WINTER 2016 | **ISSUE 39**

BVAA

valveuser Magazine

150 Years of Heap & Partners Ltd

Flowstar Stocks Budenberg Gauges & Valves

Page: 18

Goodwin Launch Flow Control Division

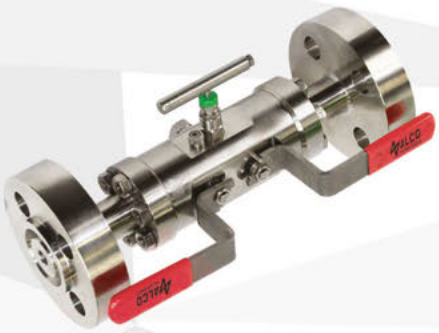
Page: 40

Bonomi's New State-of-the-Art Manufacturing Plant

Pages: 55

Auma Adding Value to the Motor

Page:52



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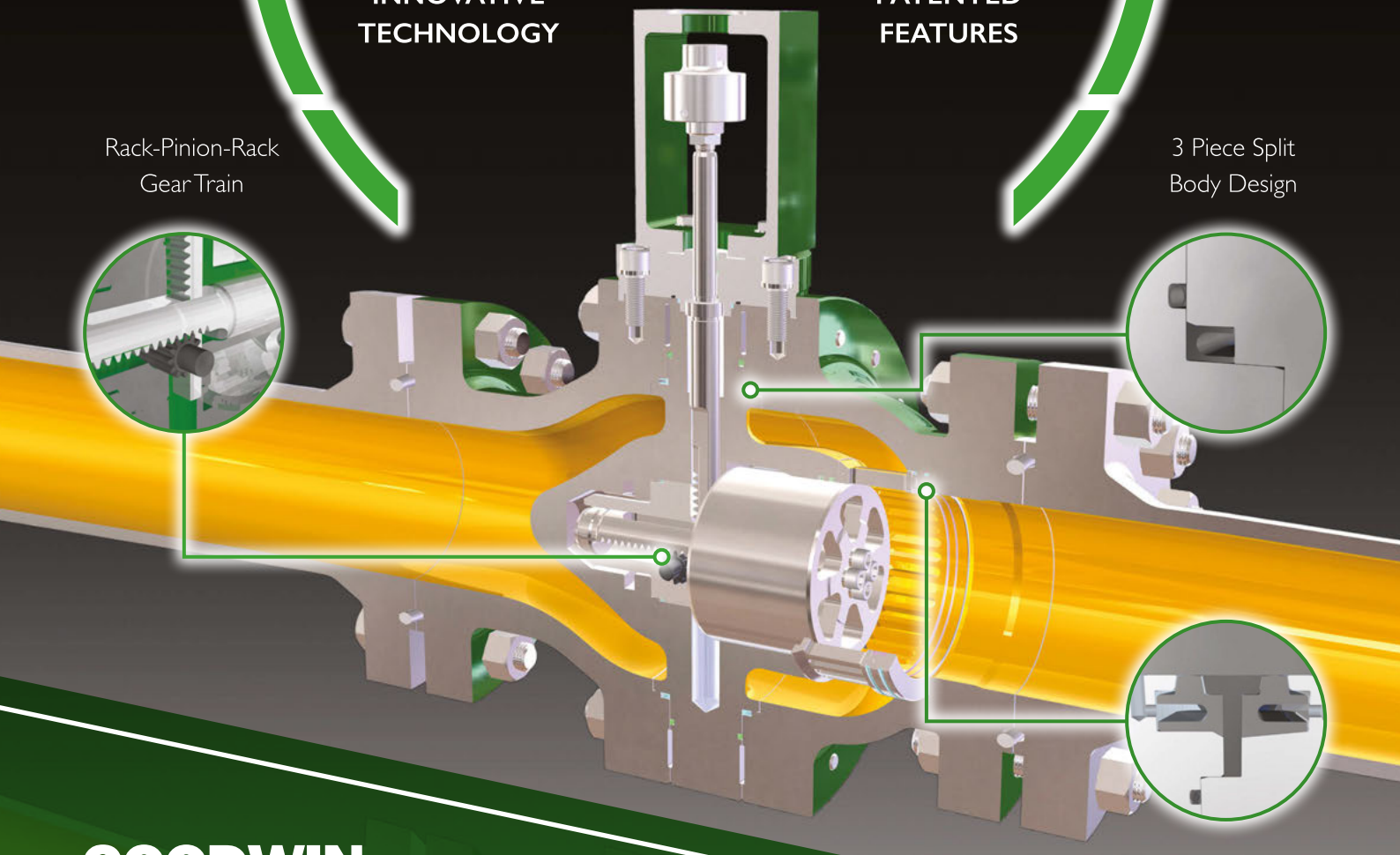

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Cover: Heap & Partners Ltd Celebrate their 150th Anniversary

Comment

by BVAA Director,
Rob Bartlett

'Gambling: The sure way of getting nothing for something.'

So said Wilson Mizner. Research him and you'll find cheery anecdotes, but I rather suspect Mizner was more crooked than the flow path in a low-noise trim. He was bang on re: gambling though and I fear our sector is flirting with some modern-day gambling itself.

The Oil & Gas market has gone through the floor, while oil prices are the best they've been for some time and prospects are admittedly looking slightly better. Sadly, uncertainty remains and confidence is rock bottom.

Likewise, the £ is the lowest it's been for decades, but trying to make sense of whether that's currently hindering or helping the UK economy depends largely on who you talk to, at what hour, and their political colour.

Yes, a low £ does help exports, but is of little comfort if you import significant raw materials, paying upfront, while your customer keeps you waiting many months for payment. Risky stuff. As is the re-opening of the Scottish Independence debate.

The City of London is the biggest casino of them all however, and I suspect appeasing this behemoth, and its overseas counterparts, is affecting our sector as much as it is any City worker currently crying into his 'Bollly,' be it from angst or joy.

I recently helped a member celebrate 150 years of trading. That's exceptional. The fact is that small UK businesses seldom survive 10 years, and even the life expectancy of even an 'S&P500' company has shrunk dramatically to C.40~50 years. It is entirely possible that a valve company may be designing today products that will last longer than the company will itself.

One story I heard this week was of a 'blue chip' company buying a smaller one for a particular product, but they apparently already had in their archive a technically great but long-forgotten alternative! There was just no staffer left who knew of its existence. Similarly, some long-trusted brands are still available, but are so buried in the corporate pile they're obscured from customers.

Brands are extraordinarily powerful, but they seldom sell themselves. If they do it's not for long without the push of good marketing and back up of expertise. I've lost count of the number of companies I've visited who have little or no marketing budget, worse still no plan or inclination. They 'gamble' on reputation-alone for custom. Some of course are content to coast and await fate to throw the occasional 'double six.' True a few businesses are run just to provide the owner with a salary, but these days standing still is like putting the company in reverse.

I recently looked at the minutes of BVAA's inaugural 1939 meeting, attended by a phalanx of men whose surnames imperiously adorned their companies. Over time these became trusted brands in the industry. Regrettably however even these 'household' names are now disappearing. Brands, even companies, their history, and most critically experienced individuals – going or already gone.

It was not long ago that the biggest moan I heard was the lack of experienced staff available to industry. Yes, we have to re-shape to survive, but there's both wisdom and knowledge in those grey beards, and dispensing with them in haste could be the biggest gamble of all.

A fine pedigree is a wonderful thing, but if you're not regularly educating the next generation of buyers, they'll be oblivious. And if you don't have the experienced staff to back up the claims, customers will go elsewhere.

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Aberdeen Golf Day

The victorious HSP team at the delightful Banchory golf club.

After a rainy warm up, the sun gods once again smiled on the **BVAA's** Annual Customer Golf Day at the beautiful Banchory Golf Club near Aberdeen.

The September 2016 event was once again a fiercely fought competition, with the odd comedic moment. One of the Director's collection of pitching tools, still it has to be said in mint condition, was finally called into action on the 9th green. Sadly, this was due to his iron's arrival from the 10th tee, the least said about which the better!

Proving far more competent however was Steve Gerrard (Repsol) who won the Nearest the Pin competition with a lazer-like shot. Stephen Cook (Costain-Ithaca) took the Longest Drive with a mighty hoof!

Third place in the Stapleford this year went to the Valve Solutions team (84pts), with co-sponsors Control Valve Solutions close on their tails with 85pts.

Inching ahead however, and once again taking the coveted BVAA Cup, were fellow sponsors HSP, comprising Roddy Philp, Jamie May, Richard Freeland and Peter McKay, with a whopping 86pts.

Our thanks again to our generous sponsors HSP and CVS, and our congratulations on their success on the day.

Future Leaders Programme

Back row: Paul Taylor (Heap & Partners), Dave Wild (Alco Valves Group), Dan Lambert (Parker Hannifin), Malcolm Hay (BEL Valves), James Bozward (Spirax Sarco), Lee Brimer (PDL).

Front row: Dave Godfrey (Rotork), Ali Watson (Zoedale), BVAA Chairman David Millar, Lewis McEntee-Richardson (BEL Valves), Elizabeth Waterman (PDL), Nikunj Patel (Severn Unival)

BVAA has, throughout 2016, been running a pilot programme to develop a small group of future leaders for the industry.

Identified by their employers as having the right qualities and potential to become leaders within their own organisations, this small group has been put through a number of activities designed to help them FastTrack their experiences within the industry, their personal skills and knowledge, etc., but without having to change jobs or employers.

The programme comprises a series of days set at each one of the candidates' premises, where they and their colleagues educate their cohort in a particular specialism, activity or area of excellence where their company excels. In addition to this dozen or so days, the most recent of which were held at Heap & Partners and Alco Valves Group, BVAA has provided the group with a series of personal development courses to help round the individuals.

Furthermore, BVAA has provided opportunities for the group to expand their personal network of contacts, offered free technical training courses to the cohort (which will include a life-long discount thereafter), and arranged experience days at centres of excellence serving the industry.

One such 'experience' was held in September at the Advanced Manufacturing Research Centre in Sheffield, at the kind invitation of Dr Graham Small. A busy day included tours of AMRC Castings (formerly CTI), the Nuclear AMRC, the AMRC Design Centre, The Welding Institute, AMRC Training Centre and the inspiring AMRC 'Factory 2050.'

BVAA Director Rob Bartlett commented, *"This was a very exciting day, and an experience that many in our industry have yet to have despite long careers. Seeing first-hand what is available to these future leaders by way of help and assistance can only work to the advantage of all concerned."* Continuing the BVAA Director's programme philosophy of *'you drive, we assist'* the Future Leaders Group have also been encouraged to take the initiative and discuss and specify what experiences and additional material they feel will help them develop. One such event is an imminent visit to a foundry (Noel Village). Another is an add-on in the shape of a formal Mentor Training programme.

BVAA's Director notes, *"A formal mentoring qualification was unforeseen at the outset and a testament to the way in which this group has developed and taken the lead in their own development. BVAA will support this initiative by funding all the training costs. And at no surprise to anyone involved in the programme, several members of the group have also volunteered to mentor the next cohort!"*

A full round up on the Future Leaders Programme will be presented by the current cohort to the membership at the BVAA AGM on November 18th 2016.

If you are a BVAA Member and would like to enter a suitable candidate for the next cohort, contact rob@bvaa.org.uk

International Valve Standards – Setting Priorities

By Martin Greenhalgh, CEng FIMechE, BVAA's Technical Consultant

From 11th to 14th October 2016, ISO/TC153 'Valves' held a series of meetings in Tokyo to continue its work on international standards for valves and actuators. Thirty-five delegates from 10 countries attended.

That's a great deal of time, effort and cost!

Although tremendous progress has been made over many decades with valve standards, taken in isolation and with only small incremental advances, it is sometimes difficult to determine who gets value from all that effort. It is therefore important that BVAA establish what the wider valve community thinks about international standards for valves and actuators?

ISO/TC153 has responsibility for 23 standards. These fall into four categories: 'basic,' 'product,' 'application' and 'performance.'

Within the UK and Europe the 'basic' standards for mounting valve actuators ISO 5210 and 5211 are widely used. As are the 'performance' standards for Fire Testing, ISO 10497, and Fugitive Emissions Testing, ISO 15848, which have international recognition.

Not all the valve work is done by ISO/TC153. Other active ISO committees contributing to valve standards include ISO/TC185 'Safety Devices' and ISO/TC138 'Plastic Valves.'

In the last two years TC153 has focussed on developing 'application' standards, for example ISO 28921 'Isolating Valves for Low Temperature Applications' and ISO 19240 'Lined Valves for the Chemical Industry.' At the same time some of the original product standards developed in the late 1980's and 90's have been withdrawn, for example ISO 5996 'Cast Iron Gate Valves' and ISO 12149 'Steel Globe Valves.'

The Valve Actuator working group of TC153, WG1, is very active and has just finished a major revision of ISO 5210 and 5211. They are about to start the development of an ISO standard for Electric Actuators and are considering whether an ISO for gear boxes, both manual and with actuator, is required.

At the meeting in Tokyo, TC153 elected a new chairman Jacques Peterschmitt from KSB in France to serve from 1st January 2017 for 5 years. Mr Peterschmitt has instigated a review of the future work programme of ISO/TC153. I think we all agree that all those hours of effort need to be generating standards that have real value.

The standards world is competitive. The idyllic thought that existed in the 1970's that sometime in the future we could have one standard has clearly been shown to be an unrealisable dream. EN, ASME, ISO, API etc., are all trying to exert their influence over the industrial valve market. User standards also proliferate and today there seems to be even less interest from the users in any form of standards activity, except perhaps API. The user seems much more focussed on enhancing his own special requirements even though we are told that reducing cost is also his fundamental priority.

One thing is certain. Time is an increasingly scarce commodity, so nobody wants to be wasting theirs.

BVAA welcomes views on international standards making, contact rob@bvaa.org.uk

Myth Busters: BVAA Membership

Another in our occasional series of myth-busting pieces about the **BVAA**…

One myth which still persists – even surprisingly among some of our own membership – is that BVAA is a body for 'valve manufacturers-only.' This has not been the case officially since 2002 when the Association's name and constitution were changed to become an 'industry body.'

Indeed, only 77 of our 200 current members describe themselves as 'manufacturers' and a number of those actually manufacture products that are neither valves, nor actuators.

One quarter of members are distributors of one kind or another, and 20% are 'suppliers to the industry' – our fastest growing sector.

Contact enquiry@bvaa.org.uk to enquire about membership, or visit http://www.bvaa.org.uk/how_to_join.asp

BVAA BUSINESS DEVELOPMENT

Valve Working Group meet at **Severn Glocon**

The September meeting of **BVAA's** largest technical group was kindly hosted by Barry Wilder of **Severn Glocon**, at the company's hugely impressive Gloucester facility.

VWG members received a pre-meeting presentation from Ron Baker (Sales Director) on the Severn Group's companies and wide variety of activities. A group safety moment featured, and after an extensive agenda of topics, the day concluded with a very interesting facility tour.

Topics covered at the meeting included – among others - BSI, ISO and CEN standards development, sub-WG reports, API activity, and the new-fangled topic of 'Brexit' – more on which no doubt to come as the impact begins to bite.

To join the VWG or indeed any BVAA interest group, contact rob@bvaa.org.uk.

Peter Burnett: Valve WG Chairman

The Valve Working Group at **Severn Glocon** was also the last chaired by Peter Burnett (**Heap & Partners**). Peter took over the group on Geoff Newman's retirement in 2012 as a temporary measure and was persuaded to remain in post for 4½ years.

A strong advocate of adding value, Peter instigated a number of considerable changes in his tenure, including taking the group *'on the road'* visiting many interesting industrial facilities, and the introduction of the popular pre-meeting social event. He also enthusiastically supported the introduction of the Technical Expert Groups concept (life limited task groups).

A small presentation was made to Peter on members' behalf by BVAA Director Rob Bartlett, and we are pleased to report Peter will be staying on as a valued member of the VWG.

Taking over the VWG reins from March 2017 with be Chris Williamson (BEL Valves) and the next meeting will take place at the new BEL facility on 8th March 2017.

BVAA New Members

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

Sheridan X-Cel Ltd
Quality, Integrity, Experience

TOMOE

Martin Stokes, Product Sales Specialist of WIKA Instruments Limited with the BVAA plaque.

Mike Anthony Porter, Internal Sales, Flowstar (UK) Ltd

It is with deep regret that **Flowstar** announces the death of Mike Anthony Porter, a key member of their internal sales team.

Mike passed away on Sunday 11th of September 2016 after having a fun weekend away with his family.

His death was completely unexpected at only 45 years of age.

Mike had worked at Flowstar for 23 years and prior to that was an apprentice at Broady Flow Control. Mike was greatly respected in his job with extensive knowledge and expertise.

The other passions in his life were his family and Hull City Football club.

Mike will be greatly missed by all.

BVAA's Mad Hatters

How far can you go wearing a BVAA Hat?

Competition

Here's BVAA's Director, Rob Bartlett, using his BVAA hat to keep sheltered from the sun. Can you guess which supersonic jet he is visiting? The first correct answer to isobel@bvaa.org.uk wins a £50 charitable donation to the charity of your choice.

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 isobel@bvaa.org.uk

Competition WINNER!

In Valve User Magazine Issue 38 we gave you this picture of Steve Sharp and asked you to guess where he was in the world.

Mark Dymond of Smith Flow Control Ltd, correctly guessed that Steve was stood at the top of Mount Snowdon – well done Mark!

A £50 cheque has since been sent to Macmillan Cancer Support on Mark's behalf.

Desktop Exhibition

On 7th September 2016, BVAA were kindly invited to hold one of our Desktop Exhibitions at ConocoPhillips offices at Rubislaw in Aberdeen.

Nine BVAA member companies specialising in the sector exhibited, and over fifty people toured the various exhibits. BVAA would like to express its thanks to ConocoPhillips for this wonderful opportunity to show them the industry's latest offerings.

If you would be interested in hosting a BVAA Desktop exhibition, contact rob@bvaa.org.uk

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With the experience of four generations, the family-run company develops future-oriented sensor solutions, network and identification systems, and as an enabler for Industry 4.0 is much more than just a sensor manufacturer. The new mission statement takes account of this growth: 'sensors worldwide' now becomes 'innovating automation'.

"Our new image follows this claim precisely. With the introduction of the new brand image, we are showing both internally and externally that Balluff also continues to develop its company profile", explains Managing Director Florian Hermle. *"As a partner, we want to accompany our customers with innovative solutions and drive progress in their automation. We have been successfully taking this path for some time already. As a family-run company traditional values such as sustainability and quality are important to us. Always with the aim of guaranteeing our customers worldwide an optimal degree of application assistance and service. Continuity and future developments are assured through values such as openness and progress."*

The modern, dynamic, and clearly structured brand image systematically reflects the corporate values. For instance, the core values openness, commitment, and progress really come to life and are expressed in the design elements.

In the tradition of Balluff huge importance is attached to the values of sustainability, reliability, and quality. The Balluff logo therefore remains constant in its basic values and open to the future.

The slogan 'innovating automation' is always associated with products and solutions by a line and full stop, and once again highlights the importance of partnership for Balluff.

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Parker Secures Contract Extension and SIL Approval for Instrumentation Ball Valve Range

Parker Hannifin, the global leader in motion and control technologies, has achieved an industry first by securing SIL 2 approval for its HiPro Ball Valves.

Safety Integrity Level (SIL) is the level of risk reduction provided by safety instrument functions. In this case, the HiPro valves were required to meet the IEC 61508:210 standard. SIL2 approval was required for Parker to secure an extension to its major frame agreement contract to supply instrumentation fittings, tubing, manifolds and valve solutions to Norwegian oil and gas company Statoil Aasta Hansteen Gas via EPC contractor Hyundai Heavy Industries (HHI).

HHI's Engineering Contractors CB&I had specified Parker's automated instrumentation HiPro Ball Valve system for 10 emergency chemical injection shut-down applications. The critical nature of the emergency shut down system isolating environmentally harmful Defoamer, Emulsion Breaker, Scale inhibitor and flocculant meant it needed to be fully SIL2 approved. The valves will be used within the chemical injection on the Aasta Hansteen platform which is situated in the Norwegian Sea at a depth of 1,300 metres in the Voring area, 300 km from land. Rigorous tests were carried out on the valve design by independent test company CSA Group, which included both qualitative and quantitative assessments. The assessments involved a detailed FMEA (Failure Mode & Effects Analysis) of the valve design, considering each internal component.

It also included a physical site audit of the functional safety management system in place at Parker and also a review of the design lifecycle of the product. These assessments were carried out to ensure the valve design met the requirements of IEC61508:2010, parts 1 & 2. The review also included verification of the functional safety management system procedures, design documents, verification documents, test reports and procedures as well as the safety manual to support the product when it is shipped to clients to ensure the requirements of annex D of IEC61508:2010-2 were met. The result was that the HiPro ball valve received safety integrity level (SIL) 2 approval for 1oo1 architecture and SIL3 for 1oo2 architecture.

In addition, Parker was required to automate its HiPro Ball Valve system. Working closely with Heap & Partners, based in Liverpool, Parker's HiPro Ball Valves were fully integrated within an automated system. Peter Burnett from Heap & Partners said: *"This was a straightforward process to automate Parker's valves because they are manufactured to such a high standard. Our role was to ensure they worked effectively within a fully automated system."*

Parker's manual, pneumatic and electrically actuated HiPro Ball Valves provide quick turn on-off control of fluids used in process and instrumentation applications. The free floating ball design provides seat wear compensation whilst the straight-through flow path ensures minimal pressure drop. The valves can be used in a wide range of pressure and temperatures and are available in 316 stainless steel or 6Mo construction. The high performance two piece bi-directional HiPro Ball Valves offer working pressure ratings up to 10,000 psi (689 bar), giving 100% bubble tight shut off and continuous repeatable performance. They are suitable for the most demanding applications in the oil, gas and process control industries, meeting the requirements of ANSI B31.1 for use in power plants. The standard is mainly applied to electrical systems involved in critical applications but very rarely applied to instrumentation ball valves.

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BVAA's Technical Hot Spot

INDUSTRIAL VALVES — MEASUREMENT, TEST AND QUALIFICATION PROCEDURES FOR FUGITIVE EMISSIONS — PART 1: CLASSIFICATION SYSTEM AND QUALIFICATION PROCEDURES FOR TYPE TESTING OF VALVES AMENDMENT 1 — DRAFT STANDARD ISSUED FOR PUBLIC COMMENT DRAFT BS EN ISO 15848-1:2015 AMD 1 DPC: 16 / 30341108 DC

What is it?:

This is a proposal to amend ISO 15848-1 following the receipt of question asking whether a valve tested at RT can be used over a temperature range of -29°C to 40°C What is the interpretation of tRT? If it is 20°C, then does testing at this this temperature reasonably qualify the valve for a service temperature range -29°C to 40°C?

Why is it important?:

The amendment proposes that the temperature range of -29°C to 40°C is split into two ranges, -29°C to RT and 5°C to 40°C. The proposed test temperature for -29°C to RT is -29°C and for 5°C to 40°C it is RT. The implications for this are that anyone who has previously done testing at RT may have to retest. The RT testing would no longer qualify the valve for -29°C to +5°C.

ABB's Model Predictive Torque Control (MPTC) Protects Against Gas Supply Interruptions

The software uses **Model Predictive Control** to protect compressor operation during power supply disruptions, saving time and money.

ABB has released the first variable-speed drive (VSD) control software that uses Model Predictive Control* to regulate the drive's torque. The MPTC software was initially developed to ensure the operation of compressor stations during voltage disruptions, caused by lightning strikes, winter storms or ice build-up on power lines.

The stations use large compressors, up to 50 megawatts (MW), to compress natural gas for travel through hundreds of miles of pipeline. Historically gas turbines powered the compressors. Today, more efficient large synchronous electric motors are used. The motors are controlled by VSDs, such as ABB's largest drive, the MEGADRIVE-LCI. When power supply disruptions happen, protection systems quickly shut down the compressors. This halts the supply of gas.

The MEGADRIVE-LCI uses Model Predictive Torque Control (MPTC) ensuring the operation of the drive even during power and grid disturbances

Restarting compressors lasts from a few hours to days. The resulting interruption in the gas supply can mean financial losses that range into the hundreds of millions of USD per year for large facilities.

Installed in the MEGADRIVE-LCI, the MPTC uses a control algorithm based on Model Predictive Control that ensures the operation of the drive during power and grid disturbances in order to provide the compressor with partial torque, preventing the compressor from going into surge. The MEGADRIVE-LCI application is the first where MPTC is used to control a commercial multi-megawatt drive system with much faster dynamic behaviour, where the underlying optimisation problems need to be solved in less than a millisecond.

Live testing of the software was done over the winter at two Statoil gas facilities in Norway. It was installed on ABB MEGADRIVE-LCIs used to power two 42.2 MW compressors at a gas processing plant in Kollsnes, and three 7.5 MW booster compressors in Kårstø. The control software successfully protected the compressor operation during voltage dips. A pioneer in electric drive technology, ABB has installed about 1,000 MEGADRIVE-LCIs globally and brings the decade-long experience in high-power LCI applications to make significant productivity contributions to key facilities in the natural gas supply chain.

*Model Predictive Control is a control algorithm that has its roots in the process industries and that has been in use in chemical plants and oil refineries since the 1980s. In comparison with traditional control techniques, MPC intelligently predicts the future behaviour of the system to be controlled via a mathematical model, and solves an optimization problem to compute the best control action with respect to given criteria and limits of operations.

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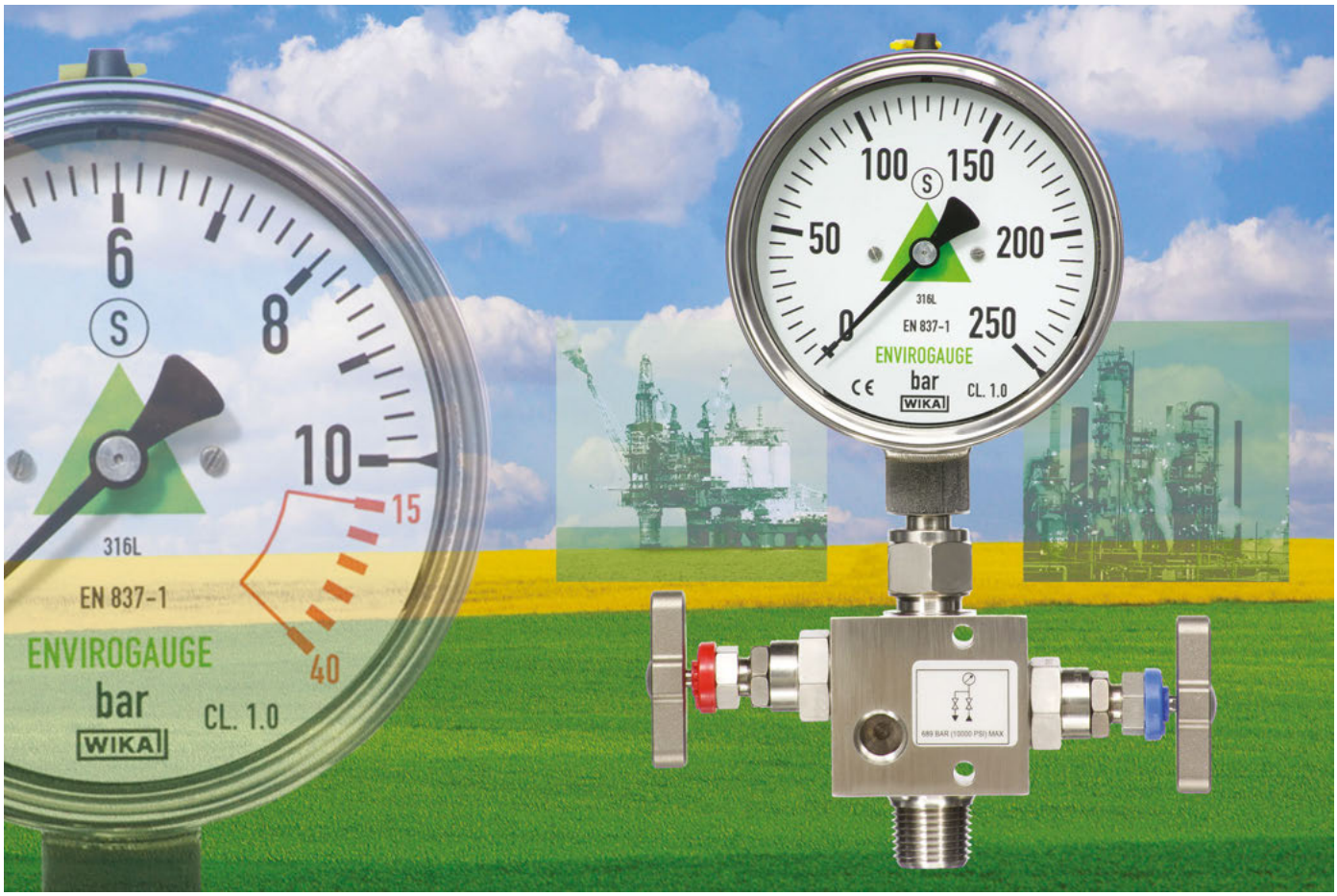
Reducing Emissions from 3 – 1



Some exciting developments have been underway at **WIKA Instruments Ltd.** We have combined instrument valve capability with our wealth of experience in manufacturing pressure gauges.

WIKA have reduced the traditional potential leak paths from 3 to 1 for a pressure gauge, swivel adaptor and isolator valve. This has been done through a special design which integrates the pressure gauge and the valve.

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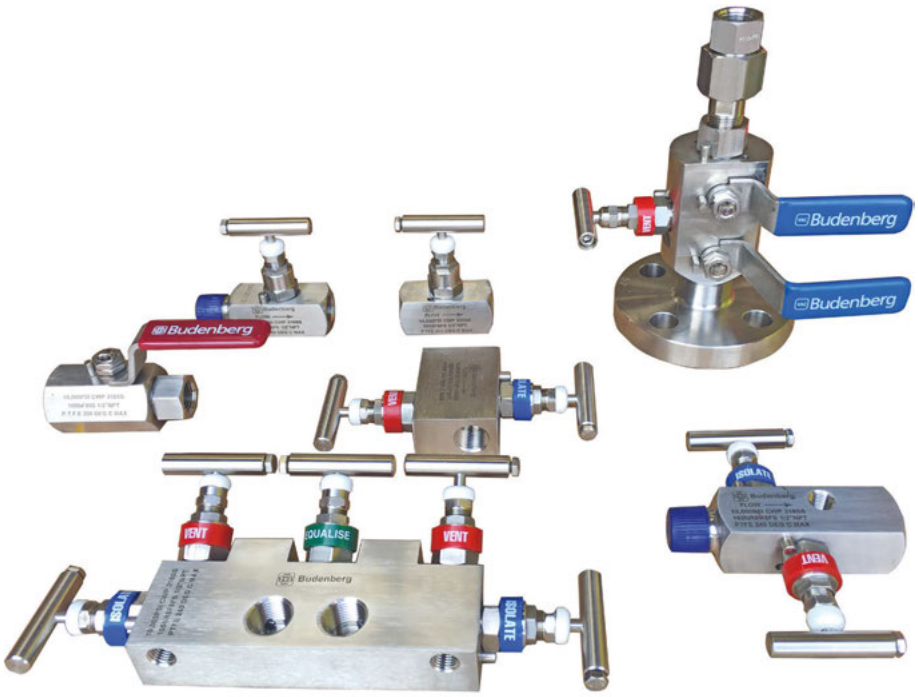
Budenberg's product range includes standard and specialised pressure gauges that are hand built to a very high standard, digital pressure gauges, chemical seals, temperature gauges from bi-metallic to complex gas filled assemblies, needle valves, ball valves, and double bock and bleed assemblies. Calibration equipment and other instrumentation products.



Valve Group

Product Spot Light – Budenberg 966GP

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Fully manufactured in the UK

Flowstar's Stock Products

Flowstar has several key Budenberg products on stock such as the 5214 Standard Test Gauge, the 966GP PREMIUM Process Gauge, the 736 Stainless Steel Process Gauge and will be adding many other products to stock in the coming months.

Finally, if you have a Budenberg product you use that you would like Flowstar to stock then let them know.

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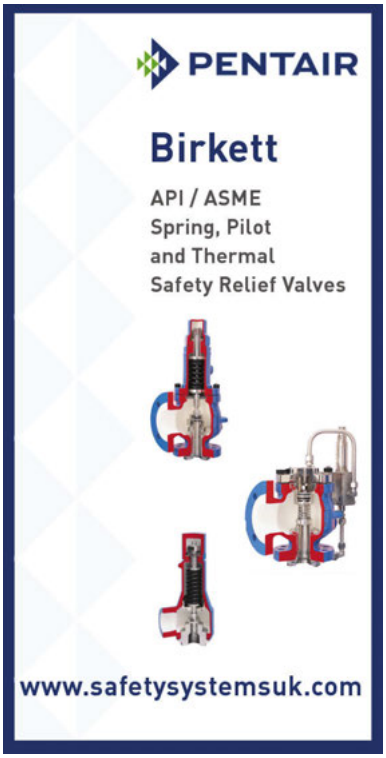
30 Years and Still Going Strong…

Adanac's Danny Innes reflects on the last 30 years. From humble beginnings to global supply.

Adanac first started trading 30 years ago on December 1st 1986 after Michael and Susan Ball returned from living and working in Canada – hence the unusual name! The main focus of the company was to provide valve users and distributors with a quality source for non-standard or modified valves.



The first premises was an 1100sq ft workshop in Bury St Edmunds, where the workshop staff consisted of Michael doing the machining, fitting and welding in between taking enquiries and quoting; and with Susan doing the accounts and administration, as well as the odd piece of hydro-testing! As things progressed more people joined, and our current Technical Director Neil West was one of the first in 1988. Others quickly followed, including Andrew Gillespy (Chief Test Specialist) and Richard Sharpe (Production Manager), who are also still with us today.

As business increased through the years we finally alighted on our current 15,000 sq ft facility, tailor built to our requirements in Woolpit, with our dedicated ATaCS high pressure gas and low temperature test area, specialised welding bays, clean room and general machine shop facility, where we are today.

In 2015 Michael and Susan decided to enjoy a well-earned retirement, and the company was sold to AIV Europe. As an international master valve distributor of high-quality valves and actuators, their ethos of customer service fitted extremely well with the skills and expertise within Adanac. Since then the opportunities to accelerate and grow have multiplied, and Adanac continues to flourish.

From our early days Adanac's range of products and services has increased dramatically. Initially focusing on valve modification and machining, we now also feature valve cryogenic conversions, oxygen cleaning and degreasing, valve jacketing as well as cryogenic, FET and high temperature testing, amongst our current services.

Recognised throughout the Oil, Gas and Petrochemical Industries as the specialist valve modification shop of choice, we have formed close working relationships with many major valve manufacturers including Flowserve, Kitz, Velan, OMB, Bonney Forge, Pentair and Conbraco. Our current client portfolio also features a number of blue chip organisations such as Air Products, BOC, National Grid, Shell, Ineos, MRC Global and British Sugar, further highlighting Adanac's reputation for quality and service within the industry.

Roll on the next 30yrs!

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YPS Valves: Extended Range

YPS Valves is a family owned company, established over 40 years ago for the manufacture of stainless steel and high nickel alloy valves. Our own Langley valves are designed and manufactured in the UK, strictly in accordance with our stringent Quality Management Systems, utilising the latest computer design software (solid works) 3D and CNC machinery.

YPS Valves Ltd has a continual improvement policy ensuring quality of product and range of supply to meet the demands and challenges our customers face today and in the future.

To meet those demands our Langley range has been recently extended to include ball valves, wafer check valves and axial flow nozzle check valves which complement our traditional range of gate, globe and check valves. All valves are available in a range of materials from carbon steel though to stainless steel, duplex, high nickel alloys, bronze, titanium and zirconium. This provides our customers with a *'one stop shop'* service to meet the commercial and service demands of the plants. Valves can be manufactured from castings, forgings or bar.

Our market includes Oil & Gas Petrochemicals, Offshore, LNG, Water, Power Generation and Nuclear. YPS Langley supply either directly or indirectly to most of the world's major end users. Our products are in service with such companies as Exxon Mobil, Shell, BP, Sasol, Sinopec, Chevron and Ineos. Please ask for our latest list of references from our Sales Office.

Continual investment occurs year on year

Continual investment occurs year on year in our extensive manufacturing facility ensuring the latest CNC machinery including lathes, milling machines, borers, manual lathes and drilling machines are continually improved. Test facilities are available for hydro, gas, high temp and low temp cryogenic tests. We can test up to 10000 psi 700 bar and from -196°C to + 700°C. We are also able to degrease for nuclear, oxygen service etc using ultrasonics for valves up to 1500 kg in weight. Our test facilities are also available for sub-contract to other valve manufacturers and suppliers.

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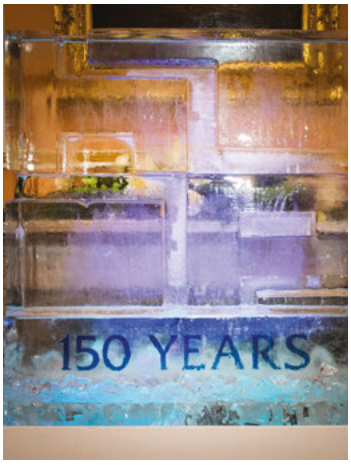

Liverpool Town Hall, a magnificent 18th century grade one listed building situated in the heart of the city, recently provided the backdrop for a spectacular Black Tie Gala Dinner hosted by **Heap and Partners Limited** to celebrate their 150th anniversary.

Joined by representatives from a number of key suppliers, retired former employees and members of the BVAA, Directors, employees and their guests enjoyed an evening of fine dining and live entertainment to create a memorable evening for all involved.

During his speech, David Millar, MD of Heap and Partners revealed that the Company had won the award for *'North West Small Business of the Year'* this annual award is open to all businesses employing less than 75 employees and is a hotly contested category. The British Chamber of Commerce divides the British Isles into ten regions and the next stage is the National finals to be held in London in November when the winners from the ten regions go head to head for the national award.

As David Millar commented, *"Winning this award is both unexpected and a fantastic endorsement of all our staff. We are a bit different from your average engineering company so it is nice for us all to receive some recognition for all the effort that goes into surviving and expanding as a business in this fast changing world."*

This latest event further celebrates the 150th. anniversary of Heap and Partners which had been marked earlier in the year with a visit from the Princess Royal and also the presentation of a special Long Service Award from the Wirral Chamber of Commerce.

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Closed Die Drop Forging Specialist Extends Its Metallurgical Expertise

Forged Flange

Left to right, John Coles (WHT), Nthambe Singo (Strath. Uni), Dr Lalvani (Strath. Uni) & John Tildesley (WHT)

UK drop forging company **W H Tildesley Ltd** continues to invest in metallurgical expertise by extending its Knowledge Transfer Partnership (KTP) with Strathclyde University Advanced Forming Research Centre (AFRC).

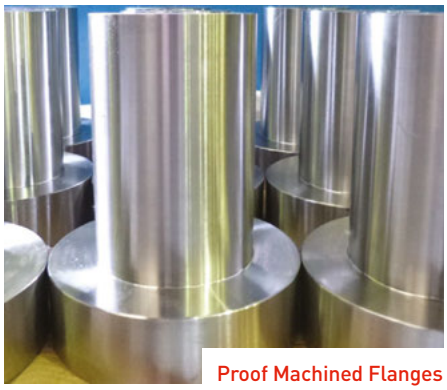
WH Tildesley has reached the half-way stage of its Knowledge Transfer Partnership (KTP) project with the University of Strathclyde. The KTP Associate, Nthambe Singo, has been working with WHT's Engineering and Production teams with support from the University's Department of Design Manufacture & Engineering Management (DMEM) and Advanced Forming Research Centre (AFRC) to improve the company's understanding of the behaviour of materials during the forging process.

Two key objectives are to improve the understanding and use of finite element (FEM) simulation software to better predict Manufacturing Process Design and to capture and enhance the specialist knowledge within the company into a Knowledge Management System.

WHT specialises in small and medium batch production of safety critical parts, often in high-performance materials. The KTP, which is part-funded by Innovate UK, provides a disciplined approach to many of the issues that arise in this dynamic business environment with research-based advice and recommendations for improvement.

The project has already racked-up several successes in improved manufacturing processes and management of subsequent heat-treatment. These have demonstrated that the KTP model of a highly qualified Associate supported by a strong academic team can provide huge benefits for a forward thinking UK manufacturing company like W H Tildesley.

Managing Director John Tildesley said, *"KTP has exceeded all my expectations and we still have a year to go. At WHT we have always prided ourselves on our ability to overcome problems and be innovative. KTP is showing us how to do this quicker and more effectively. Most importantly we shall be embedding our new knowledge to ensure that we continue to be more efficient in the future."*



Proof Machined Flanges

W H Tildesley forges a wide range of components for the Oil & Gas industry and for many of the leading valve and actuator manufacturers. Materials forged include duplex and super duplex stainless steels, nickel alloys and aluminium bronzes. WHT holds several NORSOK approvals.

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Rotork Actuators Support the Environmental Improvement Programme at Aberthaw Power Station

Electrical Engineering staff at Aberthaw Power Station inspect some of the Rotork IQ actuators installed on the Lo NOx plant.

RWE Aberthaw Power Station in South Wales is now one of the most efficient coal fired power stations in the UK, through the use of automation that includes **Rotork** valve actuation. Aberthaw can generate around 1555 MW of electricity for the National Grid System, which is enough power to meet the needs of some three million households.

Following the introduction of Flue Gas Desulphurisation (FGD) which has reduced sulphur emissions by up to 95%, the latest stage of Aberthaw's multi-million-pound investment for the improvement of environmental performance involves the installation of Lo NOx technology, in line with the latest Industrial Emissions Directive. Aberthaw is the first UK coal fired station to adopt the Lo NOx technology, which will extend its future operational life.

The system is designed to maximise NOx reduction efficiency and minimise the impact on combustion performance and operation. The new Lo NOx system installed on one of Aberthaw's 535 MW generating sets includes 120 Rotork IQ and IQT multi-turn and part-turn intelligent electric actuators to control the operation of valves and dampers.

The decision to specify Rotork actuators for the application by RWE engineering staff at Aberthaw was influenced by the long history of reliability demonstrated by the Rotork actuators previously installed on site, which account for over 90% of the site's total quantity of valve actuation assets.

Rotork double-sealed and non-intrusive actuators are designed to withstand challenging operating environments such as those often encountered in the power generation industry requiring minimum maintenance. In addition, IQ intelligent actuation technology incorporates comprehensive data-logging abilities, enabling operating data to be downloaded and diagnosed for the optimisation of preventative maintenance and asset management.

The Aberthaw Lo NOx system manufactured by Foster Wheeler was installed by Doosan and commissioned at the end of 2015. Rotork Site Services performed the actuator commissioning in a contract with the electrical sub-contractor J W Morris Ltd.

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Have Your Communications Been Hacked?

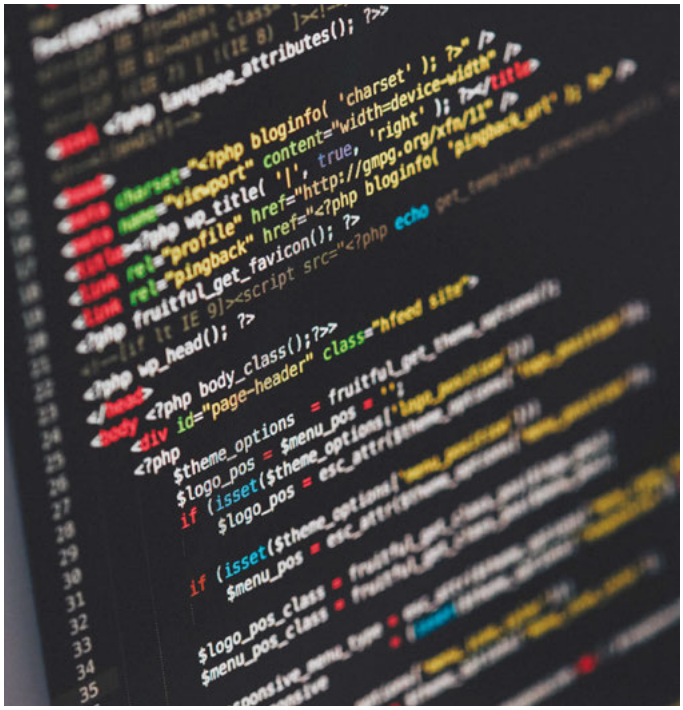
It is easy to accept information in emails as genuine but at **Red Dragon** we recently had an issue which caused us to question the safety of this medium for business use. We had received an order from a new client in Australia and were waiting to receive the payment for the valves prior to shipping them. We started an investigation to identify what had happened when we were told that the payment had gone through but we hadn't received it.

We identified that our client had been the victim of a hacker, his email account had been spoofed and all of his inbox contents had been controlled by someone unknown. The pdf invoice we sent had been altered to show completely different bank details prior to it landing in his inbox and he made the payment without any hint that it wasn't genuine. The emails between our companies were being intercepted and changed and this didn't become apparent until we were discussing it over the phone. Our client was too late to recover the funds once we realised what had happened and he then needed to resolve the issue of his email being spoofed before it affected his other transactions. We successfully supplied his valves and received payment but the client wasn't able to trace the hacker and did lose several thousand pounds because of it.

With the lessons learnt, procedures implemented and tightened because of this incident we thought we were safe but we were wrong. Another client, this time in Malaysia asked for a quote re-sending. There was just something odd about this that made us look deeper into the history and it's very good that we did. On checking the previous email in the chain, the content that he received was very different from what we sent. We always send quotes as new emails but the version received seemed to be a direct reply to his enquiry. Not only that but much of our email text had been removed and worryingly a new line added *"for easy payment we can issue you our Malaysian Agents account"*.

When we spoke to our client about this, he hadn't noticed the comment regarding payment and was shocked when we explained that he was vulnerable to being scammed out of a lot of money. We then put alternate methods of communication in place for him so that we can verify all aspects of our transactions and ensure security for the supply chain.

It is not clear whether these two instances suggest a regional bias to these events or not but we recommend everyone to be extra vigilant and help prevent ourselves or our clients from being the victims of hackers in this way. From this experience and our subsequent security discussions with IT and communication experts we'd like to share the following recommendations.



- Assume your emails could be compromised and in some cases consider using verbal, fax or post communications which are harder to intercept.
- All emails sent should be either new or a forward, never a direct reply and always type the recipient email in yourself rather than relying on autocomplete.
- Do not use social media platforms for business discussions with clients or suppliers.
- Use strong unique passwords and change them regularly.
- Bank payment details should be faxed, posted or given over the phone to prevent any chance of payments being redirected.
- Employ a good antivirus and firewall on all your devices, keep them updated regularly and never open any unexpected or strange sounding attachments without checking they are genuine, even if they're from your bank.
- Install all security based updates for your operating systems on servers, desktops, laptops, tablets and phones.
- Always verify contractual and payment related details before taking action.

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Milestone for LK Valves & Controls and One of Their Main Principal Supply Partners

In November 2016 **LK Valves & Controls** celebrates a decade as an appointed UK stockist and distributor for Wouter Witzel Eurovalve butterfly valves and check valves.

Coinciding with this milestone LK's supply partner Wouter Witzel Eurovalve reached a landmark 50 years of producing vulcanized butterfly valves.

Mr Wouter Witzel designed the first vulcanized butterfly valve fifty years ago founding his company in 1966. The now well established Dutch company has been an international leader in their field for many years. They develop and produce a wide range of high quality butterfly valves and accessories at the purpose built factory in the Netherlands and today their name is synonymous with high quality and lasting performance.

Alan Wareing, LK Valves & Controls company director said *"We are very proud to be associated with the world's first manufacturer of industrial butterfly valves. During the last decade it has been a pleasure to work with the very knowledgeable and highly professional people at Wouter Witzel."*

"Suppliers offering butterfly valves can be found all over the world. However, suppliers complementing their product with decades' worth of manufacturing experience and knowhow are few and far between. Wouter Witzel is one of them. We congratulate them on reaching 50 years of successful trading."

To correspond with their celebrations Wouter Witzel have announced their rubber lined butterfly valves range is now backed with a 5-year extended warranty.

For more information, ex-stock and short lead time supply of Wouter Witzel butterfly valves in the UK, please contact one of LK Valves & Controls experienced team. Contact details below;

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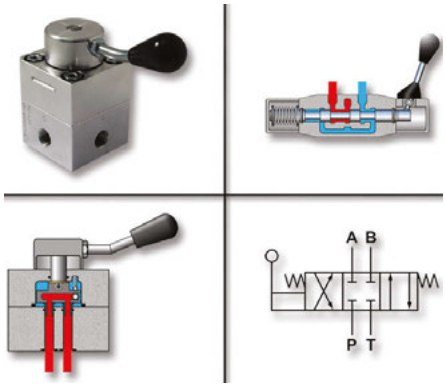
Latest Educational Guide on Manual Directional Control Valves

Webtec, the Cambridge (UK) based hydraulic measurement and control manufacturer, has published a new white paper on 'Selecting manual hydraulic directional control valves'; aimed at hydraulic engineers, technicians and system designers.

The 8-page guide follows the same pattern as Webtec's existing free-of-charge educational papers on, 'Selecting a hydraulic flow meter', and



'Selecting hydraulic pressure sensors'. This latest paper provides an easy-to-read introduction to the five main directional control valve technologies available; describing the features and benefits of each and concluding with a comparison table to assist the reader in choosing the right technology for their application.

Written by one of the foremost hydraulic trainers with over 40 years' experience in fluid power, this white paper provides a 15-minute introduction to a subject where many have long since forgotten why they use a particular technology and will inform or reassure the most experienced hydraulics engineer.

For further information, or to receive your free guide to understanding and selecting manual hydraulic directional control valves, please contact Webtec.

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GRACO

All Valves Actuators Ltd: Exhibiting at Valve World, Dusseldorf

All Valves Online Ltd are so proud to be writing for the Valve World edition of Valve User Magazine. Having started the company in 2012, Managing Director Adam Chapman attended the show for the first time and thought about what it would be like to exhibit at such a show and have that global exposure.

Having achieved that goal in 2014 with the help of the BVAA, they couldn't be happier to be coming back again. With a bigger stand and bigger range than ever before, this reflects the company's growth since the last show; having now sold in excess of 3 million pounds' worth of valves, actuators and related products. All Valves have established themselves as a very current and relevant company in this congested market.

All Valves have excelled and grown in challenging times, this year has been one of the toughest but this only further shows the diversity of the company and its ability to move into new markets and stay relevant. So what is new at All Valves Online Ltd? Other than growing on the existing relationships with its global partners, including Genebre, Sun Yeh, Hidroten, Adler and in recent years EBRO valves; the team and working on the next phase of development.

This includes growing its export market as it has done in recent years. All Valves will use Valve World to further demonstrate its partnership with SMC Pneumatics and also show the new AVA range of electric actuators including a compact multi turn actuator. All Valves are pleased to confirm that they will once again be joined on the stand by its number one partner, Sun Yeh electrical actuators.

All Valves began its partnership with Sun Yeh back in January 2014 as part of an initial 2-year agreement; this has already been extended for 2 years following the successful start to the working relationship. Sun Yeh appointed All Valves the exclusive UK and German distributor and is now looking to appoint All Valves as the European support centre and after sales for the Taiwanese brand of electric actuators.

New products and features will be shown at the show including the new battery backup system from 90Nm through to 1000Nm and above; they have ATEX approved mechanical spring return electric actuators from 50Nm to 250Nm, working models will be available for on stand demonstration. Having secured customers all over the world from the last show, All Valves will be meeting its now established customers this year and naturally look to establish new customers, the focus will be looking for new distributors at the show.

All Valves work with the world's biggest brands and now look to establish themselves further in the global market having already grown export sales to around 35% of the company's turnover.

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New Recruits to Support Growth at **AUMA UK**

Valve actuator manufacturer **AUMA UK** have recruited three fresh faces to expand and strengthen the UK team.

Sara Thompson and Callum Sully, new recruits for AUMA UK

Heading the internal sales team will be Sara Thompson, who has a wealth of experience in the actuator market. Reporting to Kerry Harris, the UK Head of Sales, Sara will be a key part of AUMA's communications with staff, distributors, ACE Service Partners and of course AUMA's customers throughout water and energy utilities and industry.

Commenting on the appointment, Kerry said *"We are delighted to be welcoming Sara to the team. Her background in our industry means she will be supporting our customers all over the UK right from Day 1."*

Also joining the internal sales team is Callum Sully, who will be supporting Sara and working hard to develop relationships with AUMA's customers and partners across the UK.

John Callow joins the Service team. John has worked on AUMA projects and installations for around 25 years, but has now joined the team full time. He will be focussed on project management, as AUMA's sophisticated actuation control systems increasingly present customers undertaking major projects with new opportunities for sophisticated control and cost reduction.

For information about AUMA UK, visit the website.

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Water Hydraulics Converts Simple Valves into Smart Control Valves

HYDRACT' was a recent EU funded project with the aim of developing more energy-efficient actuators for the sanitary valve industry. A significant side benefit of this work was the vastly increased capabilities of the retrofit valves with the new water hydraulic actuators. In fact, the production benefits of using smart valves overshadowed the original energy savings objectives in many cases.

The sanitary valve industry (brewery, dairy and pharmaceutical industries) has historically used pneumatic actuators as they can meet the required cleanliness standards at an affordable price. The problem with pneumatics is that the energy consumption is relatively high and they struggle to provide the level control needed for all but the simplest of tasks.

Enter water hydraulics. Tap water can meet the cleanliness levels required by the sanitary valve industry and as an essentially incompressible fluid, offer significant energy savings. Water hydraulics can also potentially provide even better motion control than oil hydraulics, but the cost of equipment is usually much higher. BHR Group was responsible for the product development and testing of a new breed of water hydraulic actuator that could be retrofit to mix-proof valves used throughout the brewery industry. The project necessitated the development of a miniature water hydraulic control valve and extensive laboratory testing on full scale rigs at BHR's base in Cranfield, UK.

The 'smart' part of the actuator comes from wireless communication with the main plant controller and closed loop control of valve position combined with other process parameters such as flow, pressure or temperature. During extensive 'demonstration' trials within a large brewery, the water hydraulic actuator increased reliability of the plant by minimising pipework pressure transients and reducing damage to vulnerable valve seals. The ability to take an existing mix-proof valve and turn it into a control valve also considerably increased the versatility of the plant without the expense of switching to variable speed motors and controllers or changes to existing pipework. When considered at the design stage, the water hydraulic valve actuator can provide the sanitary valve industry with solutions that it has been waiting to adopt for years.

The miniature water hydraulic control valve which is the heart of the actuator is currently being assessed for other industrial, energy & power, and domestic applications. BHR Group has an extensive fluid engineering laboratory at their Cranfield site and their valve testing capabilities will be of particular interest to BVAA members.

For more information, contact the BHR Group via the below contact details.

BHR Group
EXPERTS IN FLUID ENGINEERING

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

Social Innovation with **Omal**

Omal's Fabio Bugatti, working on a Community Project

OMAL claims to be an 'Empowered Performance' provider of Valves and Actuators. Their products are known to be efficient and durable, confirming their reliabilty and technical qualities. However, a company reputation is not just the result of the performance of it's products.

There is something more, which Omal name 'Social Innovation' This has to do with the environmental and social impacts of the operations underpinning OMAL's core business - How they impact on communities, what they expect from their suppliers and how they pass this on to their customers. This is the intangible value of OMAL that is offered as an added value.

Since 2016:

- Omal consider environmental sustainability investing in carbon footprint assessment (ISO 14064), international certifications (ISO 14001), best-practice platforms (Ecovadis), CO2 compensation initiatives (via ReteClima and Gold Standard/CDM);
- They invest in social sustainability through support of the UN Global Compact Initiative , their Corporate Social Responsibility projects (2240 hours of volunteering offered to the community stakeholders) and their Responsible Supply Chain Management (VALEO / Procurement Award – prize winner 2016).

OMAL AUTOMATION
EMPOWERED PERFORMANCE

Zoedale Ltd is the sole UK distributor for Omal Valves and Actuators.

Lastly, Omal not want to keep their brand reputation for themselves and work with their suppliers and customers to co-create similar initiatives via cross-sectoral partnerships.

This is OMAL's challenge: to replicate its corporate values – passion, respect and sense of duty – with whoever they work with, outside and inside the company, as true innovation is by definition a team effort.

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Emerson Delivers an Intuitive, Rugged Device

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Communicator is built to last through harsh environments, hard falls, and long shifts

Emerson Automation Solutions introduces the AMS Trex Device Communicator, a handheld communicator delivering an intuitive consumer-quality user experience and a brilliant modern display in a tool built to withstand harsh industrial environments. With a task-based graphical user interface built on human centered design, the Trex communicator makes device and loop diagnostics easy to understand and field activities easier to complete.

"With the Trex communicator, technicians can work more effectively in the field – with fewer tools to manage – anywhere in the plant they need to go," said Duncan Schleiss, vice president, reliability solutions marketing, Emerson Automation Solutions.

Protected against moisture and extreme temperatures, the Trex communicator boasts a rugged design that can withstand the bumps and drops that come from normal use in the plant. The large, full-colour touchscreen display adjusts to lighting conditions and aids troubleshooting in areas where too much or too little light makes other devices difficult to read.

With intrinsic safety certifications, the Trex communicator is certified to go anywhere a technician can go, with no need to shut a process down or get a hot work permit. Long-life batteries ensure that the communicator keeps working even through long days.

Using the Trex communicator's built-in Foundation Fieldbus and HART® device diagnostic software, technicians can isolate and repair problems while the devices continue to run. Simple issues can be addressed on the spot, avoiding unnecessary interruption to production. Segment and loop diagnostic tools allow users to validate loop and fieldbus segment characteristics for easy troubleshooting. With the ValveLink Mobile app, technicians can analyse valve diagnostics results easily on the communicator's larger screen.

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Corrosion.
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...which is why it is important that products and components used within these industries comply with NACE standards.

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Goodwin Launches Flow Control Division

Goodwin International has built up an enviable reputation for the design, manufacture and supply of high quality dual plate and axial check valves.

figure 1

Building upon this solid foundation, a completely new range of axial isolation and axial control valves has been designed and developed (see Figure 1) in order to introduce some much needed competition to this monopolised area of the market.

Axial isolation and axial control valves represent a high performance choice, with features which make them attractive over other valve types:

Streamlined flow path

- Axial style valves benefit from a very smooth and streamlined flow path through the valve body.
- Axial isolation valves therefore induce minimal downstream turbulence.
- Axial control valves have a very low fixed pressure drop, allowing a wider range of pressure / flow control.

Low maintenance

- The actuation mechanism and seals are both highly reliable and robust, allowing long maintenance intervals to be employed without being detrimental to performance.
- Goodwin axial isolation and axial control valves have been engineered with further benefits over and above legacy products:

Split three-piece body design

- Goodwin axial isolation and axial control valves have a novel split body design which is well accepted on other valve types. International patent pending.
- Permits 100% access for non-destructive examination (which is not possible on existing single piece body styles).

Rack-pinion-rack gear train

- Goodwin has developed a novel gear train in order to open and close the valve. International patent pending.
- The Goodwin Rack-Pinion-Rack mechanism (see Figure 2) ensures that actuation forces are distributed along the centre line of the valve both horizontally and vertically.
- As the Rack-Pinion-Rack mechanism makes use of a rolling gear arrangement rather than a sliding gear, the frictional forces are much lower, therefore the mechanism requires less force to operate.
- Lower forces coupled with a rolling mechanism make the Rack-Pinion-Rack mechanism effectively immune to seizure, which is the failure mode typically associated with sliding gear trains.

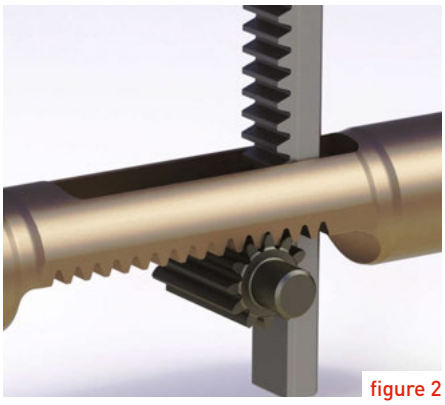

figure 2

"The launch of these two new products coincides with the formation of Goodwin Flow Control..."

Goodwin Rack-Pinion-Rack mechanism

The launch of these two new products coincides with the formation of Goodwin Flow Control, a new division within the Goodwin PLC group of companies, dedicated to the development and manufacture of this exciting new range.

With CAPEX and OPEX budgets being considerably squeezed in this period of low oil and gas commodity prices, Goodwin Flow Control are pleased to be able to offer a highly effective and efficient alternative to both new and existing customers.

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Improve Efficiency | Assure Safety | Protect the Environment

Parker Releases New Air Driven Liquid Pump

Parker Hannifin – the global leader in motion and control technologies, has released an innovative new air driven liquid pump, the AHL118.

A high volume, double-ended, double acting high pressure pump, the AHL118 is designed for use in oil and gas, chemical, industrial and research applications. The pump operates to a pressure range of 23,000 psi and at 5.6 gallons per minute (25.5 litres). The AHL118 is designed to be extremely robust, featuring a carbon-based prioritised coating to the plunger, which is three times harder than Stellite. This makes the plunger unscratchable, extending the lifespan of the seals and reducing downtime, repairs and servicing, delivering major savings to the customer.

All AHL118's hydraulic parts are manufactured from stainless steel, making them very durable with extended Mean Time Between Maintenance (MTBM) and increasing safety. All AHL118's pump hardware is manufactured from stainless steel, which is anodized to the bottom and top caps for superior corrosion resistance.

Air driven liquid pump

Parker Automotive Engineers have over 70 years' experience in manufacturing air driven high pressure liquid pumps, valves and fittings for a wide range of markets.

Shawn P. Landry, IPD Product Manager - Pumps/Systems for Parker Autoclave Engineers, said: *"This air driven liquid pump offers unrivalled performance and reliability, bringing huge benefits to customers. When developing the product, we analysed what the issues were in the market and so designed a pump that would last significantly longer, lowering downtime and maximizing efficiency."*

Parker Autoclave Engineers has over 70 years' experience in manufacturing air driven high pressure liquid pumps, valves and fittings for a wide range of markets. The company offers a comprehensive range of products, with a wide choice of sizes, flow capabilities, output pressures and additional features. The company's products are used in a variety of different industries and applications, including hydrostatic/burst/leak, chemical injection, valve/gauge/hose testing, bolt tensioning, hydraulic control systems, laboratory research and autofrettage systems. Parker Autoclave Engineers combines high pressure industry knowledge, manufacturing expertise, and technological innovation to offer a broad range of products and services to customers across a wide range of industries. This includes low pressure instrumentation products from 15,000 psi to air driven liquid pumps and packaged systems up to 60,000 psi.

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Improving Problem Components

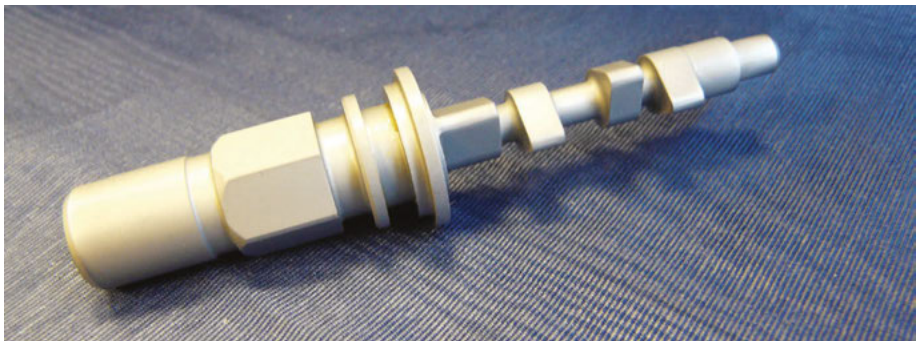
No machine or implement design is ever perfect. As much as we'd like to think that no improvement can be made, there is always some area that could be bettered.

This shortcoming might involve a limitation regarding, usability, component life, serviceability and so forth. Many of these restrictions are accepted because of the nature of the materials used to construct a specific component or assembly.

At Armoloy we have learned to work with our customers in an ongoing effort to minimise these limitations and enhance the properties of the materials in question.

Two excellent examples that have yielded many successful applications have involved Nickel based alloys and the 300 series of Stainless steels. Whilst both of these materials offer a wide number of individual formulations, the majority of each, the majority of each, although offering superb corrosion resistance, also share a significant drawback in that they are prone to pick up or galling when in service.

Armoloy has long recognised this problem and has had and continues to have major successes in eliminating or significantly reducing this problem thus improving the performance / life of the component. This achieved by applying, directly to the component surface, a microscopically thin layer of the unique Armoloy coating. No bonding interlayer is required and the minimal thickness of 3-5 microns means that the majority of drawing tolerances will not require amending.



The Armoloy coating as a hardness well in excess of 72Rc and has the novel property that it will happily slide against itself without negative consequences. The application of the coating is genuinely a cold process (less than 70°C) thus eliminating any risk of distortion of the substrate. The bond strength is absolute, meaning that the coating will not flake, chip or peel under normal working conditions.

Typical applications for Armoloy include bores, ODs, Sliding and mating surfaces, gear teeth, feed screws, threads (male and female) amongst others. Armoloy UK can handle components from a few grams up to a maximum of 5000kgs with sizes ranging up to 4500mm in length. Industries served include Aerospace, Nuclear, Oil & Gas, Food Processing, Packaging, Pharmaceutical and Medical. The Armoloy NTDC coating is chemically neutral and completely non-toxic. It has passed numerous biocompatibility and toxicological tests. Armoloy is also fully compliant with the requirements of the REACH Legislation.

The quality of our coating and its application are of paramount importance to us and we continue to operate in accordance with our AS9100C and BE EN ISO 9001:2008 accreditations. We also currently hold merit status for our NADCAP accreditation. We can, if required, comply with a variety of internationally recognised specifications or work to your own specifically written directions where relevant.

For Further information or applications, please visit the Armoloy website or contact the team.

ARMOLOY

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Albion 'Ups' the Marketing Stakes

Albion Valves (UK) Ltd, an increasingly popular UK valves supplier has created a brand new role to boost sales and marketing across all areas of the business.

The recent appointment of Jodie Seymour as Marketing Manager will be a valuable new resource to support the Albion team, and will help drive the sales and marketing strategy.

In Jodie's new role she will be working across all areas of the marketing mix including; advertising, PR, print media, market research and supporting distributors with their marketing campaigns, as well as prioritizing Albion's online and social media presence.

From Barnsley, Jodie studied at the University of Huddersfield and has held several marketing and customer service roles. Jodie's immediate focus will be building a higher profile online presence and making it easier for distributors to engage, as well as communicating the breadth of Albion's services and product portfolio.

Jodie Seymour, Marketing Manager

Jodie commented: *"It has been great to join the Albion team, everyone is very knowledgeable and I am learning all the time. This is a very dynamic role that I know I will enjoy. So far no two days have been the same and there is always a challenge, which I love. For me a good day at work is all about satisfied customers, great results and developing relationships. I am really looking forward to the opportunities ahead."*

Les Littlewood, Albion Valves (UK) Ltd, Sales Director commented: *"The Marketing Manager role is a new position at Albion and we are delighted to welcome Jodie to the team. She will be a valuable asset to the company and has a skillset, which I know will help grow the business. Her appointment also enables us to add value in the services we provide to our distributors and enhance our marketing activity at every level."*

For further information, visit the Albion Valves (UK) Ltd website.

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New Online Tool Allows Accurate Specification of Severe Service Valves for the First Time

IMI Critical Engineering, the leading manufacturer of critical flow control solutions, has launched what is thought to be the world's first truly intelligent specification tool for severe service products.

Valsiz® 9.0CV, which was developed by IMI Critical Engineering's IMI CCI business, is the first online application that takes into account the unique factors applicable to equipment operating in severe service in the oil & gas, power and nuclear sectors, to deliver recommendations on the most appropriate valve solution.

Valsiz® 9.0CV represents a major step change from previous valve sizing tools which simply determine the size and rating of the required hardware without reference to criteria such as fluid velocity, kinetic energy, noise, pressure drop, vibration, cavitation and flashing.

IMI CCI's Chris Peterson explained: *"In conventional service applications, a valve can last up to 40 years as long as it is correctly sized and specified, meaning a standard sizing tool is perfectly adequate. However, in critical applications, we need to understand and take into account the other, more unpredictable factors likely to be encountered when processing multi-stage, multi-phase fluids. Failure simply is not an option – recognising that, the Valsiz® 9.0CV tool harnesses the data inputted by the user and provides a simple 'yes/no' response as to whether a particular valve type will perform long term successful operation, meeting all of the requirements associated with severe service."*

Focusing primarily on IMI CCI products fitted with acclaimed DRAG® multi-path, multi-stage velocity control technology, the Valsiz® 9.0CV tool covers an extensive range of control valves and desuperheaters. Collateral generated by the tool includes product datasheets, face to face drawings, sizing summaries, characteristic curves and brochures.

To apply for access to the Valsiz® 9.0CV tool, please contact your local IMI CCI salesperson.

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The Latest Generation of the **Aquabrake**

Over the years, **T-T Flow** have been committed to continual ongoing product development in order to satisfy the varying and demanding requirements of the UK water industry.

Since the introduction of the Aquabrake® potable water air valve several years ago, they have proven themselves to be both reliable and robust, whilst offering excellent performance. The single chamber greatly reduces the weight and the precision machined solid plastic float prevents deformation – making it the default product.

T-T Flow are pleased to introduce the latest generation of the Aquabrake®, incorporating innovative technologies to maintain its position as the market leading air valve. As you would expect from T-T Flow the Aquabake® is fully WRAS approved for potable applications and now features a unique rapid filling prevention mechanism that minimises surge. In addition, they make the filling of pipelines safe and reliable, especially in column separation conditions. Furthermore, the revised body profile ensures optimum air flow performance, making it suitable for pipes with large diameters.

The Aquabrake® range is available in a wide range of sizes from 1" BSP to DN300 rated to PN40. For aggressive fluids or environments and wastewater applications the Aquabrake® is also available in a stainless steel bodied version.

T-T Flow's new website allows you to access and save all technical datasheets in your online account, including a new working with air valves manual for an in-depth analysis.

T-T Flow's new website allows you to access and save all technical datasheets in your online account, including a new working with air valves manual for an in-depth analysis. They also offer same day dispatch on selected models within the Aquabrake range, just look out for the green van next to the product code.

For further information on the Aquabrake® series or associated products please contact the sales team.

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Rotork Japan Provides the Intelligent Actuation Solution for World's First Seven-Way Control Valve

Rotork IQ3 intelligent valve actuators have been selected for the automation of what is said to be the world's first seven-way control valve.

Rotork Japan has supplied IQ3 intelligent valve actuators for the automation of what is said to be the world's first seven-way control valve. The innovative valve, manufactured in Japan by the Aska Corporation, operates under high pressure to control and regulate the flow of chemicals such as polymers, reducing the load on instrumentation in the downstream manufacturing processes.

The unique radial design of the valve eliminates any dead space (no flow) areas which could erode the quality of the media. The design demands a compact actuation solution that is capable of delivering swift and precise valve movements with high operating torques. The high viscosity, temperature and pressure of the media being controlled are further factors that contribute to the challenging demands of the application.

The selection of Rotork IQ3 intelligent actuation for the automation of the valve has successfully fulfilled these challenges. The proven long-term reliability of the IQ3 in similar harsh and high temperature hazardous area environments made an important contribution to the valvemaker's decision to specify Rotork for this application. Other significant considerations included the IQ3 actuator's versatility, functionality and asset management capabilities, combined with swift and simple commissioning procedures, accessed via secure non-intrusive communication technology.

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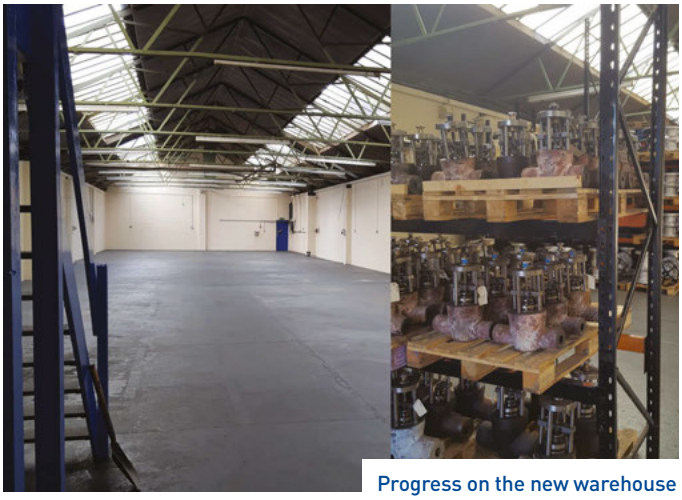
HH Valves Increased Stock Level

HH Valves are the only company manufacturing the 'Genuine Hattersley Heaton design of Valves' including Cast Steel Gate, Globe and Check Valves. Alongside our full range of low & high pressure Parallel Slide Gate Valves.



Progress on the new warehouse

The Addition of an extra 11,000sq/ft. unit was always going to take some time to prepare before we could officially 'move in' however progress on the new stores at HH Valves Ltd is well underway.

The unit is now fully refurbished & we have begun to organise our various product lines within. The unit itself will house an increased range of stock along with some valuable extra office space.

Parallel slide gate valves

The increase in low pressure parallel slide stock, (sizes 2"-24" & pressure classes 150/300/600 & PN 16/25/40) will allow us to satisfy a larger scope of our customer needs where a quick delivery is required.

Together with the increase in our low pressure parallel slide valve stock we are DOUBLNG our small bore high pressure parallel slide valve stock, all A105, F22 & F91 small bore high pressure PSV's in sizes up to 4" will be increased to cope with current export demand trends.

Progress in completing the additional unit has been somewhat hampered as we have been focused on completing our recent order from Pentair Netherlands of which we are now in the final stages. The 3rd part of this 700 valve project is due to leave HH shortly for a substantial new development in Danghara, Tajikistan.

HH valves holds an extensive range of both high and low pressure Parallel Slide Valves in stock at our Wigan factory alongside our Genuine Hattersley Heaton Design of Wedge Gate, Globe, and Check valves. We welcome inquiries from end users or alternately if you are an agent/distributor and have interest in working with HH Valves in your respective territories around the World please contact a member of the HH team.

HH Valves Ltd

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BVAA's Technical Hot Spot

PROPOSAL TO ESTABLISH A TECHNICAL EXPERT GROUP TO REVIEW BS EN 13397 INDUSTRIAL VALVES-DIAPHRAGM VALVES MADE OF METALLIC MATERIALS

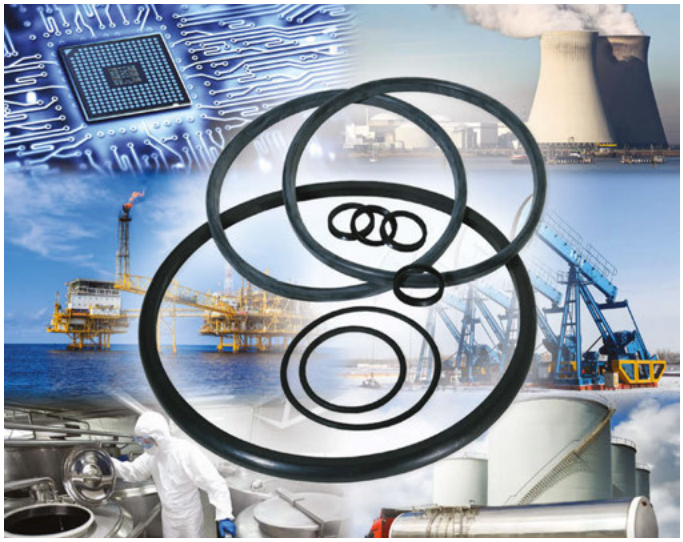
What is it?:

A group of experts with a background of Diaphragm valve manufacture and supply. All European standards are subject to a regular 5 year review to ensure they are kept up to date. BS EN 13397 was first published in 2001 and has not been updated since. The TEG will have the task of reviewing the existing standard and making recommendations for revision of the standard to the Technical Committee CEN/TC 69 "Industrial Valves".

Why is it important?:

UK participants lead the creation of BS EN 13397, superceding BS 5156 which was subsequently withdrawn. The diaphragm valve is an important valve type widely used in the chemical, pharmaceutical and biopharma industries, and the standard needs to be kept current to reflect the requirements of these industries. The existing standard covers size ranges DN8 to DN300 and pressure ratings PN6, PN10, PN16 and Class 150.

FFKM Seals Can Outperform Metal O-Rings at High Pressures & Temperatures



DuPont™ Kalrez® O-ring seals, available from Dichtomatik Ltd, provide long term operation even at high temperatures and high liquid pressures.

The deformation of **metal O-ring seals** can occur where process operating conditions reach temperatures up to 300°C, with liquid pressures also as high as 100 bar. This form of seal failure can result in leaks, causing safety concerns while also necessitating clean-up operations and the interruption or total suspension of production line activities.

However, costly breakdowns can be reduced or even virtually eliminated by utilising the DuPont™ Kalrez® perfluoroelastomer (FFKM) O-ring seals. In examples where these high performance products have replaced the OEM fitted metal seals, uninterrupted production periods in excess of 10 years have been experienced without any lost production processes due to seal failures. Scheduled maintenance periods can also be safely extended leading to manpower savings coupled with increased production outputs.

The Kalrez® O-ring seals are available in the UK from authorised distributor Dichtomatik Ltd. Finished O-rings, custom shapes, sheet and cords are manufactured exclusively by DuPont™ from raw material right through to the finished products, and Kalrez® is now the choice of elastomer for the most demanding sealing applications.

Kalrez® is recognised as the market leading perfluoroelastomer which is resistant to over 1800 different chemicals while offering the high temperature stability of PTFE (327°C). The advanced properties of the product help maintain seal integrity with increased production safety, while also helping to minimise manufacturing and maintenance costs.

Typical worldwide markets that can benefit from the proven advantages offered by Kalrez® products include aggressive chemical processing, food and pharmaceutical production activities, oil and gas recovery, petroleum applications, power generation together with semiconductor wafer processing involving a wide range of industrial and electronic grade chemicals.

Subsequent removal or in-situ repairs of affected equipment such as gear pumps, centrifuges, reactors and quick-release couplings can be expensive, particularly if the MTBF times are of short duration, leading to high unscheduled costing levels together with production shut-downs and process liquid losses. Labour costs alone covering major component strip-downs or complete unit replacements can be very substantial.

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Adding Value to the Motor: Operated Valve, Part 4

The valve control market faces increasing pressure from commoditisation of its products. Here's how to avoid a race to the bottom.

In this, the last of our Masterclass articles we continue to look at how AUMA Actuators Ltd addresses the challenges of commoditisation in valve applications. The series shows how modern electric actuators create value as they are specified, installed, used and maintained.

Each article focuses on a different stage of the product's life cycle:

- Control system design and actuator specification
- Plant installation and commissioning
- Plant operation
- Maintenance and asset management.

Together, the four articles consider how an integrated control and actuator solution better satisfies customer needs and adds real customer value.

Design, specification, installation and commissioning

In the first article [Valve User, Winter 2015] we saw how the powerful control features of modern actuators bring benefits at the design stage. For example, analogue-to-digital [A/D] converters built into AUMA actuators simplify control system design by avoiding the need for flow and level sensors to have their own fieldbus A/D converters. Variable-speed operation as found in the SIPOS actuator series can eliminate water hammer, reduce valve seat wear, improve emergency shutdown performance, and provide near-linear performance from lower-cost non-linear valves.

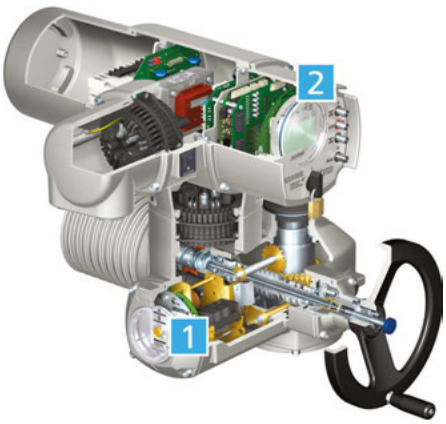
The second article [Valve User, Spring 2016] showed how actuator design features affect the ordering, installation and commissioning phases of a project. AUMA's modular actuator concept allows the three key components to remain separate right up to installation. Wiring, programming and commissioning can overlap, saving many weeks on tight project timescales. On-site cabling becomes a plug-and-play operation. Modular assembly keeps other site work to a minimum, saving time and improving safety especially when working in confined spaces or at heights.

For the third article [Valve User, Summer 2016], we moved on to show how choosing the right actuator can benefit day-to-day plant operation in terms of energy efficiency, ergonomics and controllability. We looked at how a variable speed actuator such as the SIPOS 7 reduces energy, how easy programming and great ergonomics make the life of a site engineer easier, and how a data-enabled actuator can become part of the site Fieldbus system, significantly reducing data cabling costs.

In this fourth and final part, we consider the importance of predictive maintenance and asset management to maximise availability and the importance of sophisticated sensor systems in clearly identifying when an actuator requires attention, well before its process-critical operation is compromised. We also look at the opportunities presented when well trained, certificated, card-carrying installation and maintenance engineers are available throughout the supply chain.

The three styles of maintenance

Classically, there are three styles, or levels, of maintenance: 'Reactive' maintenance, or the 'fix it when it breaks' approach, is in fact a legitimate way of dealing with equipment where the cost is relatively low, the likelihood of the equipment failing is low and the consequences of its failure are relatively insignificant. The next level up, 'preventative' maintenance, gives us a rigid process, where equipment is 'serviced' on a regular basis, with oils, greases, filters and seals replaced and everything given a clean. The advent of small, reliable sensors and the means to communicate with a central system gives us what is currently the best possible way to maintain critical components – Predictive Maintenance,



where there are no defined service intervals, but the equipment itself tells us when it needs attention, and it does so in a way that makes sure that it continues reliably and efficiently doing its job.

Preventative maintenance in Actuators

There are a number of points of attention in an electric actuator – the seals, the grease, reversing contactors and the mechanical components, and the preventative maintenance required within the system is determined by a combination of data logging and sensor measurement.

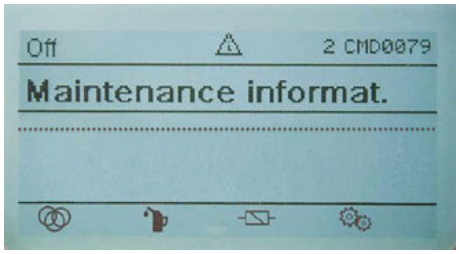
Clearly, each actuator will operate with a slightly different duty, and we can record the number of starts, the number of turns of the shaft, the time the unit has been operating and the output speed, all of which can predict when the reversing contactors and the mechanics of the actuator will require attention. We can't directly measure the condition of the grease, but we can measure vibration, temperature and torque at various points in the actuator, and derive the machine conditions from that.

With a sophisticated set of algorithms, the AUMA actuator then continually updates its maintenance log, ready to signal an alert or alarm if any parameter reaches a defined trigger point. The actuator forms a defined control loop with the valve it operates in the system, so the conditions experienced by the actuator can also provide critical information about the process. Operators want to be managing information, not 'lost in data' so, for example, a preventative maintenance signal that integrates torque measurement with a differential pressure sensor can warn of a loss of flow in a pipe as well as the unlikely failure of a valve.

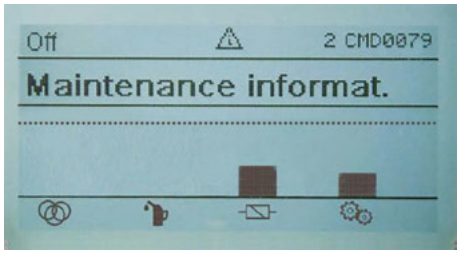
These sophisticated functions are not restricted to top end actuators such as the SIPOS 7, AUMA SA and SQ actuators are already supplied with the AUMA Asset Management Function as standard, the only condition being that the actuator is fitted with AUMA's electronic control unit.

Communication for Asset Management

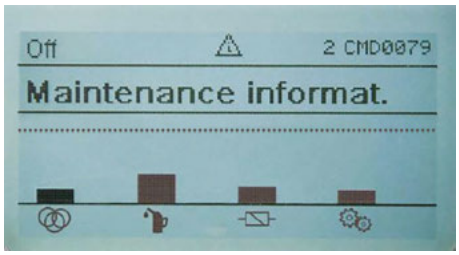
AUMA actuators feature a clear and logical control interface, which makes configuration straightforward for contractors and site staff. The maintenance information screen allows staff to see at a glance the condition of seals, grease, contactors and mechanics, and how far the condition of each has progressed towards the trigger point when attention is required.



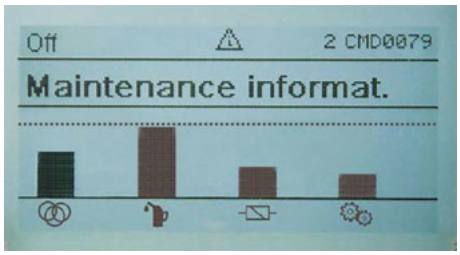
New actuator maintenance



Screen after maintenance



4 years actuator maintenance



10 year actuator maintenance

An informed decision can be made about replacements and maintenance and, once the alarm trigger point has been reached, a signal is both displayed on the screen and communicated more widely through whichever network is in place. Fieldbus systems are well-established for actuator applications and the information derived from the algorithms could easily be shared onto the Internet of Things.

Adding value through set-up and maintenance

Vital equipment such as valve actuators should of course be maintained in line with the manufacturer's recommendations, and major utilities are increasingly insisting that this important component of asset management should not be left to untrained staff. This is a huge opportunity for company service departments, of course, but AUMA have taken a more in-depth approach. AUMA's own in-house service operation is, of course, fully staffed, trained and equipped, but we have recognised that there are a number of points within the market where customers and supply chain partners value additional flexibility.

That recognition was the genesis of AUMA's ACE (AUMA Certified Engineering) programme, a three stage training programme leading to certification of service technicians to empower them to work on AUMA actuators. There is a huge added value opportunity for the valve manufacturers, in mounting, testing, set up and configuration of the actuators prior to delivery to site. ACE Level 1 has been designed for just this purpose, covering the required skills for correct mounting, commissioning and testing. ACE Levels 2 and 3 are both for staff working on site, who may also need to undertake fault finding and corrective actions, with additional modules on top of those covered by Level 1 to enhance knowledge. Level 2 is aimed at staff within user and service organisations, for example technicians within water companies. Level 3 represents the level reached by AUMA's in house team and selected partner organisations, so a Level 3 ACE Technician can be considered an expert in AUMA equipment. All ACE technicians are card-carrying, backed up with a registration that must be regularly renewed.

This fourth article has shown how the valve actuator is a vital tool within the wider topic of asset management, and how predictive maintenance and the successful delivery of that maintenance can add value for both actuator and valve manufacturer while delivering higher standards within the process for the end user.

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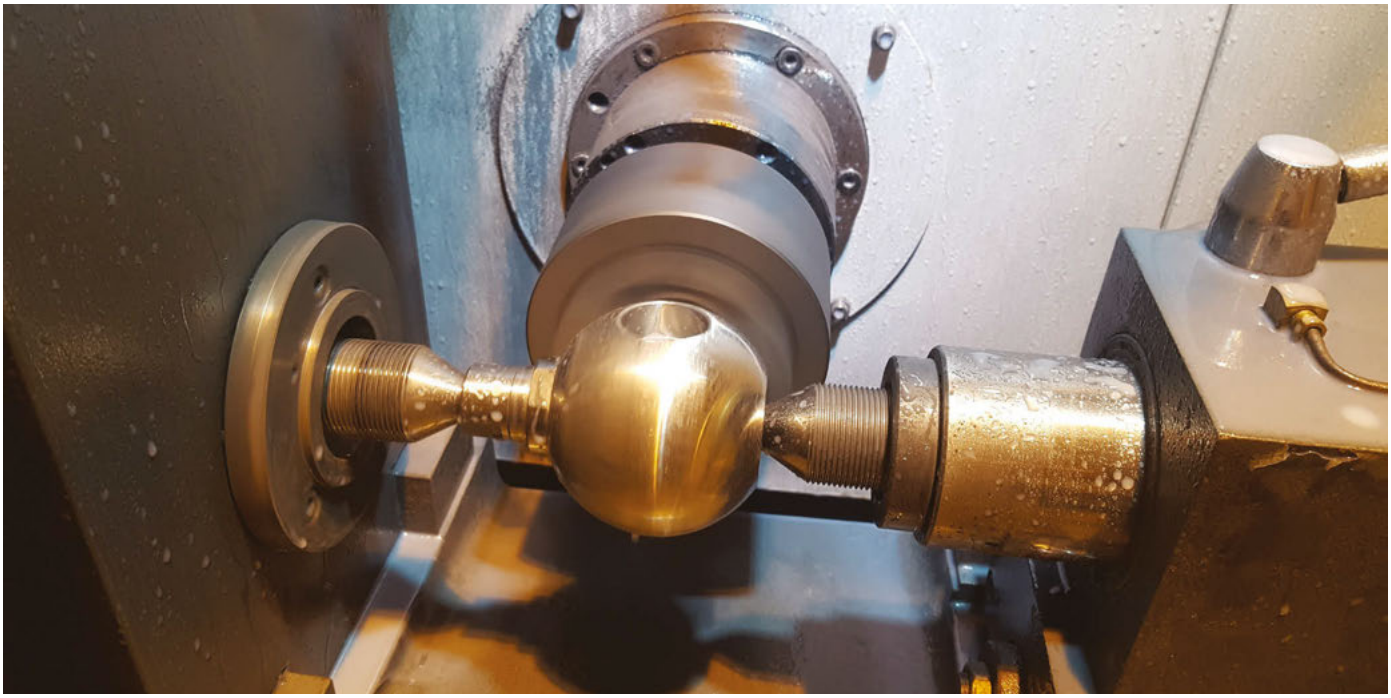
Sheridan X-Cel joins the BVAA



Hereford seems an unlikely place to find a company specialising in the manufacture of balls. But as **BVAA** Director, Rob Bartlett, found out on a recent visit to **Sheridan X-Cel** they have been specialising in Ball production there for over 30 years.

Ball and seat valve

Paul Sheridan Sheridan X-Cel Commercial Director explained: *"My father worked for a well-known valve Company based in Cwmbran which had a large factory making Ball and butterfly Valves in Hereford. When the Hereford site was shut in the early 80's he opened Sheridan engineering to be a valve component sub- contractor. By a mixture of good decision making and a healthy slice of chance we decided to specialise in balls."*

So for the last 30 or so years they have been making Valve balls for Valve companies both in the UK and Europe. All the major offshore grades of material, Stainless, Duplex and Nickel Alloys are machined into Balls from castings, forgings and Bar. Sheridan X-Cel have also been supplying Defence contracts for Aluminium Bronze balls for over 20 years.

In late 2015 X-Cel Superturn took a majority shareholding in the company and Sheridan X-cel was formed. Paul explains: *"I think the Oil and Gas downturn took us, as it did many others, by surprise, we were probably a bit complacent with what we thought was a stable market and a reasonable customer list. Suddenly the market changed and 2015 was a very difficult year. We talked to Andrew Taylor who owns the X-Cel group and it became clear very quickly that by becoming part of this highly successful group we could not only re-energise ourselves as a company but also with the investment they were prepared to introduce open up new markets for us."*

And that is exactly what has happened. Investment in new machines, staff and inspection equipment has meant not only a diversification into stems and seats. Perhaps most significantly Sheridan X-Cel are now able to supply Ball and Seat sets coated and ground.

John Urbanski the Operations Director explained: *"With the new investment available to us we were able to not only streamline existing processes but also investigate new ones. Ball grinding is one process that this company has wanted to do for many years and now with the arrival of CNC ball grinding facilities we can offer a full Metal to Metal Ball and seat service."*

For more information on Sheridan X-Cel and their products visit their website or contact them on the below details.

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Multi-Million Euro Manufacturing Plant Shows Bonomi's Commitment to Global Expansion

Bonomi's New Factory

Customers of process valve and actuator supplier **Bonomi (UK)** are set to benefit from the opening of a new state-of-the-art manufacturing plant in the company's Italian homeland.

Officially unveiled in the presence of Italy's Prime Minister Matteo Renzi, the Brescia-based factory covers some 120,000 square metres and is capable of producing an impressive 130,000 valves per day.

Technologically advanced and constructed with environmental sustainability as its goal, the facility harnesses much of its electricity from solar panels, whilst heat is obtained partly via the cooling systems employed in its manufacturing processes, and partly from Geo-thermal ground-source heat pumps, thereby avoiding the use of fossil fuels.

Similar 'green' systems are employed to provide the building's air conditioning and have resulted in it receiving a 'Grade A' environmental rating and being widely regarded as a paragon of manufacturing excellence combined with environmental sustainability.

The global Bonomi Group comprises three companies; Rubinetterie Bresciane, Valpres and Valbia, with nearly 400 employees worldwide and an annual turnover exceeding €100M.

Comments Bonomi (UK) sales director Jason Hill: *"The new factory has increased Bonomi's output dramatically, thereby enabling us to improve our already impressive and dependable supply of products to customers. This huge investment demonstrates Bonomi's total commitment to the future of our industry and comes at a time when many manufacturers are reducing capacity; bringing with it reassurance and buying confidence to Bonomi customers throughout Europe."*

New factory opening

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Web: www.bonomi.co.uk

AV Actuators Ltd: Established in the US

A lot has been happening behind the scenes since **AV Actuators** launched into the global valve and actuator market at the BVAA Spring Conference back in May. Travelling the world to establish global partnerships, all roads have led to Valve World Europe where the team will exhibit products on the stand of All Valves Online Ltd, a company that embraced the range early on.

As part of the BVAA pavilion, AVA will launch to the world its brand of quarter-turn electric actuators. The smart compact range offers so many features and benefits that many customers not only here in the UK but all over the world are benefiting; whether it is the compact size, fast working time brushless motor or modulating accuracy, the AVA has proven to be a huge success to all that have used the product.

After 12 months of work the company has now also established an office in the USA and AVA USA LLC will launch around the same time as the Valve World exhibition in Germany. With distribution channels and OEM's already secured in the US, the managing director and founder of AV Actuators Ltd is confident of successful trading all over the world: *"I have seen the response that the range of actuators has received all over the world. Customers can see the benefit that these actuators offer and they offer something completely different to the actuator market. I believe there really isn't anything like this in the market. I am confident that the valve actuator world will welcome this new range at Valve World - our US team cannot wait to get started."*

In addition to showing the existing AVA range at Valve World, the team are excited to showcase the new AVR series. This will be a new 50-100Nm range in one housing; one actuator giving the customer up to 50Nm or 100Nm via a simple internal change to the actuator. Add to this its compact size and some of the features of the AVA 20 series, you can now expect a 50-100Nm actuator with a brushless motor, position sensing without cams, battery backup and multi turn functionality. AVA will have what it believes is the most compact and feature rich range of 20-100Nm in the market. A big claim but one they are happy to demonstrate at Valve World!

Finally, AVA will be showing the timer actuator series, this is a range of actuators covering 20Nm to 2500Nm with smart timer system; this means the customer only needs power. The smart menu system allows the user to setup a 7-day routine for open and close actuations. Customers no longer need expensive PLC's to program the automation of the actuator, all they need to know is when they want the actuator to open and close over a 7-day cycle and add power.

AVR Series

AVA will actively be seeking new distribution partners around the globe and welcome all ValveUser readers to attend the Valve World exhibition and see what all the fuss is about; come and see AVA at the All Valves Online Ltd stand as part of the BVAA stand (4C21).

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High Pressure, High Flow Rig Meets Challenging **Valve Test Parameters**

BHR Group has a history of conducting independent third party testing on a wide range of fluid related equipment, including valves and actuators. With both standard test facilities and the expertise to design and build bespoke test rigs, BHR is able to test equipment under extreme and hazardous conditions that many manufacturers and third party test houses cannot achieve.

A recent example was for a safety-critical valve system, with a qualification programme that required testing with air at very high pressures (up to 400 bar) and flow rates (up to 8 kg/s, 23,500 Nm3/h, 14,000 scfm). BHR Group designed and built a cost-effective and safe test facility capable of delivering the required pressures and flow rates. The resulting blow down test facility comprised a compressor system capable of charging 375 kgs of air to 414 bar in air receivers with a total volume of 915 ltrs. Pipework and manifolds were appropriately sized to enable sufficient air mass flow rate down to a line pressure of a few tens of bar. During blow down this enabled the required maximum flow rate to be achieved for a period of approximately 45 seconds, facilitating the tests.

Instrumentation on the system measured flow rate, pressures and temperatures - the most challenging of these being flow measurement, due to the rapidly changing pressures and resulting temperature change. Various types of flow measurement devices have been used, including ultrasonic and vortex flow meters, although turbine meters were found to perform the best and respond quickly to the variation in pressure and flow.

With design, build and commissioning of the test facility complete, BHR Group was able to successfully complete all the qualification tests required for the client to be able to bring their product to market.

Since completing the initial client test programme, the capabilities of the facility have been further developed to satisfy a range of requirements and enable its use to be expanded to other clients. Notably, water flows up to 100 lts/second and 35 bar can now be achieved using the pressurised air as the motive force. This enables us to study the response characteristics of a DN32 valve when rapidly shut in an emergency situation with a water flow velocity of 100 meters/second through it. The test facility has been used to test a variety of client products - pressure regulators, relief valves, valve manifolds and large flow surge relief valves - demonstrating the adaptability and usefulness of the facility.

If you would like further information on BHR Group's valve tests facilities and services, please contact us on the below details.

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Bernard Controls Donate 3 Actuators to The BVAA

Zoedale Ltd is the UK Distributor for **Bernard Controls Electric Actuators**. When Zoedale heard that The BVAA Training Centre was equipped with Auma and Rotork Actuators they were quick to persuade Bernard that they should get involved.

They were keen to get their actuators made available for BVAA training sessions so provided 3 units FREE!

They supplied:

First BC - Quarter Turn EZ Logic (Showcasing the Local "Logic" Controls)

This Quarter Turn electric actuator has a maximum output torque of 45Nm, is weatherproof to IP67, 25% duty rating and an operating time of 6 seconds. Bernard Controls designed this actuator to fill a gap in the market with a low cost, high quality electric actuator with an easy to use local control panel.

Premium BC FQ12 – Quarter Turn Spring Return (Showcasing Manual Hand Wheel)

A Quarter Turn spring return electric actuator with an output torque of 120Nm, weatherproof to IP67, 30% duty rating, local position indication, end of travel limit switches and a hand wheel for manual operation. This is one of the only electric actuators of it's size to feature a spring to allow the actuator to close in the event of loss of power.

BC Premium STX6 – Multi-turn ATEX (Showcasing the Intelli+ Operation)

A Multi turn electric actuator with an output torque of 60Nm, weatherproof to IP68, Ex d II B T4 ATEX approved, local position indication, automatic declutch hand wheel, 30% duty rating, modulating for up to 360 starts per hour, operating time of 23 seconds and Intelli+ high level intelligent control with absolute sensors.

These electric actuators are due to be delivered to The BVAA in November. If you want to get hands on and see how they compare to other actuators either book on a BVAA Course or just call in!

For more enquiries on Bernard Actuators contact Zoedale Ltd on the below details.

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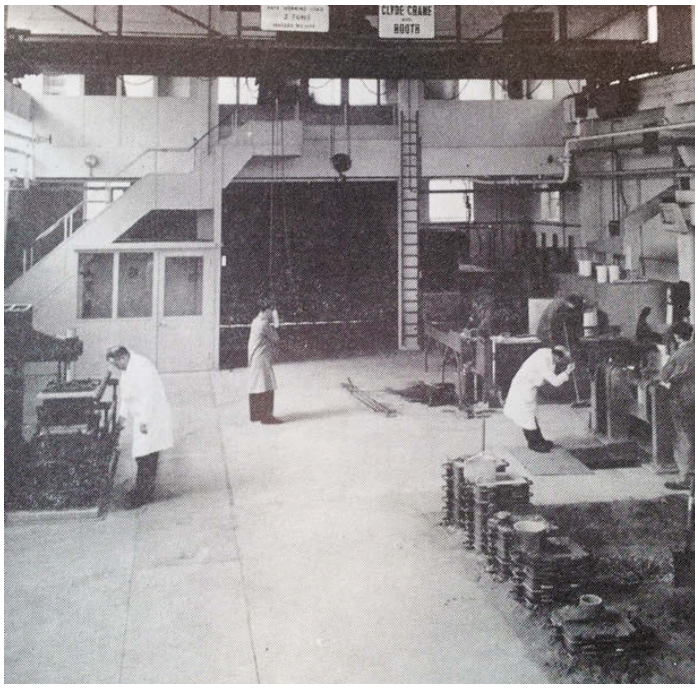
Cti Provides Advanced Casting Expertise



Recent years have brought some of the most significant changes yet in the 93-year history of British Valve and Actuator Association member **Cti**.

The organisation traces its origins back to 1923, when the UK Government set up the British Cast Iron Research Association (BCIRA) as part of a drive to establish a series of research and technology bodies to back British industry. A merger 20 years ago with the Steel Castings Research and Trade Association (SCRATA) led to the creation of Castings Technology International – or Cti – prior to its acquisition three years ago by the University of Sheffield.

Casting producers and users in over 30 countries, ranging from multi-national aerospace giants, energy and chemicals companies to small firms operating in the global supply chain, rely on Cti's services and capabilities. Cti (castings-technology.com) specialises in supplying the high value manufacturing sector with low volume, precision steel, super-alloy and titanium castings that would otherwise be difficult to source. It also provides industry focused manufacturing and consultancy services from a purpose-built centre on the Sheffield City Region's Advanced Manufacturing Park.

The organisation's advanced casting expertise includes computer process modelling, design for casting manufacture, casting process development, environmental, laboratory investigation, testing services and materials optimisation and tailored technology packages for all alloys and casting processes.

Cti has been at the forefront of major technological developments, including its Replicast® and MEGAshell® processes, which are used to produce dimensionally precise castings, made from steel, nickel-based or reactive alloys such as titanium without the need to produce and store expensive wooden patterns. The organisation also has extensive expertise in manufacturing titanium castings. Its technology has been used under licence by one client to produce titanium castings with a poured weight in excess of 300kg and new developments will give Cti access to a 1000kg titanium casting facility.

Cti has extensive expertise in melting, casting and processing other reactive metals and the vacuum melting of super alloys, which enables it to provide expert advice on casting design, shell systems, melting, feeding and gating, casting methodologies and processing castings, made from a vast range of vacuum and air melted metals.

Cti's expertise has been used by castings users and producers, for everything from solving specific problems to building new foundries and its testing and laboratory services include manufacturing support, failure investigation, non-destructive testing, microscopic examination and chemical analysis, some of which can be carried out on clients' premises.

Castings Technology International

Tel: +44(0)114 254 1141
Email: info@castingstechnology.com
Web: www.castingstechnology.com

Webtec Locks Range of Zero-Leak Directional Control Valves

Webtec, the Cambridge (UK) based hydraulic measurement and control manufacturer, has extended its 180 series of zero-leak directional control valves used to control hydraulic actuators on high-pressure mobile and industrial machinery.

In response to market feedback the valves are now available with optional CETOP 3/D03 mount to make them easier to install and a position lock to prevent them being accidently operated or tampered with.

Rated up to 700 bar (10,000 psi) and 38 lpm (10 gpm), the 180 series of rotary shear valves boast a wide range of options to meet the most unusual applications with over 4,500 models available. They offer a compact solution with zero-leak characteristics and are ideal for use on control panels either for pilot or direct actuation of hydraulic cylinders and motors.

For further product information or to receive a free guide to understanding and selecting manual hydraulic directional control valves, please contact Webtec

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BVAA's Technical Hot Spot

PROPOSAL TO ESTABLISH A TECHNICAL EXPERT GROUP TO SPECIFY THE REQUIREMENTS OF A UK QUALIFICATION SCHEME FOR SERVICE/REPAIR CENTRES OF SAFETY AND RELIEF VALVES MANUFACTURED TO THE REQUIREMENTS OF ISO 4126

What is it?:

The TEG is a group of experts having a background of Safety Valve manufacturing, service and repair. It will meet to initially discuss the issues currently being faced by manufacturers and end users of achieving a regulated system of safety valve service, maintenance testing and repair. If there is support for the idea, and subject to BVAA Board approval, the TEG will develop the requirements of a UK qualification scheme for Service/Repair Centres of Safety and Relief valves.

Why is it important?:

Safety and Relief valves need regular service and testing to ensure they are capable of performing when required to do so. In the USA the National Board offers the Certificate of Authorization and VR Stamp for the repair of pressure relief valves. Requirements are described in NB-514, accreditation of VR Repair Organizations.

Within the non-ASME community there is uncertainty as to what would define;

1. Competency for an approved 3rd party to repair and service safety and relief valves.
2. The capability of an approved 3rd party to assemble and test valves in compliance with ISO 4126.

AUMA's Actuator Leakage Tester for Long-Term Peace of Mind

Every single **AUMA** electric valve actuator is fully pressure tested and guaranteed IP68 when delivered to site, as part of the bespoke assembly process.

AUMA's PV1691 portable leakage tester, available in the UK via AUMA's in-house service team and many of their ACE service partners, helps users to check air and water-tightness of AUMA actuators after electrical installation, retrofits or repair work.

Environmental ingress into an actuator usually results from an external issue, such as cable glands being wrongly installed or of the wrong type. Even if water does get in, AUMA's double seal makes sure that it can't reach the electronic heart of the device, but the leakage tester makes it easy to check that the electrical connection is properly sealed and that O rings in the housing joints are intact and correctly seated.

available from AUMA and their ACE service partners

AUMA's leakage tester consists of a compact device that is attached to one of the housing openings on the actuator. An integral pump pressurises the housing, after which the clear LCD display shows the pressure loss over a predefined time period, with a pass/fail result based on a choice of pre-programmed test routines.

Battery powered for use throughout a plant, the leakage tester is supplied in a compact, robust carrying case that also includes an adaptor, leak detection spray and charger.

AUMA Actuators Ltd is part of the global AUMA group.

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Valfonta Manufactures Reducing Valves, Sustaining Valves, Control Valves & Ejectors

Valfonta have been manufacturing in Spain for over 40 years. They are big enough to manage large orders yet extremely accommodating and flexible.

Valfonta is one of those less well known brands that makes some really nice products. Flowstar started its relationship with them a few years ago by stocking their Type 44 reducing valve (right image) which is very nicely made, works solidly and consequently has sold extremely well. Flowstar is a well-known UK stockist of Safety, Relief and Reducing valves and is now Valfonta's exclusive stockist in the UK and Ireland.

Valfonta Product Profile

Reducing Valves (Pressures in Barg)

PRV20 - DN8 to DN20, 316L, 80°C, In: 40 / Out: 0.2 to 20
PRV30 - DN15 to DN25, 316L, 80°C, In: 16 / Out: 0.2 to 8
PRV44 - DN15 to DN25, 316L, 210°C, In: 16 / Out: 0.2 to 8
PRV45 - DN15 to DN25, 316L, 180°C, In: 16 / Out: 0.01 to 8
VD - DN15 to DN150, Various, 80°C, In: 40 / Out: 1 to 16
M1 - DN15 to DN150, Various, 250°C, In: 40 / Out: 0.1 to 16
M2 - DN15 to DN100, Various, 180°C, In: 40 / Out: 0.02 to 18

Sustaining Valves / Relief Valves (Pressures in Barg)

PRV54 – DN15 to DN25, Various, 210°C, Set: 0.2 to 16
PRV55 – DN15 to DN25, Various, 180°C, Set: 0.01 to 16
S1 – DN15 to DN150, Various, 250°C, Set: 0.1 to 16
S2 – DN15 to DN100, Various, 180°C, Set: 0.02 to 16
S3 – DN15 to DN100, Various, 250°C, Set: 0.5 to 20

Pneumatic Control Valve

DN15 to DN100, Nodular Iron, Bronze, Carbon Steel and Stainless Steel, Class VI shut-off.

Eductor's, Ejector's and Reheater's – see our website.

Case Study

A client required a 5" steam sustaining valve but the one they had sourced was from a well-known major manufacturer on a 12-week delivery. Flowstar secured the order by offering the Valfonta S1 (image with the red spring) which more than met the specification but was also available in 4 weeks and at half the price.

flowstar

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Web: www.flowstarvalveshop.com

RGD-Resistant Elastomer Sealing

High performance sealing solutions are integral in a competitive oil and gas industry. In 2015, upstream oil and gas companies faced a 50 percent drop in revenues, making sealing solutions which reduce downtime much more valuable. Innovations in sealing for oil and gas are always welcomed.

With G7 nations phasing out fossil fuel consumption, O&G operators are re-evaluating their roles in this new low-carbon economy. The long term aim might be to search out the growth areas, investing in the right industries for the decades to come. In the interim, the pressure is on to find innovative new technologies to make current operational processes as efficient as possible.

Improving efficiency in oil and gas

Equipment downtime is one of the biggest threats to efficiency in oil and gas production. From Arctic conditions through to subsea drilling, even routine repair and maintenance in O&G can be incredibly costly. Finding a sealing component that provides increased capability to resist environmental factors and deliver reliable performance can make all the difference.

Sealing represents one of the key areas where material scientists can make an impact on efficiency. Through detailed understanding of the mechanical and chemical properties of elastomers, materials can be found to match the exact operational requirements of any oil and gas application.

What the right elastomer needs

Elastomer sealing materials for oil and gas applications have to withstand a variety of challenges. These factors include high pressures and exposure to corrosive chemicals. Extreme temperature ranges must be endured, with some specialist grades capable of withstanding anything between -55°C and +150°C.

Resistance to Rapid Gas Decompression (RGD) is critically important. RGD is a significant contributor to seal failure and equipment downtime. High performance elastomers are engineered to withstand RGD, maintaining sealing characteristics and extending equipment life. Finding a seal material certified to both NORSOK M710 and ISO 23636-2 is a reliable measure of a seal's ability to perform under pressure.

Safeguarding your application

When choosing a low temperature, RGD-resistant seal for an oil or gas application, it can help to consult with a technical sealing expert. They can advise on the right combination of mechanical and chemical qualities in a seal to keep oil and gas equipment in optimal condition for longer. This ensures better protection for your operations, whatever the industry has in store for the years to come.

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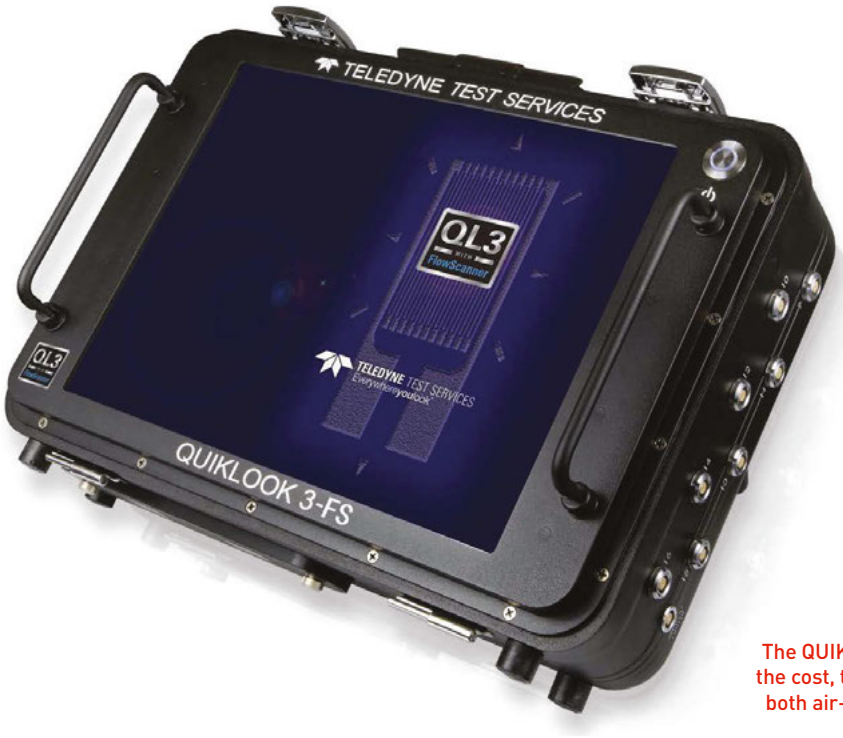
Z90LT, a low temperature HNBR proven to withstand Rapid Gas Decompression (RGD) which has been tested and certified to NORSOK M710 and ISO 23636-2.

For further information visit www.prepol.com

Emerson and Teledyne Test Services Introduce a New Valve Diagnostic System for Nuclear Utilities



The QUIKLOOK 3-FS system minimises the cost, time, and complexity of testing both air-operated and motor-operated control valves

The **QUIKLOOK 3-FS** system minimises the cost, time, and complexity of testing both air-operated and motor-operated control valves.

Emerson Process Management and Teledyne Test Services (TTS) jointly developed and introduced the QUIKLOOK 3-FS diagnostic system, a new platform for testing air-operated (AOV) and motor-operated (MOV) control valves used in the nuclear industry. The dual platform minimises the cost, time, and complexity of testing safety-significant valves and helps nuclear utility managers improve the safety and efficiency of their operations.

Before this collaboration between Emerson and TTS began, many valve maintenance teams at nuclear facilities were buying separate test solutions for the two different kinds of valves. Teledyne's QUIKLOOK platform, for example, was supporting MOV testing, and Emerson's Fisher™ FlowScanner™ software was primarily used for AOV testing.

Now, Emerson and TTS have simplified the process by providing one AOV/MOV test platform. The QUIKLOOK 3-FS system combines FlowScanner circuitry and software into the TTS QUIKLOOK platform and provides capabilities not available in either previous product. Its features include plug-and-play measurement sensor recognition and data-conversion utilities. The QUIKLOOK 3-FS system's updated user-interface software supports strain gauge measurement devices, supports up to 16 sensor channels, and enables interfaces to popular design-basis calculation and margin-analysis software utilities.

"The QUIKLOOK 3-FS system captures and documents fast-occurring phenomenon - up to 50,000 Hz - and reports measurements with extreme accuracy," said Jeff VonAhnen, FlowScanner platform product manager for Emerson. *"It enables nuclear-utility managers to diagnose control valves and meet regulatory testing requirements including the upcoming provisions of ASME Appendix 4."*

In an enclosure the size of a small suitcase, the QUIKLOOK 3-FS system is portable. Emerson and TTS will combine forces to sell and support the new QUIKLOOK 3-FS system.

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SMC's Energy-Saving Compact Valve That's Big on Flexibility: the Updated Series VEX3

SMC, the worldwide leading expert in pneumatics, has launched an updated, compact version of its VEX3 valve series that offers customers even greater flexibility and efficiencies in terms of energy consumption.

Power consumption has been almost halved from 1.8 W to 1 W, resulting in significant cost savings. New manual override options have been added to the existing non-locking push type: locking slot, push turn locking and push turn lever types, offering easy handling and outstanding flexibility.

The new 3/3 VEX3 series features additional benefits to the existing conventional 2/2, 3/2 and 5/3 valves. Not only is the VEX3 smaller in size compared to the previous model but, when added to the existing benefit of fewer components required per circuit, it really delivers in terms of space and cost savings. The VEX3 – with flows of up to 3,300 l/min – has three positions, allowing intermediate stops for cylinders up to Ø 125 mm or to change the speed of cylinders up to 200 mm bore size. It's also possible to connect two valves to a double acting cylinder, controlling up to nine different positions, including slow stopping, acceleration and deceleration.

Further savings are achieved in vacuum applications when suction or release of the workpiece are not required, as the valve can be set to the intermediate position where there is no air movement and energy is not being wasted.

A spokesperson from SMC said: *"The functions of the VEX3 can be performed by an electric actuator, but this new valve offers our customers greater force given by the compressed air and is more cost efficient to purchase and operate. It is a great example of the SMC team working closely with its customers to deliver a product that improves productivity and reduces overall production costs."*

For more information on the VEX3 and to download the accompanying technical documentation and catalogue, visit the SMC website.

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BVAA's Technical Hot Spot

VALVES - TERMINOLOGY - PART 1: DEFINITION OF TYPES OF VALVES. DRAFT STANDARD ISSUED FOR PUBLIC COMMENT DRAFT BS EN 736-1 DPC: 16 / 30344095 DC

What is it?:

This European Standard specifies the denominations of valves to provide a uniform and systematic terminology for all types of valves.

Why is it important?:

The main technical changes compared to the previous edition is the editorial revision of the standard.

Supersedes:

The proposed revision will supersede the 1995 version if approved

Innovative Rotork Gearbox with SafeOperator Flexible Extension Enables Critical Subsea Valve Operation

The innovative combination of **Rotork** gearboxes and SafeOperator flexible extensions has successfully and economically enabled the manual operation of critical ballast valves on an offshore platform.

A major builder of TLPs (Tension Leg Platforms) needed to manually operate sixteen submerged ballast valves deep in the legs of the platform. Rotork Gears met the challenge with an IP68 rated submersible IS multi-turn spur gearbox combined with the SafeOperator flexible extension solution for valve operation. The combination of flexible and rigid shafts has enabled the valves to be operated from a safe platform 40 metres away. In addition to operating the valve, the system also provides clear visual indication of open or closed positions.

The Rotork IS gearbox selected for the application is rated for continuous submerged duty at a depth of 40 metres and fitted with simplified subsea pressure compensator relief valve. The SafeOperator is manufactured from a standard range of stainless steel components for maintenance-free operation in the harsh sub-sea environment. Fabrication was performed by Rotork Valvekits, who also manufactured the valve mounting bracket for the gearbox.

SafeOperator systems offered in combination with Rotork gearboxes are customised to suit individual requirements and enable the manual operation of valves of virtually any size that are hard to reach or in dangerous areas from a place of safety without the need to compromise on the pipe layout or build additional infrastructure. Each system is designed for easy installation and long term maintenance-free operation.

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Celebrating Our 2-Year Anniversary as a Proud Member of **Graco**

The Alco Valves Group has come a very long way in the last few years, and this is in no small part to the support of their parent company, **Graco Inc**. This week Alco are celebrating the second anniversary of the Graco acquisition, and so it is with this milestone that we look back on the last two years that Alco has been a proud member of Graco.

There are many investments that Graco have made in regards to equipment and machinery. Most noteworthy include CNC such as the Mazak Integrex and 2 Citizen L32's. Graco sent its own expert engineers from Minnesota to assist in the installation and implementation of these impressive machines and to ensure that the machinists were trained to the highest of standards. This machinery has enormously helped Alco to precision machine numerous valves and parts in-house, ensuring the best possible quality and efficiency.

When the company was sold in October 2014, the role of Managing Director was temporarily vacant, and so it was in January 2015 that Graco's efforts to find a new leader paid off, with the commencement of Samuel Crossley as Managing Director. Sam's wealth of professional experience and extensive background has greatly benefited Alco. With Sam came the introduction of Peter Baxendale (Production Director), Alison Jones (Finance Director) and the renowned Ron Strang (Group Technical Director).

With expansions occurring geographically, including the opening of the Dubai Office in late 2015, the original headquarters, as well as their machine shops were starting to outgrow their facilities. Sam Crossley and Graco worked to find a suitable new headquarters, where all of these facilities could be housed under one roof, whilst also considering Alco's Brighouse heritage. In July 2015 a new factory on Gooder Lane Brighouse was purchased, with redevelopment work planned for completion in December 2016.

Sam Crossley, MD, with the Mazak Integrex

Sam Crossley, Managing Director stands proud outside the new Alco building

Alco is now looking forward to more developments, including a new office in Australia and more precision engineering machinery.

And with so much change, sometimes a fresh new look for a company is a good thing. In September 2016, a new corporate image was commissioned for Alco. Sam Crossley stated: *"We are proud to reveal a new visual strategy that will create greater clarity and consistency. Our new corporate design reflects the driving principle of our company and its future. Just like Alco, our new design is sophisticated, professional, and far more than meets the eye."*

To find out more, check out the Alco website and social media pages on Facebook, Twitter and LinkedIn.

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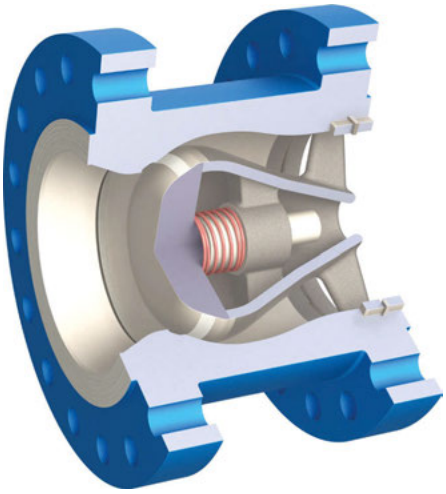
Goodwin International Extends its Range of Non-Slam Axial Check Valves

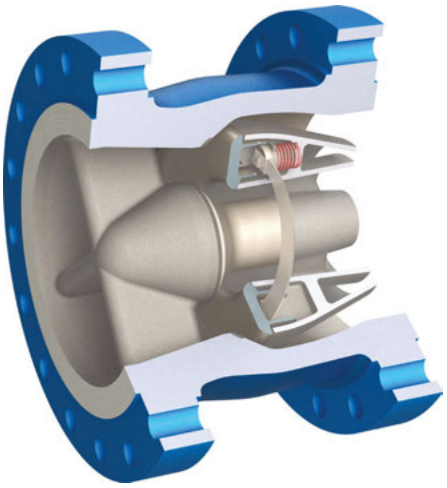
Goodwin International, from their manufacturing base in Stoke-on-Trent, is an established global market leader in the design of Dual Plate and Non-Slam Axial Check Valves. Offering cost effective technical solutions for critical / severe pump and compressor check valve applications, Goodwin, in conjunction with its sister company, Noreva GmbH, has developed a new Axial Check Valve range to address the specific issue of low flow gas applications.



Goodwin Type Z – Solid disc (Model shown: ZBF)

Check valves, to operate at their optimum performance and provide longevity of service, should operate in the fully open position to guarantee stable, chatter-free operation. Check valves that operate under partially open conditions will flutter and, in low flow conditions, chatter. Chatter, in particular, is detrimental to check valves as it causes excessive wear and, consequently, premature failure.

Compressor applications are those that present the challenge where incorrect check valve selection can have catastrophic consequences. Due to the range of possible flow conditions where low gas flowrates are a high probability, correct selection of the check valve for compressor discharge service is crucial. Low gas flowrates, with the wrong check valve, can lead to chatter and premature failure of the check valve, thereby exposing the expensive compressor equipment to significant risk of damage.



Goodwin Type N – Ring disc, radially guided (Model shown: NBF)

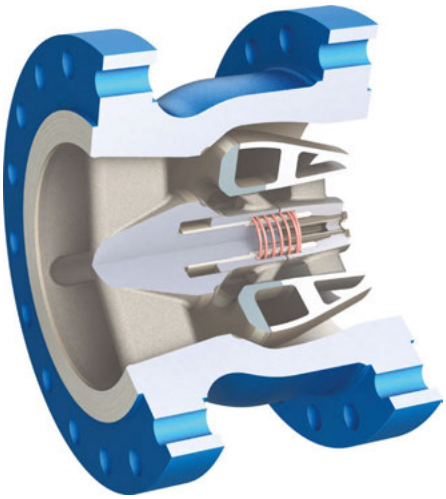
The preferred solution for compressor applications is the installation of non-slam axial (nozzle) check valves. These can withstand partial open operation more so than the non-axial types such as swing, tilting disc, and dual plate check valve types which have the highest risk of chattering under low flow conditions. However, it is still recommended the axial check valve is fully open under all flow conditions where possible.

Historically, there have been two basic designs for axial non-slam check valves: solid disc and ring disk. Both types are offered by Goodwin – the Type Z solid disc (to 10") and the Type N ring disk (12" and larger). The Type Z solid disc is centrally guided and seated using a single spring whereas the Type N is mounted on a frictionless radial guiding system with multiple springs.

Both of these designs require large spring forces. So, to guarantee that valves are fully open in low flow conditions, particularly with the Type N, the size of the valves has to be reduced to increase flow, thereby increasing the pressure loss across the valve. This is not a desirable consequence but one of necessity to ensure stability in the low flow conditions.

To overcome this, Goodwin and Noreva has developed a new valve combining the best features of both well established designs to bring a new, globally patented valve design to market, the Type NZ.

The NZ non-slam axial check valve allows the use of much lower spring forces than the Type N permitting the valve to be fully open even at extremely low flowrates and avoiding the higher pressure losses associate with the Type N. The NZ can also have an adjustable length spacer allowing



NEW: Goodwin Type NZ – Ring disc, centrally guided (patent pending) (Model shown: NZF)

it to be tailored to be fully open under flow conditions in different applications. With its improved dynamic behaviour as a result of a very short disk stroke, the Type NZ is operationally stable even when experiencing partial flow conditions, ensuring continued and reliable protection of key infrastructure.

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New Micropulse Linear Displacement Systems in Profile Housing

Balluff has enhanced its line of magnetostrictive Micropulse transducers with two new versions. With the BTL7-S5… and the BTL7-P511… the company is offering two new systems in the profile housing with SSI and DPI/IP interface.

Designed for long stroke lengths of up to 7620 mm, these non-contact and absolute measuring systems provide synchronous data transmission for high-accuracy machine positioning with a resolution of 1µm. They feature a sampling rate of up to 4 kHz for especially fast measurement data acquisition. Installation and startup are accomplished in less time. Thanks to the rugged IP67 full aluminum housing no additional protection measures are necessary.

SSI-SYNC for good control behavior and higher dynamics

In a positioning system with synchronized SSI interface data acquisition is synchronized to the external clock of the controller. This allows the controller to perform optimal speed calculations. Ideal applications include precise position measurement in such demanding tasks as simultaneous measurement of axis position and speed on a press.

DP/IP interface for cost-effective and easily integrated displacement measurement

The digital DPI/IP pulse interface is compatible with controllers from most manufacturers and ensures reliable signal transmission. In presses and stamping machines the position measurement system simultaneously and reliably measures the axis position of load and molding stroke movement.

Background information

Magnetostrictive position measuring systems in the profile housing from Balluff stand out with ease of installation, a wear-free measuring principle, a rugged, shock- and vibration-resistant and contamination sealed housing with IP 67 protection rating. The current axis positions are marked by the position encoder magnets through the wall of the aluminum profile. They tolerate a vertical and lateral offset of up to 15 mm.

For more information contact the Balluff team on the below details.

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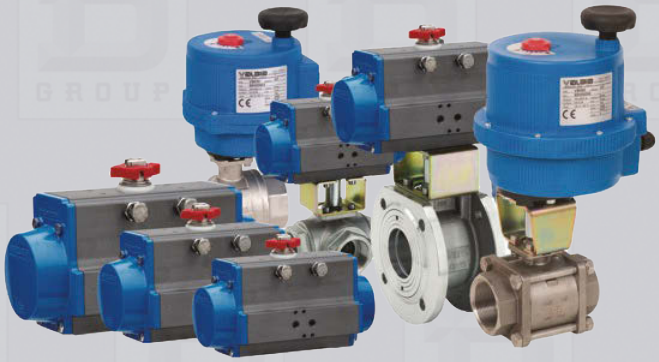
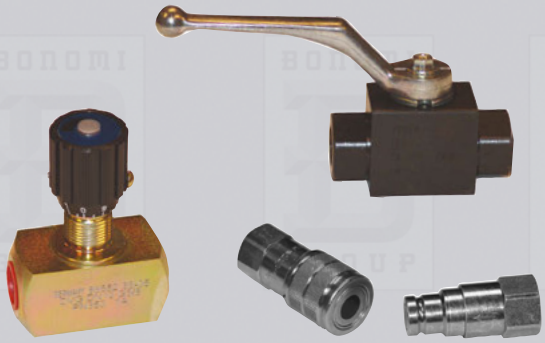


Process Valves & Actuators



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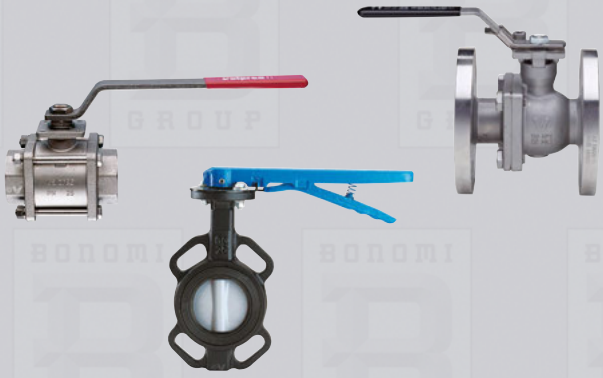

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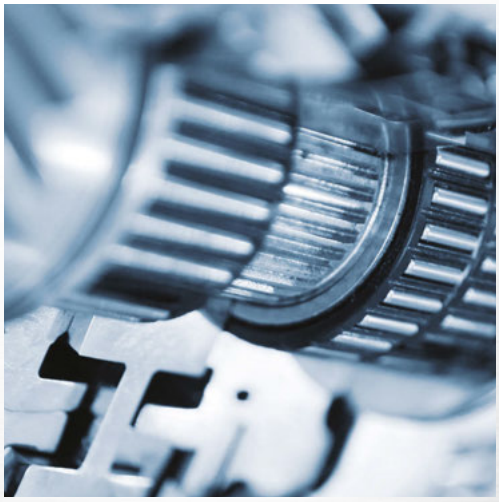

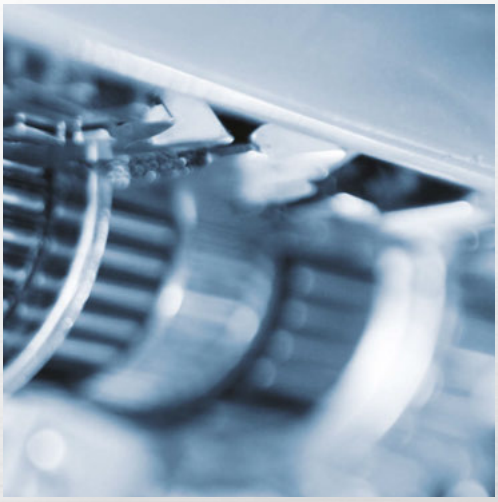

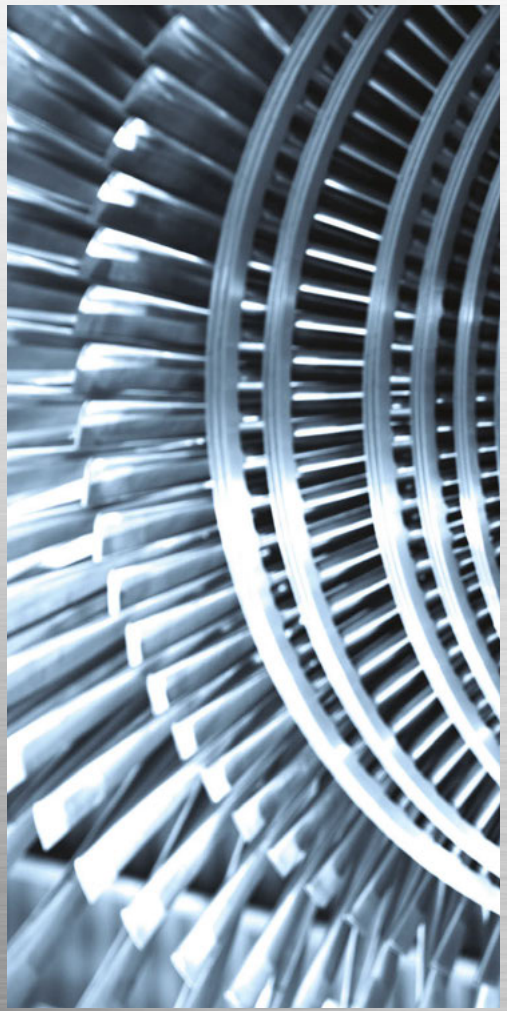

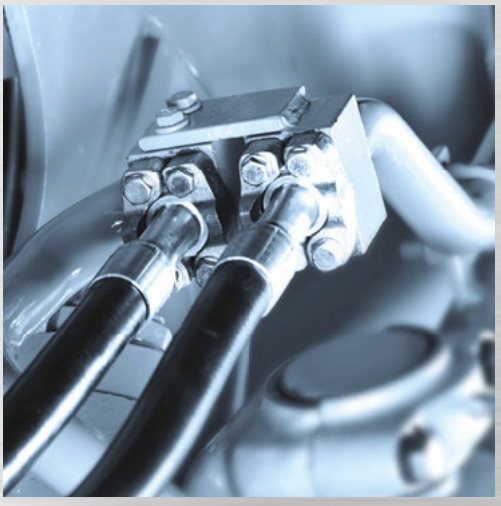

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Staying ahead of the emerging technologies and business trends that tomorrow will bring requires exceptionally talented people who lead, problem solve, and innovate. Emerson employees around the world create solutions and value for our customers.

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