminate any opportunity for a backflow situation to occur.

The testing work takes Ultravalve's engineers into a number of different end user environments including, schools, hospitals and other sensitive areas, and as a result, engineers carrying out RPZ testing work need to be fully DBS checked. Following successful testing, customers are issued with certification covering them for the following 12 months.

Bill Brach, Ultravalve Managing Director comments: "Ultravalve have been an accredited RPZ tester for a number of years and our recent recruitment shows increased demand for this important part of our service offering. This is a critical part of the UK's very rigorous water safety regulations and plays a key part in ensuring that our drinking water is of a consistently high standard. All our engineers are WTI certificated, CSCS approved and hold Water Hygiene cards. Ultravalve are also Constructionline, SafeContractor, Achilles, Reset and SMAS approved."

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Pentair Valves & Controls Offers Effective Approach



Christof Lindner

Pentair Valves & Controls has designed an effective approach for chemical and petrochemical plant owners and operators with the potential to deliver significant, measureable improvements in their total cost of ownership (TCO).

Pentair is working with major companies around the world to promote and implement standardization programs and processes with the goal of increasing efficiency and reducing total cost of ownership in areas such as procurement, installation, and maintenance of valves and controls equipment, and inventory control processes across multiple sites.

"The concept of standardization of equipment within global chemical and petrochemical companies to lower the total cost of ownership of valves and controls and use the best possible technology is a very important approach to supporting our customers," said Christof Lindner, director of Pentair Valves & Controls Global Accounts for the Chemical and Petrochemical Industry. *"Pentair has created an effective process that can potentially save chemical and petrochemical companies millions of dollars by standardizing models of valves and controls equipment to increase reliability and efficiency and deliver proven results. The Pentair team collaborates with customers, evaluating their valve requirements and developing a customized standardization plan that can be implemented across multiple plant facilities in various regions of the world."*



Standardization Cost Breakdown

save chemical and petrochemical companies millions of dollars

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- Technology-driven product standardization with reliable high quality products that significantly reduce plant down times, unexpected outages, and operational issues;
- Technical support and consultancy provided by dedicated Pentair representatives to enhance partnerships and identify new areas for improvements for customers; and,
- Long-term commitment and solutions-oriented teams to help customers with their toughest challenges and, thus, deliver best value and TCO.

For more information about this approach, please contact Christof on Christof.Lindner@pentair.com. For further information about Pentair Valves & Controls solutions, please visit the below website.

Pentair entered into an agreement in August 2016 to sell its Valves & Controls business. To read the official announcement, please visit their website.



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Rotork SPI Delivers Smart Position Indication for Manually Operated Valves



The Rotork SPI Smart Position Indicator mechanically displays the position of the valve and electronically signals its open and closed positions

Designed for manually operated valves, the **Rotork** SPI Smart Position Indicator mechanically displays the position of the valve and electronically signals its open and closed positions.

+212°F). Options include ATEX Zone 2 compliance, direct mounting on valves in sizes up to 75mm (3") and a pin/key handwheel.

The ability of the SPI to provide a much-improved solution to the equipment previously used is illustrated by a recent order in Spain. The customer's list of special requirements also demonstrated the flexibility of the SPI design. These included Eexd Certified switches with three metre cable tails for use in a Zone 1 hazardous area and continuous remote signalling of the valve open position between the 60% open and fully open positions.

Typical areas of application include chemical and petrochemical plants, power stations, public utilities, airports and fire hydrant systems.

The limit switches in the fully sealed aluminium enclosure use current ECL (Emitter Coupled Logic) principles to provide the control room with a reliable and accurate valve position signal. The maintenance-free unit is environmentally sealed to IP67, ATEX Zone 1 hazardous area compliant and suitable as standard for an ambient operating temperature range of -25°C to +100°C (-13°F to

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An Even More Extensive Catalogue of Products from Leengate Valves

Leengate Valves are pleased to announce even further extensions to their ZETKAMA range with the addition of electronic control globe valves.

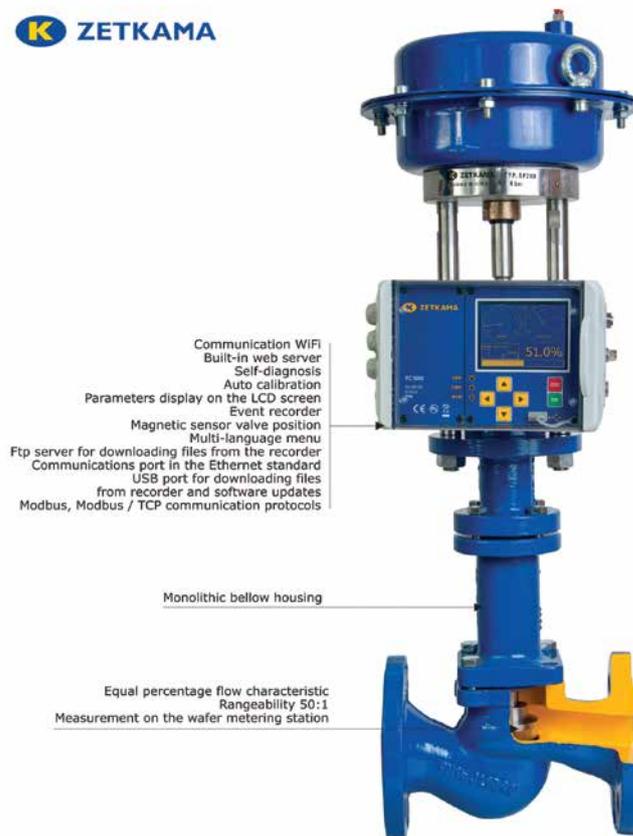
Available in 1/2" to 6", flanged & rated PN16 & PN40 options; these cast & ductile iron control valves are suitable for a range of applications including Steam, Industrial Water, Heating, Refrigeration and Air Conditioning.

With self-diagnostics, Wi-Fi connectivity and easily readable event log, these high-tech control valves sit on the cutting edge of valve technology. Further key features include USB connectivity to download relevant diagnostics & transfer updates and an easy to use LCD monitor so that engineers can properly monitor and precisely control flow as required.

ZETKAMA is one of the largest manufacturers of industrial valves in Europe, operating its own foundry and producing many different types of valves.

Leengate valves have been working with ZETKAMA for several years and these control valves are just the latest addition to a large range which already includes a vast range of double regulating and balancing valves, check valves and ductile iron and cast steel globe valves and strainers.

Previous additions to Leengate Valves' ZETKAMA range include screwed and flanged safety relief valves in cast iron, ductile iron



"operating its own foundry and producing many different types of valves"

and cast steel; up to 100 Bar and 400mm in size. These relief valves are suitable for Air, Liquid and Steam service and are supported by a full calibration service operated by Leengate Valves.

For more information or to see the current ZETKAMA range available from Leengate Valves, visit their website or the ZETKAMA website: www.zetkama.com



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Web: www.leengatevalves.co.uk/manufacture/zetkama

The UK's Most Trusted and Capable Test Facilities

Founded in 1987, **JFD's** National Hyperbaric Centre has been a dominant provider of hyperbaric and pressure testing services to a variety of industries for 30 years, and still maintains a position as one of the UK's most trusted and capable test facilities.

Sponsored by the UK government, the chambers were originally built for research purposes for the subsea and diving industries, at a time when operations were starting to move into deeper waters.

The National Hyperbaric Centre is now part of JFD, and the chambers remain amongst the biggest and most capable in the world able to simulate pressure depths of up to 800bar and altitude of 50,000ft in both wet and dry environments.



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JFD has a long standing relationship with a variety of clients who rely on the centre to manage their pressure testing requirements for products and equipment. The centre is regularly audited and is an approved UKAS EN17025 test facility.

Over the years, the centre has undertaken the testing of equipment across a wide variety of disciplines and applications, ensuring capability and function under pressure. The centre performs daily testing of ROVs, submarines, buoyancy modules, subsea valves and control modules for the subsea industry. However on occasion, also undertakes more unusual projects which have included the testing of whisky barrels, mealworms and medical equipment.

Contact JFD to discuss your testing requirements.



national hyperbaric centre

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EnerMech Acquires Electrical & Instrumentation Specialist in Largest Deal to Date

Engineering services specialist **EnerMech** has made its first entry in to the electrical and instrumentation (E&I) sector with the acquisition of EPS Group in Australia and the Americas.

EPS Group employs 250 staff in Sydney, Melbourne, Brisbane, Darwin, Houston and Louisiana, and has annual revenues of more than \$85 million. The company specialises in E&I, hazardous area inspection, high voltage testing and mechanical services for oil and gas, metals, utility and infrastructure projects.

EPS Group has worked on six of the world's largest LNG facilities and is contracted on some of Australia's biggest infrastructure projects, including the \$2.1bn Sydney Light Rail project, major defence industry contracts and Australia's largest road building programme, the \$16.8bn WestConnex motorway. Its US subsidiary is supporting the expansive LNG pre-commissioning market with projects including Sabine Pass and Freeport LNG.

The value of EnerMech's largest deal to date was not disclosed but additional funding has been provided by Aberdeen-based EnerMech's three banking partners, Bank of Scotland, HSBC and DNB, alongside long-standing equity partners Lime Rock Partners, in order to support the deal. EPS Group managing director Paul Buckley and fellow directors John Cox and Brett McGrane will remain with the business and have become shareholders in the wider EnerMech Group.

EnerMech has 2,300 staff working across its global business and the EPS Group acquisition paves the way for providing a more focussed integrated services offering ideally suited to the downstream, infrastructure, offshore and defence industries.

Doug Duguid, EnerMech chief executive officer, said: "Adding a global E&I capability

was essential to meet a demand from many of our customers who are looking for us to provide integrated commissioning and maintenance services.

"We have invested to organically develop our own E&I capability but by combining our expertise with EPS, this allows us to gain an immediate track-record and excellent reputation for service delivery in this area. The acquisition of EPS Group also widens our exposure to the infrastructure, power and defence markets."

About 30% of EPS Group's business is in mechanical services, including speciality welding, which dovetails with EnerMech's core business which includes cranes and lifting, valves, industrial services, hydraulics, and process, pipelines and umbilicals.



CEO of EnerMech Ltd, Doug Duguid



EPS Group



Paul Buckley said: "Our combined offering of skills, infrastructure and experience will strengthen our relationships with existing clients and create a wealth of new opportunities. Being part of the larger EnerMech Group, our business is now better positioned to take on larger projects not only in Australia and The Americas but across the globe."



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10% Savings: Water Supply Company Makes Use of Pneumatics

For the construction of a new ground water filtration system, water supply company Landeswasserversorgung turned to pneumatic automation technology from **Festo**, for the multi-media and activated carbon filtering basins in the Langenau water treatment plant – saving 10% on investment and operating costs compared to electric automation.

“Our aim is to be the best value long-distance water supply company in Germany, offering the best quality drinking water while ensuring a reliable supply and sustainable use of resources.” That is the guiding principle of Landeswasserversorgung, based in Stuttgart/Germany. By providing a pneumatic automation solution encompassing project support, conceptualisation and implementation, Festo has played a part in achieving this.

Landeswasserversorgung provides 90 million cubic metres of drinking water every year to around 250 towns, cities and communities in Baden-Württemberg and Bavaria. The long-distance water supply company thus supplies water to around three million people. The Langenau plant is one of the largest and most state-of-the-art water treatment plants in Europe.

Controlling the water flow

The automation controls the water flow using pneumatic valve actuators and process valves for regulation and shut-off as well as for preventing return flow. The water supply company installed seven open two-tier filters in the new ground water filtration system at the Langenau water treatment plant. Here, the water flows first through a multi-media filter and then through an activated carbon filter. After a certain amount of time, the filters need to be backwashed.

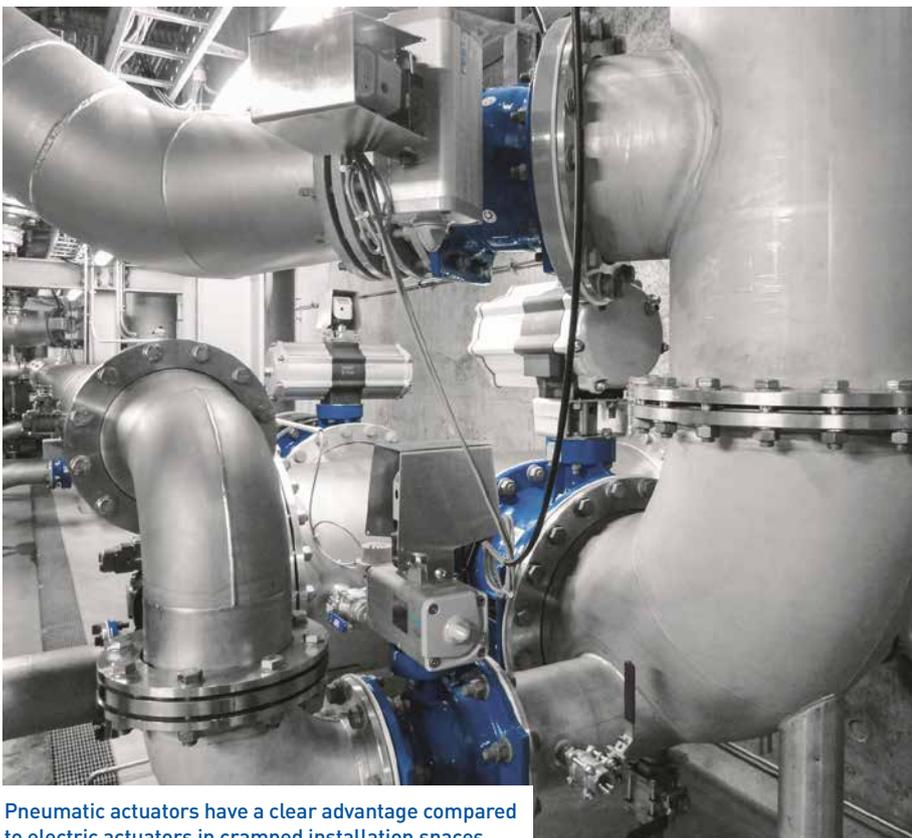
During backwashing of one multi-media filter, the pipelines are opened and closed by 10 shut-off valves. These valves are actuated by pneumatic quarter turn actuators DAPS. They have an adjustable swivel angle, are compact and have torque characteristics that are suitable for process

valves. The torque is generated via a scotch yoke mechanism which helps to overcome the valve’s high breakaway torques.

Complete pneumatic control circuit

The actuators are controlled by valve terminals CPX-VTSA with Profinet connection. The valve terminals pick up all the signals from the filters, including feedback from actuators, pressure, temperature or fill level. The valve terminals CPX-VTSA are protected from harsh environments thanks to the sturdy metal housing, completely sealed valves and ducted exhaust air and pilot air. The highly modular valve terminal with five options for valve sizes saves energy because the required flow for each valve position can be precisely set.

In addition, a pneumatic linear actuator DFPI regulates the laterally mounted sludge water valves. A crucial feature of the DFPI is the integration of the displacement encoder in the actuator, which protects it from harsh environmental influences, enhances running performance and reduces maintenance costs. The pneumatic



Pneumatic actuators have a clear advantage compared to electric actuators in cramped installation spaces



Sludge water valves control pneumatic linear actuators DFPI with integrated displacement encoder; integration protects the encoder from harsh environmental influences, enhances running performance and reduces maintenance costs



Complete pneumatic automation solution from a single source: control cabinets supplied ready to install with project support, conceptualisation and implementation

automation solution was rounded off with ready-to-install control cabinets and with all the accessories needed for the pneumatic control circuits, such as air preparation, tubing and fittings. Overall, the solution saved Landeswasserversorgung 10% on their investment and operating costs compared to electric automation.

Benefits of pneumatics

The water supply company benefited from the many advantages of pneumatics in process automation. Pneumatic components are resistant to continuous loads and maintenance-free over their entire service life. They are very easy to install and are cheaper than comparable electrical solutions, particularly when implementing complete system solutions. Pneumatic components are also very impressive when it comes to safety. Compressed air continues to be available even during a power failure. An air reservoir is always available along with a compressor for generation and preparation purposes.

Pneumatics is an uncomplicated technology which is easy to install. Apart from end-position sensing and monitoring the compressed air supply, it doesn't need to be monitored and checked. It follows the 'fit and forget' principle.

Durable technology

Pneumatic actuators have proven to be shock-proof and durable since, in contrast to electric actuators, they are made up of a small number of components and are thus less likely to break down. Pneumatic actuators are also resistant to continuous loads and remain maintenance-free over their entire service life. There is no need for oil changes or additional lubrication.

The low costs mean that it is even worthwhile automating manual process valves at a later date. Specifically, when compared to electric drive technology, the consistent use of decentralised automation



Impressive technology in the three-level pipe cellar: 70 pneumatically actuated shut-off valves open and close the pipelines during backwashing of the multi-media filters in the Langenau water treatment plant

concepts with valve terminals provides significant cost benefits – in the case of the Langenau water treatment plant, this meant savings of 10%. Some projects have even seen savings of more than 50%.

Smaller sizes are possible

Pneumatic actuators only require electricity for the control and generation of compressed air; the movement itself is triggered by the compressed air. Whereas electric actuators require gearboxes, which are responsible for most of the power losses as well as electrical heat losses, pneumatic actuators act directly on the shut-off device. They only require a piston and drive shaft to convert the 'linear' compressed air force into a swivel motion.

Since pneumatic actuators are overload-proof and a higher actuation force can be achieved very simply by increasing the pressure, it is often possible to use smaller sizes with a lower weight than would be the case for electric actuators. Provided the tubing has zero leakage and the units are precisely dimensioned, the resulting solutions are energy-efficient. Pneumatic systems from Festo can deliver high forces

of up to 50,000 N and torques of up to 10,000 Nm. Small sizes were also advantageous for the Langenau water treatment plant. On account of their size alone, electric actuators would hardly have stood a chance in the cramped surroundings of the pipe cellar.

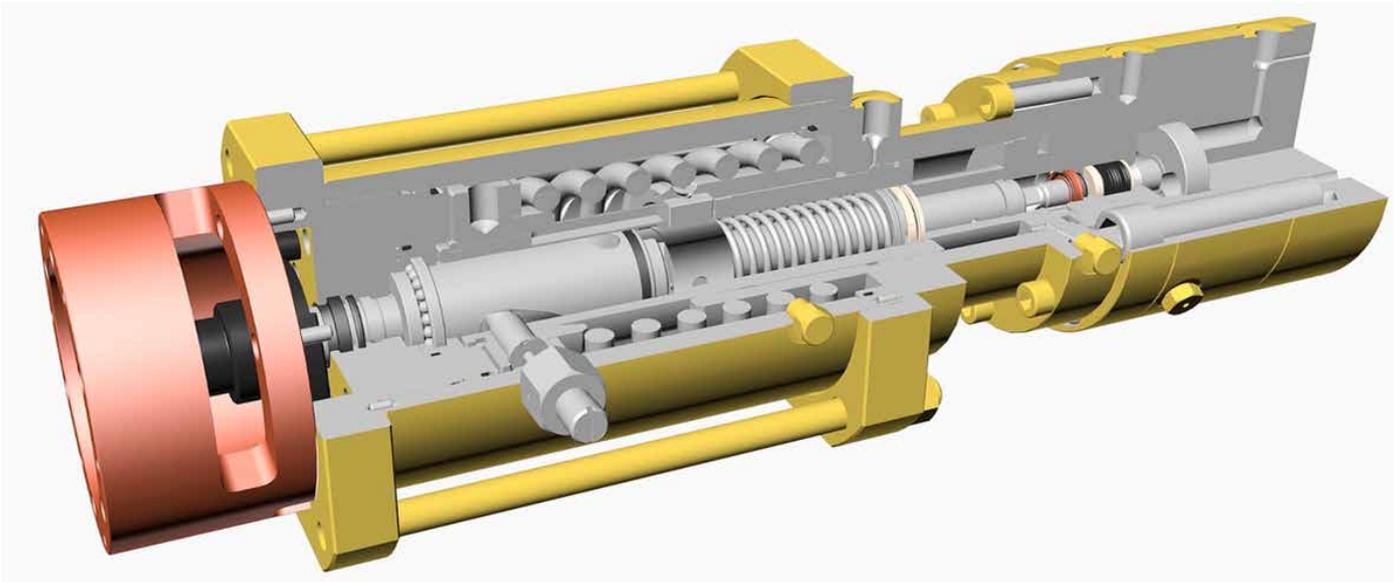
Expert advice

Experts from Festo are available to help in the calculation of the compressed air consumption and the optimum layout of the compressed air network, and can also provide support during the tendering stage on request. Customers receive everything from a single source, and with just one part number – making the order handling process simple and ensuring rapid implementation of the project.

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Next Generation Subsea Rotary Actuator – Product Range Extended



Small bore subsea valve specialist LB Bentley Ltd, part of the **Severn Glocon Group Plc**, has continued the development of its advanced rotary actuator, OPTItork™, by the introduction of an actuator to operate a ¾" 15k Rotary Gate Valve.

a progressive 'one size fits all' solution that will meet Customer needs now and for the foreseeable future."

A fundamental component of OPTItork™ is its helix sleeve. This has been fully re-engineered to ensure maximum torque during the opening stroke, without compromising performance on the return stroke. Internal bearings and seals have been reconfigured to achieve a performance that easily surpasses twice the number of operating cycles demanded by API 17D 2nd Ed.

This more powerful actuator complements the ½" actuator launched in 2016. This larger size has been developed to meet the escalating technical demands of subsea applications and the popularity of the actuated rotary gate valve.

LB Bentley's heritage in rotary gate valve actuators informed the work of its R&D team as it sought to refine and optimise the actuator design. The OPTItork™ is engineered to achieve requirements for both more stringent signature tests and a higher number of endurance cycles. It also has a greater available opening torque allowing it to operate on larger bore valves, operating at higher differential pressures whilst offering a reduced installation envelope.

The OPTItork™ actuators are fully certified to perform at temperatures ranging from -4°C to +66°C at installed depths of 10,000ft (3,048m) and are now available to operate the ¾", ½" and ¾" LB Bentley rotary gate valves at differential pressures of up to 15,000psi (1,034bar).

"The OPTItork™ draws on decades of field experience with rotary gate valves and actuators to operate effectively and reliably in the most arduous conditions," says Bryan Sanderson, Engineering Manager at LB Bentley. *"With its reduced height, a more robust design arrangement and an increased number of fill/vent ports the actuator provides great installation versatility. This, coupled with its 'depth insensitivity' and capability of operating across a wide range of control pressures, ensures that the OPTItork™ offers*

"more powerful actuator"

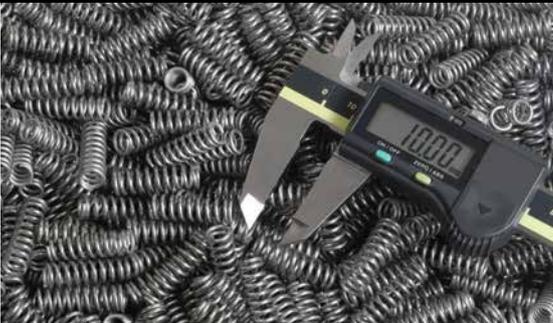
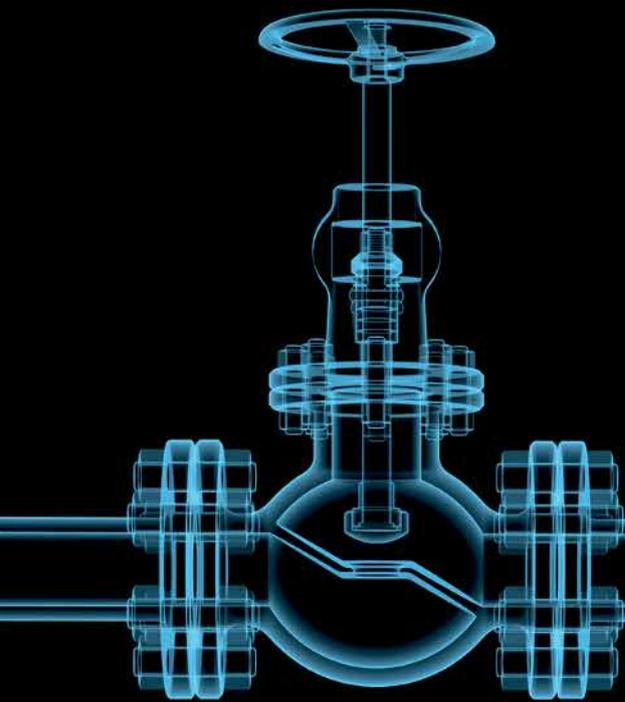
For maximum durability, all essential internal sliding surfaces are nitrided for low friction and to provide a repeatable performance over the actuator's long life. Internal hydraulic flow has been evaluated using sophisticated Computational Fluid Dynamics to ensure the actuator speed is fully self-regulated. This provides smooth, efficient and reliable operation irrespective of the how the control system operates. Finite Element Analysis, sophisticated testing techniques and data acquisition software were also used to develop and evaluate the design.

For more information and to view our OPTItork™ video, please visit our website.



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High Performance Seals Extend Process Equipment Operating Times by 100%

DuPont™ Kalrez® Spectrum™ 6375 perfluoroelastomer O-ring seals have been chosen by a major European manufacturer in the AgroSciences marketplace to replace PTFE sealing products previously utilised in their manufacturing equipment.



High performance DuPont™ Kalrez® seals, available in the UK from Dichtomatik Ltd, have helped extend the life of process equipment by 6000%.

Plant processes included aggressive solvents, surfactants and concentrated herbicides at temperatures ranging from 10 to 45°C, and operating pressures from 1.5 to 3.5 bars.

Filling machine valves on the line were previously fitted with dynamic PTFE O-ring seals, while the machine hoses were equipped with static seals, also of PTFE. Each time seal replacements or clean-in-place procedures were performed at 80°C, this resulted in mechanical damage to PTFE seals. Subsequently PTFE O-ring replacement was being undertaken on a daily basis.

In addition, the effect of steam on FKM O-rings generated product embrittlement and volume swell, causing surface cracking, reducing tensile strength and leading to premature loss of sealing force and eventual process leakages. The costs in loss of productive time and increased maintenance became unacceptable, coupled with the need for a more resilient sealing material that would withstand frequent cleaning and product changes, while providing extended seal lifetimes.

As a result of adopting the 6375 product, the previously daily procedure of seal replacements for their filling line equipment has been extended to an average of a two monthly procedure. This has achieved a 6000% improvement for their filler machine equipment, while a similar replacement of FEP/FKM seals on other equipment has extended plant operating times from an average 8-hour period to a substantially higher MTBF period of between 8 – 12 months. Since switching the Kalrez® Spectrum™ 6375 custom O-rings, the manufacturer has substantially increased their operation uptimes for filling machines, as well as achieving improved overall reliability of packing lines. A significant result in the reduction of O-ring replacements has also led to increased production with accompanying improvements in safety and reliability, as well as reducing general plant maintenance requirements.

Kalrez® perfluoroelastomer parts are available in the UK from the official DuPont™ licensee company Dichtomatik Ltd. Kalrez® Spectrum™ 6375 components have been designed specifically for applications in the chemical processing industries. These products

"6000% improvement for their filler machine equipment"

also combine innovative polymer and cure technologies to ensure outstanding performance with an extensive selection of chemicals and operation at excessive temperature levels. The range of aggressive fluids handled includes acids, bases, amines, steam, ethylene oxide and many other even more hazardous chemicals.

These once problematic fluid mixed streams encountered with chemical processors can now be safely and effectively handled by the 6375 compound, which enables an upper service temperature of 275°C (527°F). This level is approximately 100°F higher than competitive products that also claim suitability for broad chemical resistance applications. The high temperature stability achieved with the 6375-compound range is also applicable even where short duration temperature excess also occurs.

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Harriett Baldwin, MP. Celebrates British Engineering

One of the fastest growing Engineering Manufacturing companies in the Midlands, **The Smart Actuator Company (SmartAct)** is a real success story.

On Friday 27th January, the company were delighted to welcome Harriett Baldwin MP, Under Secretary of State for Defence Procurement, to officially open their factory at Advantage Business Park in Malvern.

MP Harriett Baldwin was one of the first people to see a demonstration of their Patented RIFT Technology in 2011 when the company began operating from a private house in Malvern Wells - with just 3 people. From this humble start The Smart Actuator Company is now one of the fastest growing businesses in Worcestershire and has 16 people in their team. The move to their new site gives them the capability to expand production to meet growing demand.

Upon arrival, Harriett Baldwin cut the red ribbon at the front office and reception door before proceeding on a tour of the new factory – she even became the first person to officially sign the visitor book. Harriett viewed the process involved in assembling and testing the SmartAct Actuators, and

met a range of the skilled team who work to make the Smart Actuator Company a success.

SmartAct began by developing a new range of highly energy efficient actuators, or motorised valves. Now it is working on projects to extend the technology in to different applications which include traction drives for electric and hybrid vehicles as well as a range of electricity generators.

James O'Donnell, Managing Director who accompanied Harriet on her tour, said: *"Our team of people owe Harriett a big thank you for finding the time to come along and support us today. This is just the next step for us; we plan to invest up to £9 Million to build a brand-new, state of the art factory and Research & Development Centre in Malvern over the next few years. Hopefully, we can do that here on the Advantage Business Park but if not, then we have two or three other sites as possibilities in the Malvern area."*

Harriett Baldwin said: *"This is another success story for a Worcestershire business which has brought new products to market based on game changing technology. Their continued success means more jobs and prosperity for our local community and I will continue to support them in whatever way I can in the future"*.

Most of the current SmartAct products are exported and this is likely to be the same



Harriett Baldwin with the SmartAct team



A tour of the business

for any new products going forwards. We work closely with The Department of International Trade, local Chamber of Commerce and the British Valve and Actuator Association to ensure success internationally, nationally and locally.

The secret to the success of the SmartAct product range is collaboration with the right people and organisations, as well as great technology. The core technology is lightweight, uses much lower levels of raw materials, is massively more energy efficient and reduces the carbon footprint by up to 75% compared to traditional designs for motors and generators. This means that we have both great technologically up to date smart products that are also very environmentally friendly.



Harriett Baldwin officially opening the premises



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RFID Chips on Valves and Actuators?

The increasing requirements for identification, documentation and control of maintenance processes also place increased focus on the individual components within a plant.

GEMÜ recognised this growing need and developed an RFID chip and software system that can operate as the maintenance, document store and resource database for plant components. The idea is simple, yet the development of the RFID chips, mounting technique and software development has taken years to complete. It is called CONEXO.

The CONEXO system comprises an integrated RFID chip (eg fixed to a valve, pump or instrument body, housing, seals or actuator), an electronic reading device – the CONEXO pen and an IT infrastructure comprising a CONEXO app for mobile devices and the CONEXO portal server as a central database ideally installed at the operator's premises.

How the CONEXO system works

CONEXO allows the maintenance technician to attend a valve or pump for example; read the RFID chip with the CONEXO pen and call up the current information of the process component; for instance the valve description, instructions, test reports, material certificates, product datasheets or maintenance information.

No online connection is required for this; the data is saved on a mobile device. Since the information can be read out at the valve itself, the IQ process (Installation Qualification) is speeded up as the required documents and test reports can be called up and compared quickly and easily.

Yet this is the beginning of the features of the CONEXO system. The CONEXO system also offers major advantages for maintenance processes as the maintenance documentation is stored electronically in the CONEXO app.

A maintenance technician is assigned the maintenance task electronically on their tablet and can clearly identify the relevant valves and perform the maintenance work. This also allows the maintenance technician to be clearly verified as a trained person able to perform the maintenance work and document it.

On site, after scanning the RFID chip, they are guided through the maintenance processes, can record the evaluation of wearing parts electronically and can actually verify this via photographic documentation. Technicians can literally photograph seals as they are removed, zoom in on seat wear or corrosion or generally confirm suitability for the component to continue service by photographic evidence or to complete repairs. This photographic data is logged in the database against that unique RFID tag and can be viewed at any time.

The CONEXO system allows specific data to be recorded and also further processed electronically in a simple manner, whether for the customer's SCADA environment or in the customer's ERP system. The CONEXO portal can be used to analyse the history of process plant, even in different locations. This enables maintenance intervals to also be optimally adapted to actual site conditions. If the component data shows the item is still good after inspection, then maintenance periods could be reduced and extended thus saving money.

CONEXO is designed as an open system which means that any other plant components can be managed in the system.

Imagine a Globe or a Control valve placed in service. The CONEXO pen scans the



RFID tag, logs the Valve details, Supplier, Order codes, Order number; holds its Technical Datasheets, Operating and Maintenance instructions, Melt certificates, Flow test certificates, ATEX certification and also holds a service guide or even video that leads a technician through a repair sequence – step by step – then waits for photographs of the valve to be taken and uploaded so that at the original installation and every subsequent change of diaphragms, seals, repairs, new actuator or switchboxes the valve condition can be recorded and held in the CONEXO database. Process information such as the 'time of last maintenance' can also be displayed.

What is the worth to a plant operator?

If a plant operator installed such a system, how many different types of process components would they like to be registered in it? Pumps, valves, actuators and instruments are just a beginning.

Gemu have site tested the system with Diaphragm valves as an example. The valve tag, body, diaphragm, actuator and switchbox have a RFID tag each. The valve tag is registered with the body,

diaphragm, actuator and switchbox tags as components.

The technician on site wants to assess the condition of the actuator

- Scan the valve RFID tag into CONEXO
- The valve data is displayed
- Dismantle the valve and assess condition of the actuator.
- Select the actuator sub-component in CONEXO
- If the actuator is good they can add photographic evidence to the database & exit
- If it needs replacing they scan the existing actuator RFID tag
- Add photographs of condition and comments
- Then they scan the new actuator RFID which then replaces the first one in the database
- The valve tag now show a new sub-component actuator via its new RFID tag
- The old actuator data is held indefinitely
- He exits the program.

This capability pushes maintenance and plant control into new areas not available yet in the Process Industry. Conexo can do this.

What is the value to a Valve and Actuator manufacturer?

The interaction between valve components equipped with RFID chips and an IT infrastructure, comprising the CONEXO APP and the CONEXO Portal, will actively improve process reliability.

Every valve, pump or instrument and every relevant component, such as the body, actuator or seals, can be clearly traced using RFID chips and read off at any time in the system. This provides vastly increased benefits to manufacturers customers. If most plant components had CONEXO RFID chips how much simpler for the plant operator to control their maintenance routines? Scheduled downtimes should also be kept as short as possible – any simplification in the maintenance process shortens the duration of the maintenance work and thus the system downtime.

GEMÜ CONEXO is the first step towards simplified and faster maintenance



"This provides vastly increased benefits to manufacturers customers"

processes but plant operators need their component suppliers "on board" with CONEXO so that the system works even better. If the manufacturer could equip valves and/or the relevant valve components, such as bodies, actuators and seals, with RFID chips – what a step forward for the manufacturer.

This not only enables components and wearing parts to be clearly traced electronically, but also improves identification in the field.

Gemu have developed the CONEXO system for their own products and certainly since launch there has been a huge welcome reception to this system. RFID chips are being mounted to valve bodies, actuators and also embedded inside rubber seals. Already one skid builder has adopted

the system for every skid produced so that clients can actively maintain skid components via CONEXO. Pharmaceutical companies are also looking at the system for valve identification, maintenance and seal changes. It has only been launched a few months ago!

CONEXO – a phenomenal new idea!

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High-Precision AUMA Actuators for Heating / Cooling and Metering Applications

AUMA's compact electric actuator ranges offer fixed and variable speed options for precise, robust and reliable flow control for chemical, food, and other industries.

Applications include fluid metering and demanding temperature control systems, for example preheating and cooling systems as well as low-temperature processes.

The fixed speed range comprises SBA linear actuators and ED/EQ part-turn actuators. Commands and set-points are implemented by means of binary or analogue voltage or current signals. SBA linear actuators provide high positioning accuracy and are ideally suited for modulating applications. Covering a thrust range from 0.6 kN to 25 kN and a stroke range from 35 mm to 100 mm, they are often deployed in heating and cooling systems. ED/EQ part-turn actuators are the perfect choice when precise opening, closing or control are required for shut-off butterfly and ball valves or venting and flue gas dampers. They cover a torque range from 24 Nm to 600 Nm and swing angles from 90° to 180°.

AUMA's variable speed Smart Range includes SDL/SDG linear actuators, SVC globe valve actuators and SGC part-turn actuators. All these actuators are equipped with variable-speed motors that provide soft starts and stops, ensuring gentle treatment and long life for all mechanical components. Variable-speed operating profiles, meanwhile, help to avoid critical pressure surges and cavitation. Parameter setting via software is another key feature, and both Modbus RTU and Profibus DP interfaces are available.



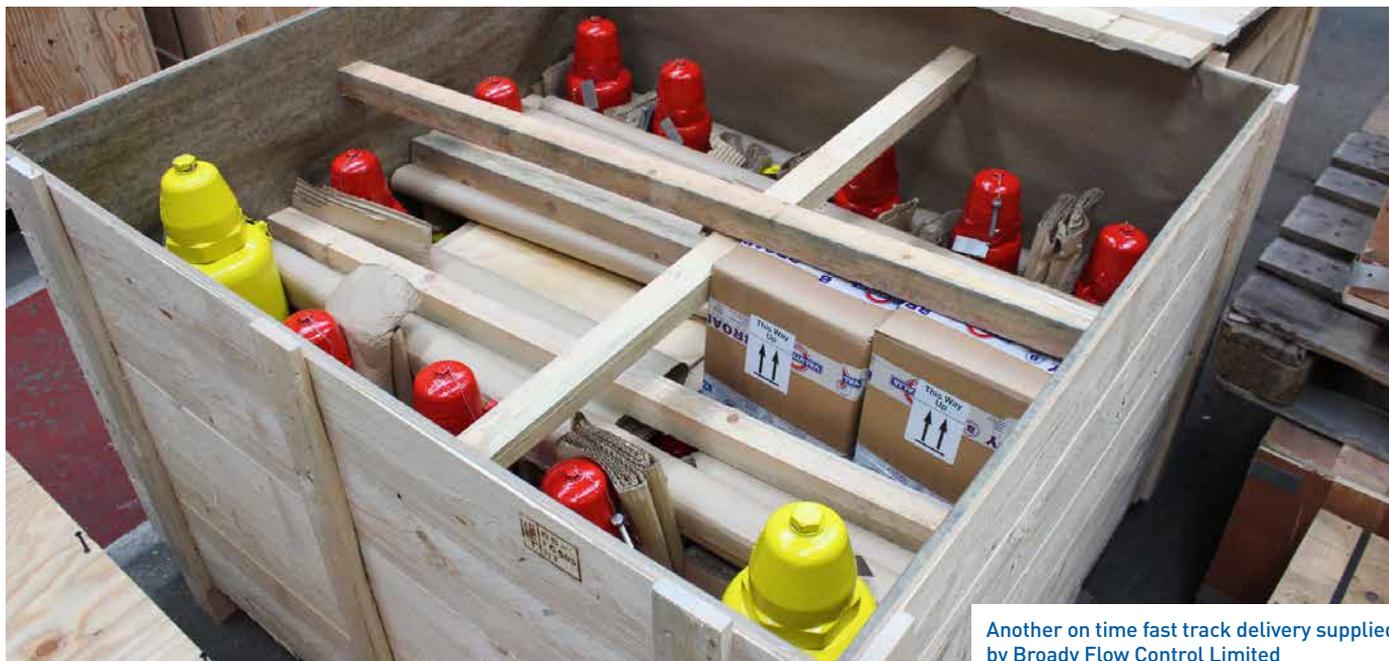
SDL/SDG linear actuators provide thrusts from 4 kN to 15 kN, with strokes from 55 mm to 300 mm. They work over a wide range of input voltages, so they are insensitive to voltage fluctuations. Thanks to their extremely low power requirements, the devices can easily be supplied by self-sufficient power systems such as solar PV. SVC globe valve actuators offer torques between 10 Nm and 100 Nm, with strokes from 60 mm to 70 mm. SGC part-turn actuators provide torques between 25 Nm and 1,000 Nm and swing angles between 82° and 98°.

AUMA Actuators Ltd is part of the global AUMA group.

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Solutions for a world in motion

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Broady: Expanding Global Presence



Another on time fast track delivery supplied by Broady Flow Control Limited

Broady Flow Control Limited, part of the global valve manufacturing group Valvitalia SpA, is now expanding its global presence by having in country stock to cover the North American and Australian markets.

Broady will be utilising the group's impressive facilities in Edmonton, Alberta and exclusive Australian agent Flocontrol PTY Ltd, with its headquarters in Perth, Western Australia and branches in Brisbane and Melbourne.

Both locations will stock the entire range of the popular Broady series 3500 Safety Relief Valve in both dual certified Carbon Steel (LCC/WCB) and Stainless Steel (316L/316) Class #150 to #2500, along with a significant inventory of spare parts. Stock will be held in kit form and assembled and tested upon order entry by factory trained and certified individuals, using the latest Safety Valve testing equipment with full data logging capabilities.

These new stock holding facilities will be fully supported by the highly experienced Broady Engineering / Sales team based in Kingston upon Hull.

The Broady plant already offers the API526 / ASME VIII approved range of Safety Relief Valves on a 4 week fast track or 8 week standard lead-time. Shorter lead-times are available upon request. This fast track service has proven popular with both UK and International customers alike. A range of Nickel Aluminium

Bronze and 22% CR Duplex Castings are also held on stock to compliment the standard product line.

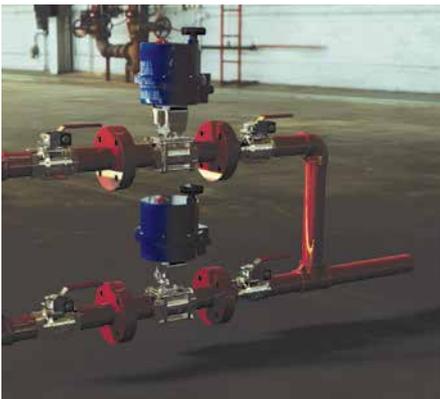
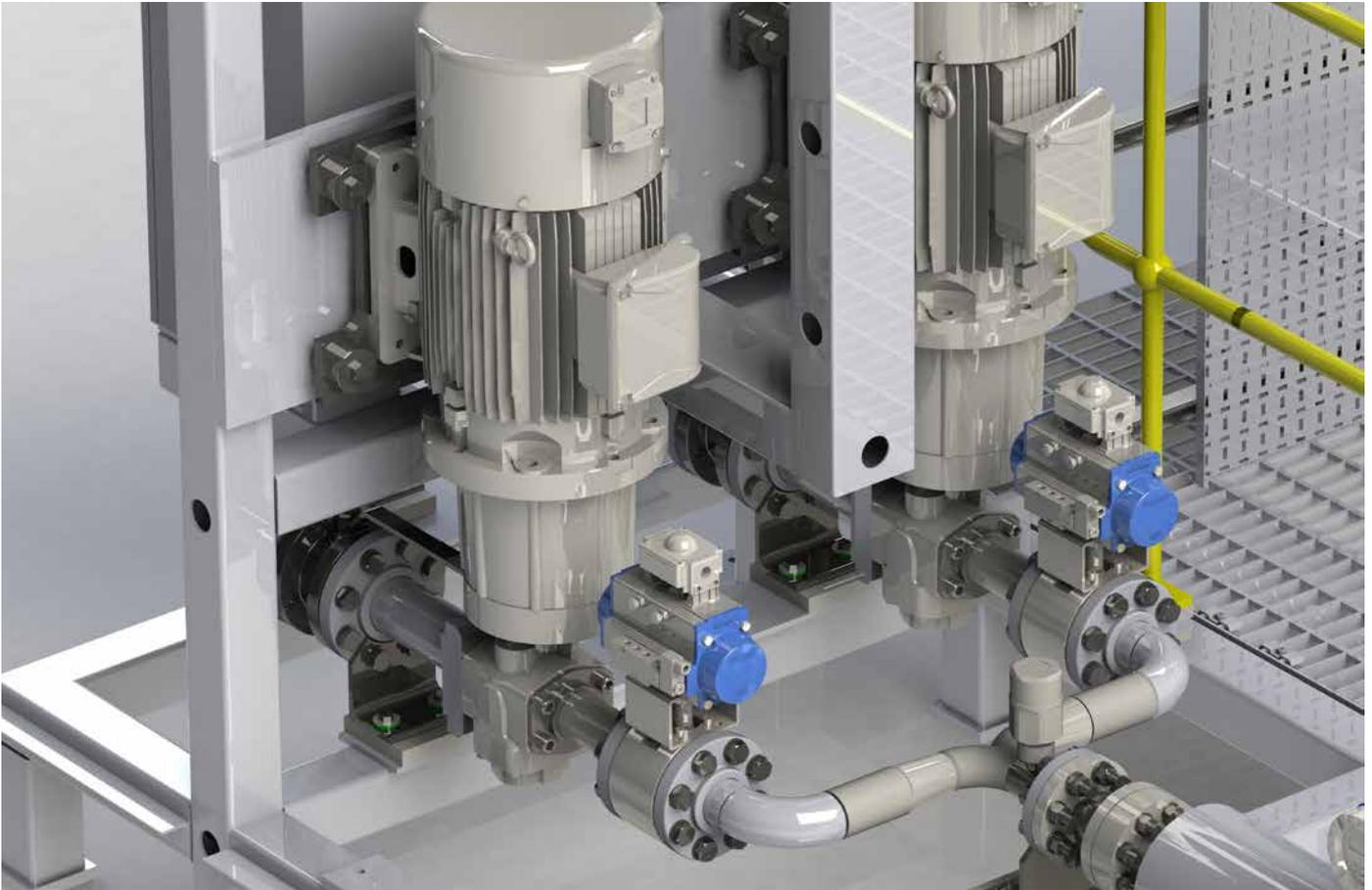
In the coming months Broady will be rolling out a similar fast track program for their ASME approved Series 4000 Pilot Operated Safety Valves; eventually this inventory will also be extended to the Australian and Canadian plants.

Broady's Sales Director / Deputy General Manager Paul Robinson commented: *"The Broady brand is recognised worldwide for a quality product and exceptional customer service, and we already have an excellent reputation at being able to deliver both standard and non-standard manufactured to order valves - on very short deliveries. By having inventory not only at our UK headquarters, but also in these two strategic locations will help us better serve both our existing and new customers. Exiting new product lines are due to be added to our safety valve manufacturing range in the coming months. Announcements will be made in later editions."*

BROADY
FLOW CONTROL

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Bonomi (UK) Ltd Aids Customer Design with 3D Drawing Solution



Process valve and actuator supplier **Bonomi (UK) Ltd** is helping its customers achieve more accurate and faster system design solutions through the provision of 3D drawings.

The company's ability to offer 3D images of valve and actuators assemblies, means that its customers can preview systems and assess the compatibility of components, before committing to a final design brief.

The service will help customers highlight and eradicate potential issues in system design at the concept stage before build commences, thereby saving time and removing the associated costs of re-design.

Bonomi holds an extensive library of images which can be quickly adapted to illustrate customers' proposed designs. 3D drawings can be supplied in multiple formats to meet the requirements of a variety of end users and OEMs.



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Springtech: Product Performance and Reliability



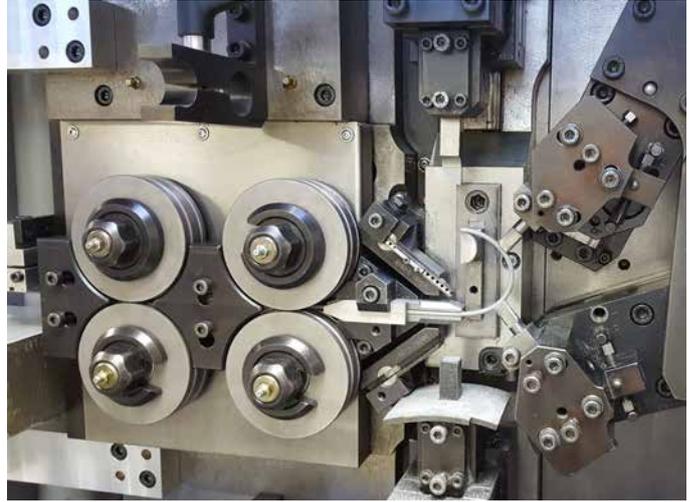
Spring design can sometimes be a low priority when developing a new valve or actuator but as **Springtech** explain, working with their specialist engineers early in a project can reap significant rewards in overall product performance and reliability.

It's not an unfamiliar issue; an OEM customer calls the engineering team at Springtech to explore their spring requirements but the valve design is nearly finalised and compromises with this most critical of components, which could negatively impact valve performance and reliability, may have to be made. The solution is simple – get in contact early!

Springtech have been designing, developing and manufacturing springs, wireforms and pressings for a diverse, global customer base for over 50 years. Their aim is always to offer a tailored, full-service solution from initial concept design through to full-scale manufacture and ongoing lifetime product support. Their specialist engineering team have a wealth of experience in designing products for a wide diversity of applications, especially those where working conditions can be demanding in the extreme.

Employing the latest CAD technology Springtech engineers are able to design compression, extension or torsion springs along with wireforms and pressings which are tailored to meet exacting customer specifications. Unlike other manufacturers who only offer 'off-the-shelf' products; Springtech always advise customers on the best-fit product solution for their specific requirements.

Utilising a unique knowledgebase and having invested in an extensive inventory of materials suitable for a wide spectrum of applications, including super alloys and Nace-compliant materials, is critical to Springtech's ability to deliver fast turnaround of product prototypes and compliance with customer production schedules.



Along with the in-house Design Centre, Springtech also has a fully equipped tool room, staffed by specialist technicians, which enables the design, testing and production of high performance, precision tooling to ensure exacting conformity to customer specifications.

To complete their full-service offer, Springtech has invested over many years in advanced manufacturing facilities capable of low and high volume production runs backed by a rigorous ISO9001 approved quality, testing and inspection system.

"a tailored full-service solution from initial concept design through to full-scale manufacture"

So, if you are developing valves or actuators and have spring requirements, or looking to change supplier for an existing product, talk to the specialists at Springtech.



Tel: +44(0)1494 556700
Email: enquiries@springs.co.uk
Web: www.springs.co.uk

Moontown Enters 5th Year of UK Manufacturing

The Nottingham based company was **established 21 years ago** (1996), operating as a distributor for PTFE spring energised seals, hydraulic seals and other high performance associated products.

Having built up a customer base, in 2012 Moontown moved to new premises and began to manufacture at their new UK facility; and since then have expanded to 5 times its size. Additionally, the company has invested in EDM machinery to allow them to make their own tooling in-house, and invested in NORSOK and API 6A approval for some of their materials. The company are proud to claim that their products are 'Manufactured in England'.

One unique trait Moontown deliver is that they pride themselves on their complete service – the service they have come to call 'Powder to Part' production service, made up of the following areas:

- ISO 9001:2008 Certified
- In-house PTFE Billet production
- Complete FEA capable design service
- Experienced CNC programmers
- Advanced on-site CNC machining
- In-house spring winding
- EDM facilities for tool making.

Ian Lowe, Technical Sales Engineer commented: "Having all of this onsite, and with the move from distributing to manufacturing, we can maintain a tight control over materials, quality and production – a huge benefit to existing and new customers!"



Photos: Moontown exhibiting at the BVAA Supplier Day 2016 & 2017

"The company are proud to claim that their products are 'Manufactured in England'"

Moontown joined BVAA membership in 2015 and took full advantage of the vast networking and business development opportunities within the membership. They recently attended the BVAA Supplier Day where they exhibited their company / products, and will also be exhibiting at the Spring Conference in May – so make sure you introduce yourself and say 'hello' to the Moontown team.

For more information on Moontown and their products contact the team or visit their website below.



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Seetru: Over 65 Years of Quality, Innovation & Service

Seetru have decades of experience as a manufacturer of safety relief and other special purpose ancillary valves for a wide range of industrial applications. As a company we are always seeking to innovate and find ways of better serving our customers.

In January 2016, we released a new line of Safety Relief Valves to the market which offer an added level of versatility and practicality. The LGS® (Liquid/Gas/Steam) range of pressure relief devices have been designed to function and protect a much wider range of systems and applications.

LGS® Safety Relief Valves

The Seetru LGS® Multi-Purpose Safety Relief Valve range represents state-of-the-art design with dual guided spindle as well as the Seetru Rock-Seal™ seal technology for repeatable high performance sealing. It is a high-quality valve of modular design and construction incorporating the Seetru proprietary compact design technology – providing a highly cost-effective range of valve solutions. LGS® valves have a robust and re-liable construction designed for the widest range of industrial applications. The LGS® range is suitable for a wide variation in flow characteristics, coping with both low volume and high relief capacity applications.

Features of the LGS® Safety Valve

- Bronze body with dezincification resistant brass wetted parts; stainless steel spring, spindle and seal retainer
- Size range 15mm to 50mm (½" BSP to 2" BSP)
- PTFE or EPDM sealing as standard (other seal materials available upon request)
- Self-draining design
- Pressure range: 0.2 to 24 bar g. (steam up to 14 bar g. with PTFE seals, contact Seetru for information on other seals)
- Temperatures -60°C to +200°C with PTFE seals (EPDM -45°C to +140°C)
- Open lever or sealed cap
- Designed in accordance with the requirements of BS EN ISO 4126 Part 1 and CE marked as a Category IV Safety Accessory
- Supplied with Certificate of Conformity, EN 10204 3.1 material certification available on request
- Degrease for oxygen available on request
- Easy to fit spares kit
- Male x Male Adapters available
- Test certificate supplied free of charge
- WRAS Approved



More Stock Valves for Quick Delivery

We have a reliable Same-Day-Despatch service for our LGS® Range which we have recently extended to include additional types and models of Safety Valves.

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Full Range of Brandoni Valves Available from **Leengate Valves**



Following significant expansions to Leengate Valves over the last 12 months, including extended hours and the opening of their new distribution hub, **Leengate** have now expanded several stock ranges including an expansion of their Brandoni range.

Founded in 1961, Brandoni have been in business for over 55 years and have been working closely with Leengate Valves in order to bring their high quality, Italian made, ball valves, check valves, control valves and butterfly valves to the UK market.

Leengate Valves holds stock of a full range of Brandoni butterfly valves in both stainless steel and ductile iron with various liners, including EPDM, NBR, PTFE and Viton. With EPDM valves available up to 12" from stock WRAS approved and larger WRAS approved valves available to order. Stocks of Brandoni butterfly valves cover sizes up to a massive 24 inches and with gearboxes, stem extensions and chain

wheel drives available Leengate can reconfigure your butterfly valves exactly as required.

As well as butterfly valves, Leengate Valves also holds stock of a full range of Brandoni ball valves in cast and ductile iron, including table E flanged varieties & 3 way T and Y port options, with a variety of ball and o-ring materials to suit any application; swing check valves with NBR, Viton and PTFE seat options; back flow preventors and double regulating balancing valves in both brass and cast iron.

The latest addition to this already superior range, Leengate Valves will now be offering modulation differential pressure control

valves to the market. These cast iron control valves are controllable between 0.2 and 1.6 bar and will be available in various sizes and options between 2 1/2" and 6".

Leengate Valves are highly experienced and exclusive suppliers of Brandoni valves in the UK and are happy to help with any queries you might have. For more information or to see the current Brandoni range, visit the below website.

**Leengate
Valves**

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Web: www.leengatevalves.co.uk/manufacturer/brandoni



The Always Reliable DeZurik Plug Valve

For decades, the **DeZurik Plug Valve** has been a proven performer – a long standing, reliable, workhouse in everything from water to chemical service, clear liquids to mining slurries, and many applications in between.

The plug valve has evolved since the cast iron, resilient-seated plug valve was introduced in 1928 much about it has stayed the same.

One reason today's DeZurik plug valve has been around so long is that once installed, it remains functional for decades of uninterrupted on-off service, throttling service, and flow diversion. The plug valve is used for applications that require tight sealing with good wear resistance for handling fluids, with some solids such as paper stock and wastewater. Applications include water and wastewater treatment plants, water distribution systems, power and chemical plants, HVAC, paper mills, and mining operations.

DeZuriks PEC plug valve is a rotating motion valve used to stop, start, control, or direct flow. It receives its name from the shape of the internal plug mechanism, which is one of the plug valves' three basic components; the other two are the body and bonnet/cover. The plug is the only moving member. When turned 90 degrees from the open position, the solid part of that plug blocks the ports and stops fluid flow, or in multi-ported valves, diverts flow from one port to other ports.

The DeZurik PEC Eccentric Plug valve

The eccentric plug valve (Figure 1) derives its name from the fact the plug's rotational



Figure 1.

action is eccentric in nature relative to the longitudinal axis of the plug.

This rotational action allows the plug to contact the seat only in the last few degrees of rotation, which eliminates most rotational wear and friction between the seat and the plug. This design also allows the valve sealing to be controlled by the torque applied to the plug. The eccentric action allows the plug to cam into the seat and provides tight shutoff, which reduces wear on the plug and seat. The sealing surfaces may be metallic or elastomer lined.

When the eccentric plug rotates 90 degrees from opened to closed, it moves into a raised eccentric seat. In the open position,

the plug, which is segmented, is out of the flow path. Flow is straight through, and flow capacity is high. As the plug closes, it moves toward the seat without contact with the seat or body walls, so no interference or wear occurs. Flow is still straight through, however, making the throttling characteristics of the eccentric plug valve ideal for gas, liquid, and slurry applications. The plug only makes contact with the seat in the closed position. When furnished with a resilient facing, the plug is pressed firmly against the seat in the body and provides a tight seal.

Installation of Eccentric Plug Valves

The correct installation procedure for the eccentric plug valve is determined by the

type of materials carried in the pipeline, and the location of the valve in the piping configuration.

In horizontal pipelines the valves should be installed so the plug is horizontal and rotates upward as the valve opens. Flow against the plug face pre-vents solids from packing in the body cavity when shut. When there is no chance of overhead drain-back, the valve should be installed with flow against the face of the plug. Installing the valve so that it is in a horizontal rotational axis keeps the journals free from sediment. The valve also should be installed so that the plug rotates upward 90 degrees to open. This forces sediment to settle away from the open plug and prevents the plug from sticking open.

For vertical pipelines in which over-head drain-back can exist, the valve should be installed with the seat at the top. This prevents drain-back solids from packing into the valve body.

The DeZurik 3-way and 4-way valve

DeZuriks flow diversion valves (Figure 2) typically have three or four ports and are also available with a variety of plug styles, which are chosen based on the desired flow diversion. The most common plug styles are: single-style, double-style, and transfer-style.

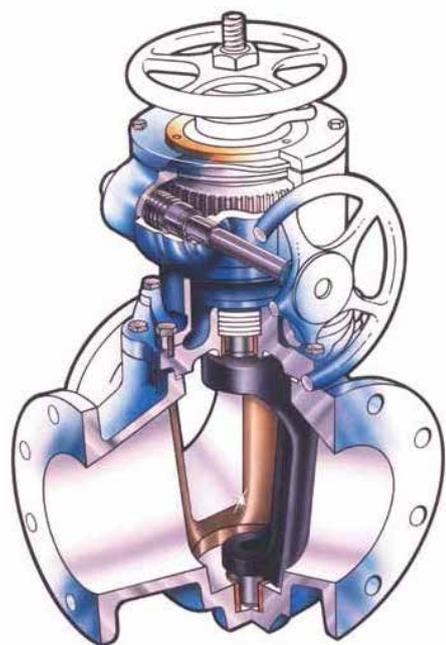


Figure 2

The single and double-style plugs can be arranged into different flow combinations. Resilient-seated plugs are used for tight shutoff, and in high-temperature and throttling applications, the plugs are all metal. The transfer-style plug is used in four-way diversion valves designed to shut off the flow of two ports and allow the flow through two other ports.

Flow diversion valves are designed for throttling and diverting clean, dirty, viscous, and corrosive liquids; sludge, abrasive, and fibrous slurries; and clean, dirty, and corrosive gases.

Some multi-ported valves feature lift, turn and reseal, which allows the plug to be moved away from the sealing surface of the body prior to rotating. Because the plug lifts first, plug and seat wear is reduced or eliminated and the valve has longer life. Lift, turn and reseal double hand wheel actuators (Figure 2) provide tight shutoff when used on valves with resilient-faced plugs. A lift, turn and reseal valve with lever actuator is shown in Figure 3. The lever is used to lift the tapered plug away from the seat, providing easy operation. With the plug unseated, no binding or scraping between the plug and seat occurs. At the desired flow position, the plug is re-seated.

Applications for the DeZurik Plug valve

Applications for plug valves are numerous. For example, here are just a few:

- Sewage intake
- Grit removal
- Digester gas
- Effluent
- Pump check control
- Paper
- Sewage transmission
- Process
- Primary and secondary treatment in Mining slurries
- HVAC
- Water
- Power
- Chemical

The Future

DeZurik's plug valve is a proven durable and reliable performer, while the plug valve has evolved somewhat in the century it's been around, the basic principle of

Flow Combinations

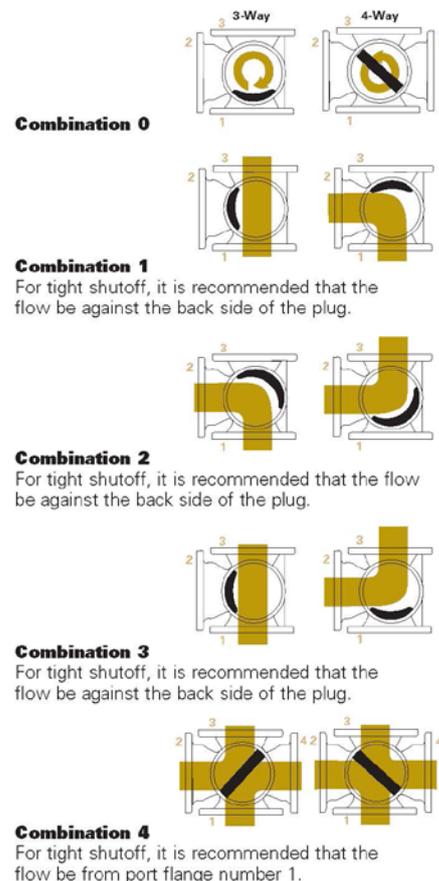


Figure 3

its operation remains the same; so has its reputation as a proven performer and a long-standing, reliable workhorse. Because of this, the outlook for the DeZurik plug valve is positive, and we can expect to see its continued use in a number of applications decades into the future. For More information on the DeZurik PEC plug valve Contact Flow Technology Services

FLOW
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Web: www.flowtechnologyservices.co.uk

Saunders Smart Sensing Valve Technology Incorporates Intelligence

Diaphragm valves are regarded as the “valve of choice” for many applications due to the entrapment-free design and self-draining characteristics.

Being an integral part of the process system design, diaphragm valves play a critical role in controlling the flow of high value process media and optimising cleaning protocols. On critical applications, diaphragm valves are usually coupled with some type of feedback position switch that determines the status of the valve. While accurate position feedback is very helpful in monitoring real-time performance, nuisance trips and false alarms can result in unnecessary process shutdown and increased maintenance costs. False position indication can generate alarms that could potentially stop a process.

There are multiple types of linear detection devices that use mechanical, solid state or electromagnetic technologies. Mechanical limit switches, proximity sensors and linear potentiometers are not very accurate, nor reliable due to mechanical design and technology constraints. On the contrary, continuous electromagnetic sensing provides a higher degree of accuracy over conventional sensing technologies, and can eliminate potential costly failures when detecting the position of the valve. Pairing electromagnetic sensing methods with ultra-reliable diagnostics, accurate readings and the elimination of false alarms due to inaccurate position feedback, changes the dynamics of traditional control and provides critical information such as preventive maintenance diagnostics. Furthermore, continuous position sensing (electromagnetic or solid state analog) adds a new level of reliability and allows for detection of minor deviations in position (0.2 mm or less). This powerful concept ensures that a variation in position can be detected immediately and reported to the control room via networks, or locally by providing visual diagnostics at the sensor. The position detection available in continuous electromagnetic sensors facilitates preventive maintenance and, unlike mechanical sensors, they are immune to mechanical fatigue, wear of

components, humidity, and vibration and temperature variations.

Understanding the numerous benefits that continuous electromagnetic sensing can provide, Saunders®, a Crane ChemPharma & Energy brand, introduced a new line of intelligent sensing solutions for diaphragm valves specifically for use in the Life Science industry. Saunders-VUE smart sensors, designed to maximize plant efficiency by eliminating false alarms and reducing set-up times, provide positive and accurate confirmation of the valve position while delivering a wide variety of diagnostics for continuous monitoring and preventive maintenance. The product line consists of two different state-of-the-art sensors, the Saunders I-VUE, designed for end users because of its enhanced diagnostics and easy calibration, and the Saunders M-VUE, ideal for equipment manufacturers because of its modular and compact design.

The Saunders I-VUE features contactless electromagnetic sensing technology that provides accuracy of less than 0.2mm, eliminating false position indication and nuisance trips that occur with mechanical sensors. Its self-calibration feature, which can activate remotely over a network or locally at the unit using a magnetic key, reduces set-up time from 30 minutes, as seen with traditional switchboxes, to only three minutes. The Saunders I-VUE also features a digital cycle counter that can identify the life of a diaphragm for a particular application under a set of process conditions, count the number of cycles completed by the valve, and sound an alarm that notifies the operator to perform maintenance once a certain number of cycles has been reached. In fact, the Saunders I-VUE can produce 15 different alarms that enable users to extract valve diagnostics like never before and is available in point-to-point, ASi and DeviceNet versions.

The Saunders M-VUE is the most compact intelligent valve sensor in the industry. Its modular design provides the flexibility to add or remove integral solenoid at any point during the life of the sensor and it can be direct mounted on Saunders actuators. The electromagnetic sensing technology featured in the Saunders M-VUE provides precise position confirmation with an accuracy of 0.3mm, making it an ideal sensor for small valves. Additionally, like



the Saunders I-VUE, the Saunders M-VUE also offers one-step contactless valve and sensor calibration in three minutes. This quick calibration process delivers 90% savings in maintenance costs every time a sensor is calibrated.

With the growing trend towards smart components, the industry can evolve and utilize the technology available to save costs and improve efficiency and performance. The Saunders-VUE product line of intelligent sensors enables users to do just that, while improving the quality of their products. The Saunders I-VUE and Saunders M-VUE directly address existing pain points and offer solutions that complement and improve upon products and processes, adding intelligence to standard diaphragm valves and offering the industry new possibilities.

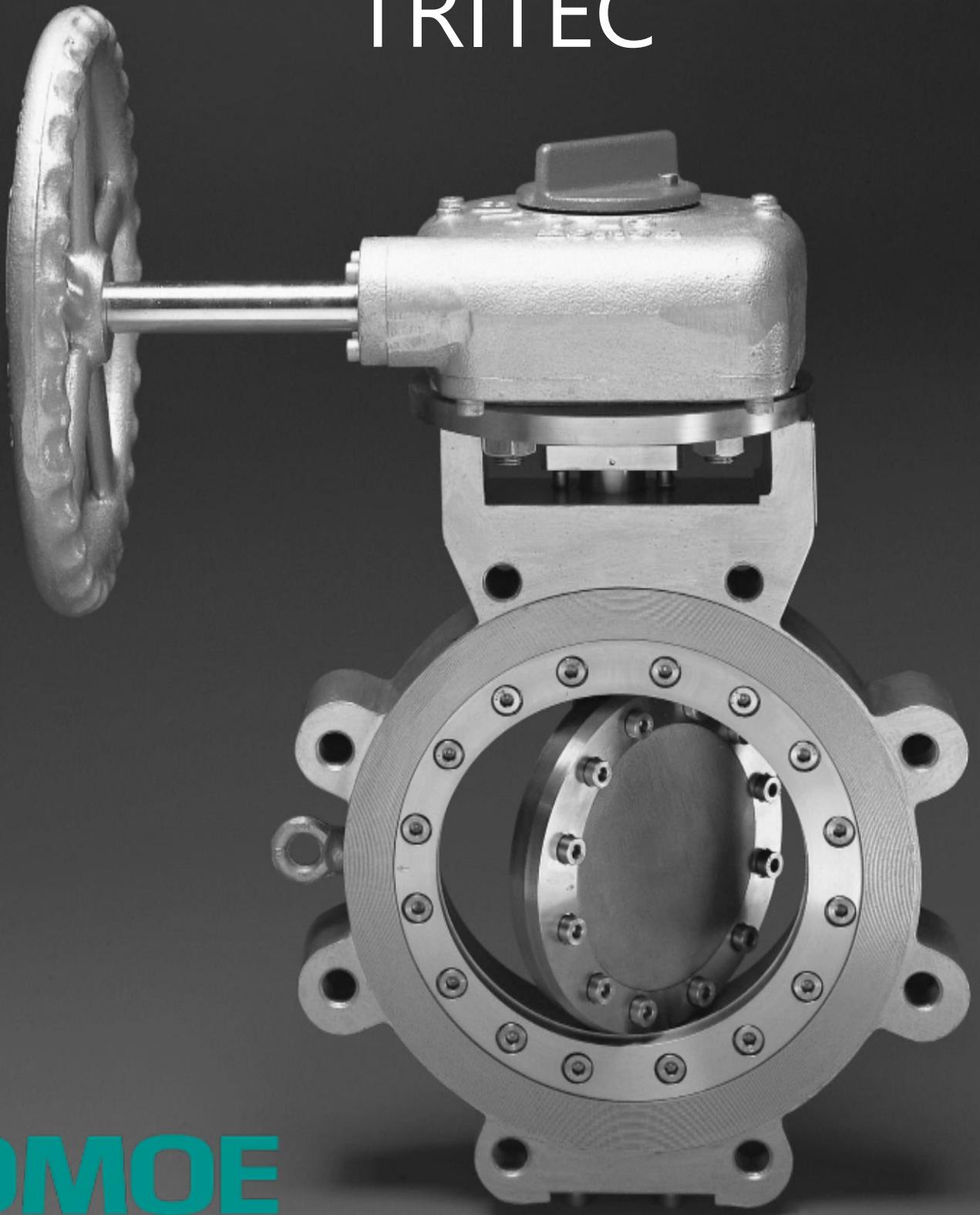
By: Ketan Pandit, Regional Business Line Manager – Crane ChemPharma & Energy, Saunders® and Edgar Marino, Application Specialist – Crane ChemPharma & Energy, Saunders®

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Failsafe and Modulating Electric Actuators from Stock



J3CS DPS Kit



J3CS BSR Kit

Back in 2007, **J+J Automation**- the market leading European innovator in electric actuator design and manufacture, introduced plug and play function conversion kits that when installed, enabled standard power open, power close electric actuators to have their function changed.

This new concept was a huge success and as more competitors release products with similar facilities, in 2017 J+J raise the bar again. The target was to reduce the current 'high' and 'low' voltage versions into one model that covered both.

After years of head-scratching, and with a patent pending to protect the concept, Jordi Chaves (one of the 'J's' in 'J+J') finally solved the problem and the new 'S' Type released in the last quarter of 2016 boasts single multi-voltage capability with auto-sensing of any supply voltage between 24 and 240VAC or DC. Now, with only a single model to cover what formerly required two to cover the range, the J3C-S Series from J+J gives stockists a smart actuator with the flexibility to make the ROI on stock-holding interesting once again.

The BSR plug and play function conversion kit quickly and easily creates fail-safe functionality using an industrial rechargeable battery and PCB containing a trickle charging system and switch to draw battery power when external power fails. Installed inside the original on-off actuator's housing to maintain the same size envelope (many competitors still add a separate housing for the

battery – as J+J did prior to 2007), the BSR only sees a change in connectivity to the new 'S' Series control PCB.

However, function conversion from on-off to modulating sees a significant change in the new 'S' Type, where the former mechanically driven potentiometer shaft feedback system is superseded by state of the art digital magnetic position sensing. In a new, even more user-friendly auto-calibrating plug and play kit, the DPS system significantly upgrades the performance of the J+J smart actuator's proportional control. To indicate this change, the now multi-colour LED status light is blue for proportional control.

In most cases, the plug and play BSR and/or DPS kits are installed by the stockist and dry bench function tested before shipping to the installer or user and with the now super-flexibility of a single multi-voltage actuator supported by the plug and play function conversion kits, the J+J 'S' Type offers delivery from stock of failsafe, modulating – or with both kits installed, failsafe modulating smart electric actuators.

As the kits are so user friendly, and quick and easy to install, they can be quickly and easily retro-fitted on site should the function in the process system in which they are installed, change.



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Webtec Welcomes New Manager of Custom Hydraulic Products



Business Development Manager – Lance Palmer

Webtec recognises that, for many customers, standard hydraulic products will only go so far in meeting their needs for their hydraulic application.

As many companies seek to innovate and modify machinery for niche applications, Webtec comments that only a custom hydraulic solution will do.

To meet this growing demand, Webtec has appointed Lance Palmer to the Webtec team as Business Development Manager for custom products. Following a successful career with IMI as Global Business Development Manager for the mining sector, where he was responsible for new markets and product development, Lance Palmer has joined Webtec to help with future growth and custom products.

Martin Cuthbert, Managing Director of Webtec, commented: "We recognise that many customers know Webtec for developing and selling hydraulic instrumentation products, and in some markets

we are much less well-known for our hydraulic valves. Actually, if you look back over the last 52 years Webtec has always been involved in designing and manufacturing hydraulic valves, test equipment came later."

Martin Cuthbert continued: "The appointment of Lance is an important step for Webtec, as armed with his knowledge of the international fluid power, mining and construction machinery markets we can expand our capability to help many more companies with both their custom hydraulic measurement and hydraulic control needs."

Working together with customers, Webtec has the ability to research, design, develop and validate affordable customised products that will meet customers' needs in a way that a standard product never will.



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Web: www.webtec.com

Innovative Application-Specific Compact Actuator Series Unveiled



Designed with a high-performance helical spline, the HS series compact actuators are used for power transmission. (Image courtesy of Schlumberger)



The CP series compact actuators save valuable space as compared to a typical scotch yoke actuator. (Image courtesy of Schlumberger)

Two compact actuator solutions, the HS series helical spline drive and the CP series helical slot drive actuators, recently emerged from the **Centre of Excellence for Actuation** in Voghera, Italy.

The HS series is fit for applications where a high-pressure hydraulic fluid will be used as a supply for the actuators and the CP series is designed for applications where a low-pressure compressed air supply will be used. Both series address the need for automating quarter-turn valves in space-constrained installations.

Study of torque-generating mechanisms

Upon being tasked to undertake the development of a best-in-class type of compact actuator, an intensive study was performed to identify the pros and cons of existing torque-generating mechanisms used in a wide variety of existing actuator designs. Not surprisingly, the scotch yoke mechanism is consistently utilized to operate an extensive range of valve sizes and pressure classes. Additionally, when the scotch yoke device was designed for direct mounting to the valve stem, the minimal height of this actuator met the definition of compact. However, due to the stroke length needed by the scotch yoke moment arm when rotating 90 degrees, the resulting overall length of the actuator was not compact. Generally, for an actuator to be considered compact, it should fit within the end-to-end dimensions of the valve on which it is mounted. To meet this dimensional constraint, a different torque mechanism would be required.

Research and development engineers at the Centre of Excellence for Actuation then focused on a helical drive torque mechanism because it is the only existing device that can generate the torque output required, and provide substantial reductions of the overall actuator dimensions.

Two helical drive choices

Since helical drives for actuators are currently available in two distinct designs (helical spline and helical slot), a careful evaluation for selecting the preferred helical drive was undertaken. Relying upon the centre's extensive actuation expertise that has been ongoing since the 1940s and combining it with helical drive knowledge that surfaced in the 1960s, it soon became apparent that the helical spline and helical slot drive mechanisms each had advantages and disadvantages, depending on the application.

Therefore, centre engineers decided against restricting available options to only one helical drive type and making it fit into all applications. The centre is the first to offer both solutions.

To learn more about the compact actuator solutions and how optimized design can help achieve space reductions in automated piping systems, visit the below website.



Web: www.cameron.slb.com/compact-actuators

Engineering Asset Manager Appointed

Advanced Valve Solutions UK is delighted to announce the appointment of Alex Jackson as Engineering Asset Manager.

Alex is an experienced engineer who is available to advise and support engineers in gas, coal and biomass power stations, across the United Kingdom, on solutions to many common valve issues in steam water cycle and turbine applications.

Alex has spent the past three year as part of the Trigas Maintenance Strategy Team, covering maintenance improvement at Cottam Development Centre and Killingholme, a 400MW CCGT Power Station. His role included implementing



Newly appointed, Alex Jackson



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ISN provides an online contractor management database, ISNetworld, which is designed to meet internal and governmental record keeping and compliance requirements. ISN collects health and safety, procurement, quality and regulatory information. ISN's subject matter experts review and verify this information to assess the accuracy, relevance and timeliness of the data. Connecting Hiring Clients with safe, reliable and sustainable contractors and suppliers around the globe allows these organizations to use ISN as an integral part of their management systems. UK Hiring Clients that are members of ISNetworld include EDF, ENGIE and InterGen.

and embedding quality systems, and embedded engineering best practices within day to day activities as well as outage works. Alex also had oversight of the effective management of critical/strategic spares.

In addition to developing maintenance strategies, Alex has practical experience of the day to day routines to keep the plant operational, carrying out plant checks to ensure the plant is in a ready/safe state, and the safe run up and run down of the unit both in combined cycle and open cycle.

If you would value a visit from Alex, either to discuss specific issues or to arrange a lunchtime question and answer session, then please contact the AVS office.

Advanced Valve Solutions are now an accredited contractor with ISNetworld

As an acknowledgement of the quality of our services Advanced Valve Solutions is delighted to announce that we are now an Accredited Grade A Member Contractor with ISNetworld.



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Webtec Leads the Way with Custom Solutions and 7-Day Lead-Times



Webtec's 180 and 280 series of aluminium and stainless steel zero-leak hydraulic rotary control valves

Webtec showcased its latest range of hydraulic components and hydraulic test equipment at Hannover Messe on 24-28 April 2017.

Visitors were given the opportunity to discuss their hydraulic custom solution requirements and the recently introduced 7-day service on single piece directional control valve orders, with company experts.

Products on display included the VFD range of three-port flow control valves designed to improve efficiency by up to 33%, thereby making hydraulic systems run cooler while also using less energy.

In addition, the company's latest portable Digital Hydraulic Multimeter was also on display. Featuring 'Quickcert™', this iPhone™ App saves time by emailing a test certificate while in the field.

The Webtec team were on hand to discuss custom solution requirements. Offering a research, development, test and manufacture service a special solution can include many different components including sensors to reduce envelope size, assembly cost and time and or warranty claims.

Visitors to the stand were also able to learn more about the 180 and 280 series of aluminium and stainless steel zero-leak hydraulic rotary control valves which are available on the rapid 7-day service.



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SGS Valve Engineering Services in Great Yarmouth

SGS has held a presence in Great Yarmouth for over 20 years delivering analytical and laboratory services to the Oil and Gas markets.



needs by using either mobilised labour, mobile workshop facilities, on-site lapping and testing equipment, the customers facilities or combinations of these to achieve the timescales and service delivery our customers deserve. We also have the ability to certify valves onsite without removal utilising our VTIL (Valve Testing In-Line) system.

SGS United Kingdom Ltd. operates our own Quality System to ISO9001 and OHSAS18001 along with a Management Improvement Programme. By choosing SGS for your valve engineering and inspection requirements you are assured of the highest quality service needed by your business.

Through a significant investment in the area in a larger facility SGS now expands a local service portfolio to include the Inspection, Overhaul and Testing of Valves and access to additional Industrial inspection services.

Maintenance and certification are an essential part of any quality assured and compliant system. SGS' Valve Engineering Services ensure traceable refurbishment, certification and overhaul of valve needs giving a reliable service; and offer services on valves such as Pressure Relief, Control, Isolation and Regulating within our very own custom designed valve facilities utilising our local ASME certified valve engineers.

SGS is recognised as the global benchmark for quality and integrity with more than 90,000 employees and more than 2000 offices and laboratories around the globe. The core services offered by the company are; Inspection, Testing, Certification and Verification.

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Wednesday, 6th July 2017

All courses above are held at BVAA in Banbury

Prices: Members: £260.00 | Non Members: £390.00. All prices exclude VAT

BOOK NOW!

Introducing: Pegler & Louden

Pegler & Louden have been in business as a valve distributor for over 100 years, now a specialist division within BSS Industrial they are dedicated to the supply of valves, actuators and flow control products. BSS Industrial is the UK's market-leading distributor of pipeline and heating solutions and a multi-million pound, nationwide business

Pegler & Louden (P&L) combine an extensive portfolio of off-the shelf products and bespoke specification with a range of added benefits:

- P&L are specialists in the selection of industrial valves, process valves, actuation and ancillary equipment.
- A dedicated team of valve specialists, providing over 120 years of technical knowledge and product support, adept at providing innovative solutions for all customer's technical challenges.
- Quality approved and traceable systems.
- New and improved valve actuation packages built and tested through the Valve and Actuation Centre at Magna Park. With orders received by 4pm assembled, tested and dispatched overnight to UK site.



in February 2017. Michael Risden, Sales Office Supervisor attended the event on behalf of Pegler & Louden and promoted the BSS offering. Michael Risden said: "The supplier networking was very well organised, we had some good discussions with over 10 suppliers, which had potential partner offerings."

For more information on BSS Industrial and their products, contact the team or visit their website.

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- New and improved Actuation centre offering Pneumatic/Electric Actuated Packages.
- Orders received by 4pm will be Assembled/Tested and dispatched overnight to UK site.

BSS Industrial are also a UK stockist and distributor for many companies, such as: Flowsolve (Worcester/Norbro Valves and Actuators), Ari Armaturen, AVK Valves, Bailey Safety Valves, Crane Fluid Systems, Hattersley Valves, Nabic Valves, Pegler Yorkshire, Spirax Sarco, Westlock and Pneumatrol.

P&L recently attended the BVAA Regional Dinner & Supplier Day, which took place

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Curtiss-Wright New Appointment

Curtiss-Wright's Ohio Industrial Division, is pleased to announce that Andrew Masullo has been appointed to the position of General Manager of Farris Engineering. Andrew's appointment follows the retirement of longtime Farris GM Frank DiTomaso in December of 2016.



Andrew Masullo, General Manager

Prior to joining Curtiss-Wright, Masullo was President and CEO of General Products Corporation (GPC) serving the automotive, medium and heavy duty truck transportation industry. He also served as Vice President, Operations for Dover Corporation, a leading supplier of lifting, pulling, rotating and load monitoring products servicing the towing, recovery, marine infrastructure and oil and gas markets.

Before joining Dover Corporation, Masullo was the General Manager, Relief Valves and Instrumentation for Tyco Valves and Controls. His primary responsibility at Tyco was to develop and implement business plans focused on meeting organic and acquisitive growth. Over his 20 years of relief valve experience with Crosby, Anderson Greenwood, and Varec, he held roles of increasing responsibility from product design and process

engineering, to operations and general management in North America as well as in Europe, the Middle East and Africa, inclusive of global joint venture development and supply chain management.

Masullo holds a Bachelor of Science in Mechanical Engineering Design from the Worcester Polytechnic Institute, Worcester, Mass.



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The advertisement features three ASU Sewage Air Valves of different sizes and configurations, arranged on a yellow curved surface against a blue background. The valves are cylindrical with various ports and a top venting mechanism. The text highlights their reliability and low maintenance requirements. Logos for FLOW Technology Services and DeZURIK APCO | HOLLAND are at the bottom.

"wide range of spring-loaded and pilot-operated pressure relief valves"

For more than seven decades, Farris Engineering has designed and produced a wide range of spring-loaded and pilot-operated pressure relief valves and is a recognized leader in the hydrocarbon processing, refinery, petrochemical, natural gas production and transmission, pharmaceutical, and general processing industries worldwide. A pioneer in the field, Farris Engineering created many products that remain industry standards.

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AV Actuators Launch New Product and Officially Launch in USA



Following a successful 2016 launching in the UK, and huge interest in the product at Valve World in Dusseldorf, **AV Actuators** brings new products to the market and officially launches the US operation in Texas – later this year in June.

AV Actuators new 60 Series and 110 Series, previously detailed in Valve User Magazine, has now officially launched, expanding their actuator range in ABS from 20Nm through to 110Nm. Both models will be made available in the Basic and Smart Series to compliment the range. The Basic Series offers our customers a cost effective entry level model, with features including manual override, heater and end of travel limit switches as standard. The Basic Series will offer On-Off functionality along with failsafe option.

The failsafe differs from the 20Nm Series, in that the 20Nm uses a capacitor to achieve failsafe function; whilst the new 60 and 110 Series uses an industrial battery backup system, as seen in other brands of electric actuators in the market - due to the torque outputs offered. Unlike some of the competition, the AVA 60 and 110 do not have a reduction in torque, when using batteries to open and close the actuator.

The Smart series is where the actuator comes into its own, and all of the customers that are using the Smart 20 series currently are benefitting from this. The Smart Series introduces the OLED colour screen, which gives the actuator input/output status, any fault status with the actuator and also has a fully interactive menu system via touch buttons, that allow certain settings to be changed with the actuator via software within. The customer can change settings such as; working angle, speed control, modulating input control, fail open or fail close on signal / power loss, and allow for tolerance issues between the valve stem and the actuator output drive. The new Battery Back Up system allows the Smart actuators to be used in the commissioning setup of the actuator on site, in that the Battery Back can allow the user to access the menu system and use the local control function without power on site.

The new 60 and 110 Series, like the 20 Series, are also available as High Speed; offering fast working time around 1 second when using DC versions and also offer brushless motors on both AC and DC models. This provides high cycle warranty and is another huge advantage over most of the competition. The new AVA 60 and 110 Series offers the very popular Timer series - a fully configurable 7-day week timer menu, allowing customers to remove the need for fancy PLC's to setup timed operations of the actuator. Finally, the actuators are available with BUS Communication offering CANBUS, MODBUS and PROFIBUS functionality.

In other news, AVA has now been working with contacts made at Valve World as part of the BVAA pavilion stand, and have now appointed distributors in Russia, Netherlands and South Korea. Discussions and testing are ongoing with various other countries from contacts made at the show.

"fast working time around 1 second"

Building on the success of exhibiting at the Valve World shows, AVA's new setup in the USA will exhibit at the Valve World Americas show in Texas in June. The show will be used to launch the AVA range of actuators into the US market, with the primary goal of meeting new OEM's and valve distributors. The company will also meet with customers they met in Germany to finalize distribution agreements. AVA will be at WEFTEC in Chicago later this year with the UK team, assisting the US guys at the shows. Stock is arriving in the US later this month to support sales and launch of the new AV Actuators website which will be launched within the next month.



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EnerMech Builds on Caspian Pedigree with £40 Million of Contracts Wins



Mechanical services group **EnerMech** has strengthened its market position in the Caspian region by securing contracts with major operators valued at more than £40 million.

The contracts involve a number of EnerMech service lines including cranes and lifting, process, pipelines & umbilicals, valves, training and industrial services.

Aberdeen-headquartered EnerMech has been awarded a three-year contract with BP Exploration (Caspian Sea) Ltd to manage all of the Operator's crane operation, maintenance and inspection requirements in Azerbaijan.

The contract covers assets spread over seven platforms, includes 12 offshore pedestal cranes, and will see EnerMech increase its Azerbaijani workforce from its current level of 80% to 100% within a three-month period.

The ATA consortium in Azerbaijan have commissioned EnerMech to provide a full range of hydrotesting, flange management,

camera inspection and enhanced water blasting services on two platforms which are part of the giant Shah Deniz 2 gas condensate field. A separate project will see EnerMech for the first time provide ultra-high pressure tubing installation, pressure testing and flushing of tubing, with experienced supervisors from the UK and Asia training assisting local pipe fitters on the project.

Also at the ATA site, EnerMech have been awarded their first direct contract with BP for the provision of nitrogen/helium leak detection and pre-engineering is ongoing in London. More than £1.5 million has been invested by EnerMech in new equipment to service a first award at the Sangachal Terminal south of Baku, where they have been commissioned by Turkish contractor Tekfen to provide enhanced high-pressure water jetting and flange management over a two-year period.

EnerMech has also been commissioned by BOS Shelf to provide all jacket riser testing, subsea safety isolation valves and subsea spool testing at its Baku Deepwater Jackets Factory and will also carry out hydro testing, riser pigging and bolt tensioning work.

John Guy, EnerMech's regional director for the Middle East, Asia and Caspian, said: "This has by far been our most successful period in the Caspian region

and the groundwork we have put in over the last five years is now paying dividends. The extension of the BP cranes and lifting contract is an important development and our commitment to Azerbaijan has been underlined by our move towards a 100% Azeri project team.

"We have recently made senior Azerbaijan national appointments within our management team as part of our commitment to the development and nationalisation of our 300 strong employees in Azerbaijan.

"The breadth and depth of these various work scopes demonstrates EnerMech's ability to offer a genuine integrated service to clients with specific requirements. We will continue to invest in facilities, equipment and training to ensure we can offer a flexible, responsive services backed up with the most modern equipment fleet and best trained personnel."



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Cause for Celebration for SmartAct®



SmartAct SubSea Actuator photographed at Valve World 2016

Latest version of the ISO 9001 Certification.

The Smart Actuator Company (SmartAct®) team members who attended the BVAA Supplier Day at Brighthouse in February, were fresh from a double celebration with the full team of 16 people in Malvern.

A few days before the event, the team at SmartAct® received confirmation that the Large Sub Sea electric actuator had successfully performed a Hyperbaric functionality test down to 880 metres.

The test was carried out by LP Bentley in Stroud, a wholly owned subsidiary of Severn Glocon in Gloucester. Severn Glocon staff members, based at Severn Subsea in Redruth, have been working with SmartAct in their development of the Sub Sea version of their large actuator over the last 2 years. Initially the target depth for one client project was 35 metres, but the attraction of depths down to 300 metres for continental shelf applications worldwide was soon pointed out.

The great minds in the SmartAct® technical and engineering team worked on a design upgrade, with some advice from Severn Subsea and James Walker in Crewe, about the potential depth capability of the basic design. They then booked a second test at Bentley in February. The original design had tested to 80 metres; the redesign was planned to go as far as possible beyond 300 metres. In the event, it went down to a massive 880 metres and was still functioning as planned. The test was only stopped at that depth because the booking time slot ran out!

The same design and performance characteristics that have enabled the Sub Sea electric actuator to operate at these depths, will also prevent any possible spark from exiting the product. The actuator can operate with low voltage supply and be intrinsically incapable of generating a spark.

Working on certification and standard accreditation for the SubSea Actuator and other products is the next step for SmartAct®. The team are working to certify the product as ATEX Zone 1. With a redesign to the electronics, it could possibly be the first electric actuator to achieve ATEX Zone 0 certification - but that would be for a future celebration!

Whilst working on the ATEX certification's, SmartAct® also celebrated achieving an updated ISO 9001 2015 Certification. The original ISO 9001 2008 Management Standard was achieved in 2015 and the SmartAct® team worked hard over the 2 years since then to achieve the even more demanding standards in the ISO 9001 2015 version.

Tony O'Donnell said: "February was an exciting month for us with both these achievements. One for our company and one for what is fast becoming our flagship product. Both achievements in their different ways are important both to our SmartAct® people and the distributors and customers for our products. They add to the credibility and reputation that our fast-growing company is establishing in the industry."



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ValvTechnologies Europe Celebrates Five-Year Safety Milestone

ValvTechnologies Europe, the leading service provider for control, safety relief, parallel slide gate and manual valves across Europe, Africa and the Middle East, announced today that the company reached five years without a lost-time injury.

This achievement for the company, which employs more than 10 valve service mechanics and 12 office staff, marks a major safety milestone in the promotion of and focus on health, safety and the prevention of accidents across the organization.

General Manager, Benny McCallum, said this accomplishment is a testament to ValvTechnologies Europe's employees who are resolute in their beliefs that health, safety and environment are vital in successful operations. "We are extremely proud of our employees for this considerable

accomplishment," McCallum said. "The attention and training that are needed to reach this achievement takes an enormous amount of time and resources, but the results of a safe workplace are well worth the effort."

This accomplishment is even more impressive when you recognize that ValvTechnologies Europe's employees kept their safety focus while operating and working around heavy equipment, managing hazardous materials and performing services for oil and gas, fossil power and nuclear power companies across the UK. "Achieving five years without a loss time incident requires making deliberate choices each and every day," McCallum continued. "I'm grateful for our employees' commitment to safety and look forward to a sixth year without a lost-time accident."

ValvTechnologies Europe is a trading name of MCE Group plc and a wholly-owned subsidiary of ValvTechnologies, Inc. The company provides a complete range of



valve services and supply, including severe service valves, for demanding applications. ValvTechnologies Europe serves clients 24-7 in many countries around the world, onshore and offshore – with primary focus in Europe, Middle East and Africa. For information about ValvTechnologies and their products, please visit their website.



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Albion Valves: Promoting a Healthy Work Environment



Sick days cost UK businesses up to **£4.53 billion every year**, with one quarter of all sick days credited to the common cold.

Albion Valves (UK) Ltd, a leading UK valve supplier to the building services and air conditioning industry, is urging businesses to get their housekeeping in place to help support a healthy workforce.

In the workplace, air-conditioning units are often blamed for the spread of colds, flus, irritation of the ears, nose and throat, headaches, fatigue and difficulty concentrating. This phenomenon has become known as 'sick building syndrome' - widely understood to be caused by the temperature of air conditioning being maintained at uncomfortably low temperatures.

For HVAC engineers working in office environments and other public buildings, the objective of installing an AC system is to deliver fresh, clean air into the building at the right temperature and the right speed to ultimately enhance the comfort and general wellbeing of the workforce - this means avoiding drafts, cold spots and hot spots created by a system overcooling or overheating. An efficient system will ensure correct regulation of air movement at each terminal unit (Fan Coil Unit) on the coil waterside to make certain the air delivery is at the correct temperature.

For specifiers within the HVAC industry, Pressure Independent Control Valves (PICV) are the obvious choice of component as they offer optimum control and balance, and give the system the flexibility to turn the pump down. This ensures less wasted energy, enhanced operational performance and the correct delivery of water to the LTHW or CHW coil to maintain the temperature set point. Correct system balance, in combination with optimal

fan-drive speed control, means air movement can be reduced but still achieve the objectives of creating a system that is quiet and effortlessly energy efficient - for the majority of partial load conditions; and still be able to handle the demands of occasional peak loads.

Albion Valves, Technical Specifications Manager, Paul Wightman commented: *"It is important for building services engineers to establish a regular maintenance regime to help avoid excess moisture gathering around the unit itself, which can harbor bacteria and fungi. This includes regular checks on the condition and cleanliness of filters especially around intakes and outlets."*

The most common complaint about air conditioning is that it dries out the air, irritating the eyes and sinuses. It is true that cooling has a drying effect, so it is important to check the humidity in your office if you're experiencing problems. A well-designed air conditioning and ventilation system should maintain appropriate humidity levels. When units are clean and well maintained, air conditioning has a positive effect on your health, especially in cities and heavily populated areas by increasing comfort levels and filtering out pollutants and dust."

For more information on Albion's range of HVAC products contact customer services.



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ATI Completes FAT on Record Setting Valve Actuator

Automation Technology, LLC (ATI) has successfully completed the Factory Acceptance Test (FAT) on the first of its five hydraulically-operated linear actuators for the Integrated Pipeline Project (IPL); co-partnered by the Tarrant Regional Water District and City of Dallas Water Utilities (Texas).

The actuator, believed to be the largest in the world for this service, has a 30-inch bore diameter with a 110-inch stroke and operates a Blackhall-manufactured parallel-faced metal-seated gate valve on a 108-inch raw water line.

The actuator will be used to regulate the water flow on the first phase of the 20-year planned project that will ultimately consist of 150 miles of pipeline, three pump stations and three booster stations. The project will eventually deliver 350 million gallons per day (MGD) of raw water from five Texas lakes to the Dallas- Fort Worth Metroplex.

The actuator will be used to regulate the water flow on the first phase of the 20-year planned project

The ATI linear actuator was selected for this service because of its ability to provide reliable closure of the massive gate valve. The hydraulic double-acting linear actuators and gate valves are expected to operate for the intended 100 years of the project. ATI president, Brent York, commented: *"We are enthusiastic about participating in this world class project. Designing and manufacturing this distinctive product presented many challenges which we overcame using our experience in rising stem valve operation."*



While the valves will be buried, the actuators will operate above ground. Because of its unique vertical profile, the actuators will be surrounded by a simulated grain silo providing a façade and easy access for maintenance. First phase completion is planned for 2018.

ATI is an integrated manufacturer of valve automation solutions, customized for specific client requirements. The company's Gevalco® engineered products are prominent on major pipeline systems and are on more than one-half of the world's refining operations. ATI products include linear actuators for rising stem valves, quarter-turn hydraulic and

gas-over-oil actuators, multi-turn direct gas actuators, power systems, and cutting-edge controls.



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ERIKS to Launch Industry 4.0 Whitepaper

With this year's Maintec focussing on industry 4.0, leading industrial service partner, **ERIKS**, will be exhibiting and launching its white paper investigating the current understanding of the concept across the manufacturing sector.

The exhibition, taking place on the 21st-23rd March at the NEC Birmingham, will feature a variety of seminars and programmes themed around the future of maintenance engineering. ERIKS' whitepaper fits perfectly into this theme by assessing the role of data, collaboration and security in everyday tasks and the potential of industry 4.0 to increase efficiencies and optimise maintenance tasks.

Alongside this, ERIKS will also be debuting its new smart condition monitoring and Process Control system, e-Connect, for improved insight of equipment performance. The new system aims to help maintenance teams in the manufacturing industry to keep track of the ever-growing and advancing range of technology and equipment they manage every day in production machinery and control systems.

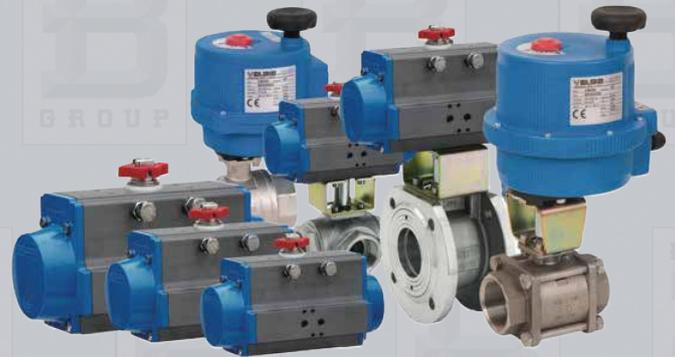
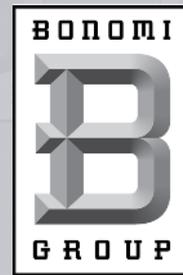
Mike Ferris, Sales & Product Director at ERIKS, comments: *"Maintec is a key event in our calendar and we are excited to be attending again this year, particularly with the launch of our industry 4.0 whitepaper and our partnering condition based monitoring system."*

"ERIKS offer a broad range of products and lifetime services to help the maintenance engineering and asset management community save time and money. Reliability and productivity are key to the efficient running of any manufacturing facility and we hope that with the introduction of our e-Connect system, we can help maintenance teams to further minimise downtime and repair costs and improve uptime and operational efficiency."

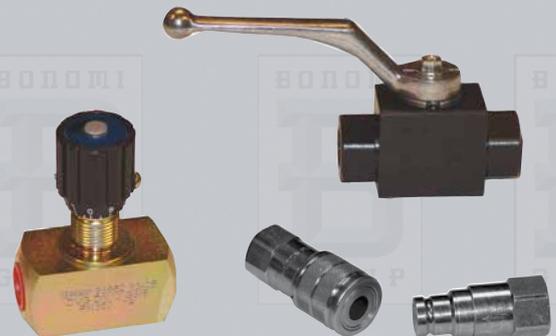
For more information on ERIKS UK, please visit the company website.

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Intelligent **Rotork** Solution Introduces Improved Torque Control at Hydroelectric Facility



The solution at Forrest Kerr consists of Rotork IQ40 actuators mounted on custom-designed knife gate valves.

Forrest Kerr Hydroelectric Facility in Canada recently installed Rotork IQ multi-turn electric actuators for improved torque control.

The Forrest Kerr Facility consists of a diversion weir, intake structure, de-sanding facility, power tunnel, underground powerhouse, tailrace tunnel and an associated electrical substation and transmission works. Unlike regular hydroelectric plants that impound water within a dam, Forrest Kerr redirects a part of the river water to an intake structure near to the meeting point of Forrest Kerr Creek and the Iskut River. This process leaves behind a smaller environmental footprint and minimises the impact on terrestrial and aquatic ecosystems.

The IQ actuators replaced electric actuators from another manufacturer at the intake structure and divert 250m³ of water per second. The original actuators, mounted on conventional knife-gate valves, were unable to meet the increased operating torque requirement when excessive sand and grit build-up was experienced around the valves.

Rotork representative Summit Valve and Controls Inc. were invited to present a solution and were ultimately awarded the contract for

valve and actuator replacement. The solution consists of Rotork IQ40 actuators mounted on custom-designed knife gate valves with 35 ft. (10 m.) extended bonnets. The replacement IQs are oversized by design, allowing Forrest Kerr to temporarily increase torque output via Bluetooth® remote when the application conditions are more demanding.

Furthermore, the IQ onboard datalogger offers an insight to the application, monitoring and comparing valve torque requirements relative to the initial 'clean' reference stroke and identifying when excessive sand is building up within the basin.

Forrest Kerr is a 195 MW hydroelectric facility owned and operated by Canadian energy company AltaGas Ltd. It is capable of generating enough electricity to power approximately 70,000 homes in British Columbia and will offset more than 450,000 tonnes of greenhouse gases annually.

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Pentair Valves & Controls Addresses Limitations



Shawn Statham, Global Product Manager

Despite rigorous risk assessments and SIL analyses in accordance with International Electrotechnical Commission (IEC) **I61508** and **IEC 61511** Safety Instrumented System standards, Emergency Shutdown Valve (ESDV) failures continue to occur and are often attributed to systematic failures.

IEC 61508, Functional Safety of Electrical/Electronic/Programmable Electronic (E/E/PE) Safety-Related Systems, covers the entire safety life cycle. IEC 61511, 'Functional Safety - Safety Instrumented Systems for the Process Industry Sector,' outlines best practices in the engineering of Safety Instrumented Systems, (www.iec.ch). International Standards Association 84.01 (ISA 84.01) gives requirements for the specification, design, installation, operation and maintenance of a safety instrumented system, so that it can be confidently entrusted to place and/or maintain the process in a safe state. This standard has been developed as a process sector implementation of IEC 61508, (www.isa.org).

"These standards do not take the position of prescribing the type of components, architecture, diagnostic testing, and functionally tests required for an SIS. Instead, it lays out a framework with which each individual user, designer, and owner can determine what is appropriate for their specific application. An SIS prevents or reduces hazardous events by taking the process to a safe state when predetermined conditions are violated. An SIS typically includes the design and implementation of a variety of shutdown and/or blowdown valves," commented Shawn Statham, Global Product Manager for Actuated Safety Systems with Pentair Valves & Controls. Statham is based in Seattle, Washington.

STATISTICAL FAILURE DATA

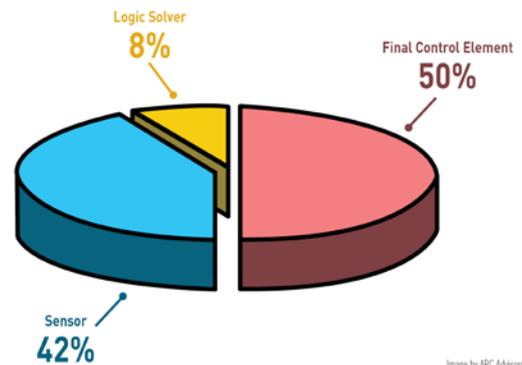


Image by ARC Advisory Group

Figure 1 – Statistical Failure Data

An SIS includes sensors or initiators that detect process conditions; a logic solver that processes an input from the sensors to an output to the final elements; and, final elements that perform corrective actions by bringing the process to a safe state. An Emergency Shutdown Valve (ESDV) is the SIS Final Element. The Valve/Actuation Package (also known as the SIS final control element) is the weakest link in the Safety Instrumented Function (SIF), contributing greater than 50 percent of total Probability of Failure on Demand (PFD) for an SIF. The reliability, safety, and design of the final element has a significant impact on the overall Risk Reduction Factor (see figure 1).

End users can benefit extensively from implementing a complete, sole source Original Equipment Manufacturer (OEM) solution that harmonizes these standards through control over the engineering, design, and manufacture of the entire Emergency Shutdown Valve package. Pentair Valves & Controls has a proven track record for improving ESDV reliability within refineries, chemical and petrochemical facilities, and power generation plants in virtually every region of the world. Statham can be reached at +001 360 739 1555 or shawn.statham@pentair.com.

Pentair entered into an agreement in August 2016 to sell its Valves & Controls business. To read the official announcement, please visit their website.



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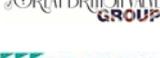


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