

# **VALVE** *user*<sup>®</sup> MAGAZINE



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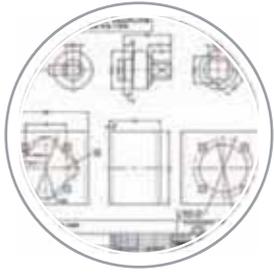
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VALVEuser® is a controlled circulation magazine, free of charge to genuine users of valves, actuators and related products and at the discretion of BVAA Ltd.

# Happy Anniversary!

Welcome everyone to the latest issue of BVAA's Valve User magazine!

I was reminded recently that I had just completed my 10th Anniversary with BVAA, which coincidentally also marks the 12th Anniversary of another significant change – our move from being the manufacturers-only association 'BVAMA' to the wider valve industry body 'BVAA.'

An often asked question is 'why the change?'

I think it is fair to say that in the mid-00s the British Valve industry, and its association, was experiencing a challenging period. Contraction and consolidation in the industry was resulting in a declining 'BVAMA' membership, and importantly the marketplace for valves and actuators was threatened by hesitant demand and increased competition from low-cost manufacturing countries.



by BVAA Director,  
Rob Bartlett

Indeed it took a couple of years for industry – and it has to be said our members – to become acclimatised to the new-style 'BVAA' and the wider coverage we officially encompassed but had yet to enact.

Valve and actuator distribution was a vitally important, but largely unsupported part of the industry, and from 2004 onwards BVAA made excellent in-roads in supporting that sector. Valve Repairers followed, then eventually industry Suppliers and Service companies.

Each year BVAA grew substantially and was able to develop and improve its services, often dramatically with initiatives like 'Valve User'. Each year the industry and its marketplace improved. Each year the reputation of British companies was enhanced globally, and the threat of inferior products successfully beaten off by a mixture of consistent superior UK quality and - unfortunately for some customers - bad experiences with allegedly 'low-cost' products. And of course each year BVAA has grown in membership, from 55 members in 2003 to C. 185 today.

Time for resting on our laurels? Not a bit of it! Demands from the industry's customer base are ever more challenging, as are the needs of the BVAA members themselves. The main point however is that the Association has never been so well prepared, well-staffed and well-resourced to support the industry it was created to serve.

To find out more about BVAA you can contact us at enquiry@bvaa.org.uk

## Did you know?

That you can follow BVAA on Twitter @theBVAA or join the Valve User Forum on Linked In.



Cover: RPV's new Blasting and Coating Division.

# World Class Independent Valve & Actuator **Training**



One-day **training courses** from leading **industry professionals**. Independent courses. No sales pitch, **just quality**, technical training.

These courses are a **MUST** for those involved in the engineering industry who need to know about valves and actuators. BVAA valve courses are delivered by our lecturers who have tremendous knowledge and experience of the industry. The sessions always result in comments of the highest praise.

## **BVAA Training Courses - March 2014**

**Introduction to Valves** - Monday, 10th March

**Members:** £240.00 | **Non-members:** £360.00

**Introduction to Valve Actuators** - Tuesday, 11th March

**Members:** £240.00 | **Non-members:** £360.00

**Control Valves** - Wednesday, 12th March

**Members:** £240.00 | **Non-members:** £360.00

**Joint Integrity MasterClass** - Wednesday, 12th March

**Members:** £240.00 | **Non-members:** £360.00

**Safety Valves** - Thursday, 13th March

**Members:** £240.00 | **Non-members:** £360.00

**Safety Integrity Levels (SILs)** - Friday, 14th March

**Members:** £240.00 | **Non-members:** £360.00

**Managing Commercial Risk** - Monday, 17th March

**Members:** £395.00 | **Non-members:** £450.00

**PED & ATEX Directives** - Tuesday, 18th March

**Members:** £240.00 | **Non-members:** £360.00

**Fluid Sealing** - Wednesday, 19th March

**Members:** £240.00 | **Non-members:** £360.00

**Diaphragm Valve Master Class** - Thursday, 20th March

**Members:** £240.00 | **Non-members:** £360.00

**Business Growth** - Thursday, 20th March

**Members:** £395.00 | **Non-members:** £450.00

**Valve Metallurgy for non-Metallurgists** - Monday, 24th March

**Members:** £395.00 | **Non-members:** £450.00

**Presenting to Win** - Monday, 24th March

**Members:** £395.00 | **Non-members:** £450.00



For full details on each course, visit [www.bvaa.org.uk/training\\_courses.asp](http://www.bvaa.org.uk/training_courses.asp)

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**Fax Back**  
**01295 268965**

## BOOKING FORM

# BVAA Training Courses – March 2014

Please complete the form and return to Karen Webb.

**All training courses are one day duration.**

**For full details on each course, visit [www.bvaa.org.uk/training\\_courses.asp](http://www.bvaa.org.uk/training_courses.asp)**

- **Introduction to Valves:** Members – £240.00, non-members – £360.00 – **Monday, 10th March**
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# BVAA News

## People Buy from People:

# BVAA / NOF Networking Opportunities



Meet decision makers and catch up with existing contacts in the Oil & Gas Industry through BVAA partnership with networking specialists NOF Energy.

Networking events are a fantastic way to get lots of valuable contacts, enquiries and most importantly, to win new business. Networking is one of the most powerful tools in your marketing kit bag, it's true what they say, people buy from people.

### 'We've listened to you'

The team at BVAA regularly survey members to gain insight to what they want from their association. BVAA responded to the requirement from members for increased business development opportunities through fostering a partnership with NOF Energy. As the partnership enters its second year, members have reaffirmed BVAA's decision through excellent feedback from event attendees. Further, 92% of respondents to a recent membership survey into end-user industries said they were interested in the Oil & Gas Industry.

You have spoken and we've listened to you. But we always welcome more feedback – contact Jimmy on jimmy@bvaa.org.uk to let us know more.

### Forthcoming NOF Events

**Oil & Gas Networking Lunch with Reef Subsea**  
27th November, Aberdeen, Hilton Treetops

**Subsea Oil & Gas Networking Lunch with Aker Solutions**  
17th December, North East, Hardwick Hall



The BVAA team attend most NOF Energy events to assist members

### 2014

**Oil & Gas Networking Lunch with Total E&P**  
23rd January, North East, Wynyard Hall

**Oil & Gas Networking Lunch with Aker Offshore Partner**

13th February, Aberdeen, TBC

These events involve a hearing from a guest speaker from a major Energy company on the following:

- An overview of the company
- Project information
- How to engage

The events typically attract 100 – 200 delegates, meaning the associated networking alone is an opportunity not to be missed!

Full details and booking opportunities at [www.nofenergy.co.uk](http://www.nofenergy.co.uk)



# BVAA<sup>®</sup> 75 YEARS

## SERVING INDUSTRY 1939 - 2014

# 'Safety' Valves

**The prefix isn't by accident, but these valves might just prevent one!**



*BVAA Safety Valves course lecturer, Geoff Newman*

For many years BVAA has been 'banging the drum' when it comes to the correct selection and application of Safety and Relief Valves. But that is only half the story...

To understand these critical function valves properly you do need a good knowledge of the design basics and a thorough understanding of the definitions and terminology, which unfortunately differs in the ASME and ISO standards

on the subject. You also need to understand the many different types of safety valve, how they work, how they differ, how they are sized, tested, applied, etc.

Finally it is necessary to have a clear understanding of Safety Valve problems and possible causes.

Getting any one of these aspects wrong could lead to potentially hazardous situations for plant operators, and if you have responsibilities in these areas, you should undertake proper training.

## **BVAA Course**

Fortunately, BVAA offers a 1-day course which is designed as a comprehensive guide to safety and relief valves. This course explains how safety and relief valves function and how to size and select the correct valve for given duties and specifications. The course employs lectures, demonstrations and problem solving sessions.

## **Course Objectives**

- Learn the main types and operating characteristics of safety and relief valves
- Be able to select and specify the correct safety valve for a given application
- Understand the need to match actuator with valve
- Be aware of legislation covering pressure equipment and safety valves
- Receive a valve manual as a permanent record

## **Who Should Attend**

This training course is designed for engineers who use/select and for Technicians who install/service these safety devices. Managers with responsibility for plant and equipment would find an appreciation of the subject and the issues involved useful.



*Sectioned view of a Conventional Safety Valve - Anderson Greenwood Crosby (Pentair)*

## **Course Presenter**

Geoff Newman, formerly of Anderson Greenwood Crosby, former Chairman of BVAA and BSI Safety Valve Committees.

## **Course Date:**

Thursday 13th March 2014

## **Duration / Programme:**

1 day duration: 9.00 am start - 5pm finish

## **Price:**

£360 + vat (per person)

## **BVAA Member Price:**

£240 + vat (per person)

See [www.bvaa.org.uk/training](http://www.bvaa.org.uk/training)

# Valves at Severn



BVAA Valve WG in full session at Severn Unival.

**The BVAA Valve (technical) working group met on 22nd October 2013 at the impressive new Severn Unival facility in Brighouse, West Yorkshire.**

A full agenda included a presentation by Paul Charlton and Alex Roff of PDL Solutions (Europe) Ltd on CFD and FEA, which generated a lot of interest and prompted a lengthy Q&A session. Also included was a full update on standards activities at BSI, CEN (Europe) ISO (international) and API/ASME/OGP by BSI Valve Committee Chairmen Peter Churm and Mike Gray.

There was also a brief debate on Shale Gas Exploration and how that might affect the industry and the wider UK economy. BVAA hopes to attract speakers on this latter topic to future WG meetings.

The next Valve WG meeting has been scheduled for March 19th 2014 at the Parker Hannifin facility in Barnstaple.

## New Code of Practice for Repair



This document entitled 'BVAA Code of Practice for the Repair of Industrial Valves & Actuators' has been prepared by the BVAA Repair working group, comprising manufacturers, repairers and customers, with the assistance and co-operation of other BVAA working groups.

It supersedes the previous BVAA publication 'Industry Guidelines – The Repair/Reconditioning of Industrial Valves and Actuators' published in 2005, which is now withdrawn.

### The Code's objectives are:

- To specify a Code of Practice in the repair or reconditioning of valves, actuators and related products, excluding modifications and upgrades.
- To provide a statement of the responsibilities falling on the manufacturers, repairers and owners involved in the repair of valves, actuators and related products.

BVAA would like to express its thanks to all those involved in the preparation of this document, particularly Repair WG Chairman Peter Churm, for their patience and determination to develop a more contemporary and comprehensive document for the subject of Valve and Actuator Repair.

Copies of the Code, available in pdf format, are available free of charge to BVAA Members and at a cost of £30+p&p to non-members.

Contact [karen@bvaa.org.uk](mailto:karen@bvaa.org.uk)

# Bringing the Valve Supply Chain to Amec, Aberdeen

BVAA led a delegation of ten members at a supply chain event held at Amec's Aberdeen base; Seafield House. The Oil and Gas consultancy had handpicked and invited ten BVAA members to exhibit to its Engineering and Purchasing departments.



## Could you benefit from meeting the Valve Supply Chain?

Would your company benefit from a zero cost 'desktop exhibition' of valve and actuation companies? More and more operators and contractors are finding that BVAA exhibition is an

excellent educational opportunity for their Engineering and Purchasing departments. Recent successful events at Amec, Petrofac and Worley Parsons are testament to this.

BVAA's Marketing and Communications Manager Jimmy Phillips comments:

*'Increasingly contractors are being encouraged to optimise processes while simultaneously guarantee performance. Often the solutions are out there, but it is difficult for engineers to spend time researching these due to time pressures. BVAA desktop exhibitions allow Engineers to meet several solutions providers over the course of a lunchtime. The end result can be a cost saving or a performance improvement for their project.'*

If your company is interested in hosting a desktop exhibition or supply chain event, please contact Jimmy Phillips on 01295 221 270.

Over 130 employees from Amec as well as BG Group, Sinopec and ConocoPhillips who are working on projects based at Seafield House visited the event. Delegates at the event ranged from newly recruited graduates to experienced heads of department. Feedback from those at Amec was excellent:

Graham Clarke, Supply Chain Manager commented:

*'The exhibition was well received within AMEC and we had a very good turnout on the day. It is important to us to keep staff up-to-date on the latest technological and mechanical innovations. BVAA managed the event very professionally, we are very thankful to Rob and his team.'*

The BVAA members that attended had a chance to make new contacts at Amec and reaffirm existing relationships; all ten companies were pleased with how the day went. BVAA are continuing to pursue similar events at major companies within the UK.

# BVAA Scottish Golf Day a Huge Success



Records were shattered at BVAA's annual Scottish Customer Golf Day at Westhill Golf Course in Aberdeen in September. The competition, as with previous BVAA Golf events, was played in teams of four, with two scoring through standard stableford points.

## The Story of the Day

As members and the customers they were entertaining gathered on a very damp looking Aberdeen lunchtime, few could have predicted the quality of that would be on show that afternoon. As the 'Eager Beavers' enjoyed a light lunch of soup and sandwiches, the morning's rain eased and if the sun didn't quite manage to shine, the golfers certainly did! Indeed the score managed by the team who came in last at Westhill would have been enough for a podium finish at Celtic Manor at BVAA's Spring Conference Golf Day in May.

The winners of the event, with 92 points, were HSP's team, with a little help from Abacus' Liam Ogden. They held off a strong challenge from 2nd placed Heap & Partners to win by one point. Hobbs Valve completed the top three with an impressive 89 points.



Second place

voucher as the nearest the pin prize. The prizes were generously provided by our sponsors, Abacus Valves and Hobbs Valve – our heartfelt thanks to them.



Winners

The HSP team was made up of: David Smith (captain), Jamie May, Chris Tait and Liam Ogden; they each won an American golf voucher. Chris Tait capped a remarkable day for HSP by taking the longest drive prize (American Golf voucher) not bad for 25 handicapper who has 'never won anything' in his golf career, while Andrew Chan who was playing for Emerson Process Management won an American golf



## Jamie May

### Hole-in-one Factfile

Team: HSP

Handicap: 15

Hole: 2

Distance: 188 yards

Team's final position: Champions (by one point)

There was a great atmosphere among all who attended on the day and the feedback we received from members and their customers was that it was a successful day. We are already looking forward to the next one.

**The Story of the ‘Hole-in-One’**

This was the first hole-in-one in the history of the BVAA Beavers Golf Society!

The feat was achieved by Jamie May, who was playing for HSP on the day. It was also a first hole-in-one for Jamie, who is a 15 handicapper. Jamie was delighted with his achievement, as were all the competitors at the event. Word of the rare feat spread round the course like wild-fire and BVAA Director, and photographer for the day, Rob Bartlett was soon shooting off on his buggy to get a photo of the man of the moment!

Jamie’s hole-in-one was achieved on the second hole at Westhill golf course known as ‘Clinterty’; it is an 188 yard par 3.



Third place

## BVAA Scottish Golf Day Final Rankings

1	HSP	92 points
2	Heap & Partners	91 points
3	Hobbs Valve	89 points
4=	Econosto	85 points
4=	Emerson	85 points
4=	Koso Kent Introl	85 points
5	BEL Valves	78 points
6	Maher	76 points

As stated above, Jamie’s team, HSP, one the event by just one stableford point. As Jamie celebrated with his team mates on the second green, little did he know he had not only made BVAA history but also played a competition-winning shot!

Our grateful thanks to the Scottish Golf Day sponsors:



## BVAA’s Latest New Members

**BVAA Membership continues to grow at a very impressive rate. Here are just a few of our latest recruits...**



Paul Gillyon of PPE



Adam Chapman of Allvalves Online



Goodwin International has returned to membership

# SPE Offshore Europe 2013

## UK's biggest Oil & Gas Event as Successful as ever Large Valve & Actuator Delegation

SPE Offshore Europe 2013 in Aberdeen has celebrated its 40th birthday by staging its biggest and best conference and exhibition to date. This year's theme was "The Next 50 Years", representing the continuing success story of the industry in terms of future production and the strong supply chain, which was confirmed by the scale and magnitude of this year's event.

The show also provided a moment for reflection when many of the presenters and speakers, including the Princess Royal, paid tribute to the four people who tragically lost their lives in the recent helicopter crash off Shetland.

More than 63,000 people attended the four-day show, from 3-6 September inclusive, an increase of over 25% on the 2011 event. A record-breaking 1500 plus organisations were exhibiting in the six exhibition halls which this year covered an expanded floor space of 27,217 square metres – the equivalent of eight football pitches. Twenty-two operating companies took stands this year, the largest representation of operators ever to take part, and 262 companies were exhibiting for the first time.

Among the exhibitors was a very strong Valve and Actuator presence. 33 BVAA members exhibited at the show. The BVAA's own stand was in hall 2 and as ever, was very well attended. The BVAA team estimate that they engaged with over 200 individuals from 68 members companies who were visiting the show. As always the week provided some fantastic networking opportunities; a number of BVAA members reported making good contacts and receiving orders.

Vasyl Zhygalo, Senior Exhibition Director, Reed Exhibitions, said the 40th anniversary of the event had been a fantastic success. *'Our conference and exhibition have been successful in equal measure.'*



# Offshore Europe 2013 in Numbers

4 Days

6 Exhibition Halls

22 OEM Exhibitors

33 BVAA Member Exhibitors

1,500+ Exhibitor Organisations

27,215 square meters of floor space

63,000+ Delegates

*There has been an outstanding line up of top industry speakers from global operators and service companies and from government with standing room only at many of the key addresses and presentations. We've also been overwhelmed at the response from exhibitors many of whom have been queuing to sign up for 2015.*

*'The show has reinforced Aberdeen's position as a centre for oil and gas expertise which is exported globally and we have welcomed delegates and visitors from around the world. We could not have achieved this without the superb support from the many people and organisations who make us so welcome.'*

BVAA Marketing and Communications Manager, Jimmy Phillips, echoed Mr Zhygalo's sentiment:

*'The event was a huge success for the British Valve and Actuation Industry as represented by the 60+ member companies we have helped to support this year. There aren't many places we can engage with that number of members at the same time as making and renewing contacts with major operators.'*

*'Aberdeen is increasingly becoming an important hub for BVAA business, our members have given the area a firm thumbs up and we intend to be spending a lot more time in the area over the coming months and years'*

The next event will take place September 8-11 2015 in Aberdeen. BVAA has already secured stand space for the event.



# BVAA's Mad Hatters

**'How far can you go wearing a BVAA Hat?'**

## Competition

BVAA Marketing and Communications Manager Jimmy Phillips is demonstrating his head for heights in this picture, but where is he? If you are the first to identify the body of water behind Jimmy, Valve User Magazine will donate £50 to the charity of your choice. Send your answers in to [rob@bvaa.org.uk](mailto:rob@bvaa.org.uk) for your chance to win.

## Charity Hatters

Planning a sponsored event or charity challenge? Send us a picture of you at the event in your BVAA hat and we will donate £50 to your cause. Hats available on request – and registered charities only please. Below, members and friends of BVAA show it pays to keep your BVAA hat handy!



*Harriet Parsons, 26 mile walk for breast cancer charity*



*Andy Brockbank, 28 mile walk for a Children's Hospital*



*Mark & Chris from CMR 10k run for the Muscular Dystrophy Campaign*

## Last Issue's Competition

None of our readers were able to identify Rufus Hound in our last issue as he posed with Valvestock's Marcus Simpson. We did say he was hard to recognise without the trademark handlebar moustache. Here's the picture again – can you see it now?



Spool Kit



Hand Wheel



Chain Wheel



Mounting Kit



Spring Return Handle



Pedestal Extension



Locking Device



Switch Box



Manual Extension



Stainless Steel Quarter-turn Gearbox



Quarter-turn Gearbox



Multi-turn Gearbox



Declutch Gearbox



Stainless Steel Declutch Gearbox



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# Chrome - Don't write the Obituary too soon

It is becoming increasingly fashionable, almost politically correct, to be seen to be calling time on a material that has served us well in the past, continues to serve us in the present and will go on into the future for many years until that, as yet unknown, alternative becomes available. I refer, of course, to Chromium metal. At this stage I have to say, to paraphrase the old adage, "Rumours of [its] death have been greatly exaggerated".

Chrome has numerous well known properties which have been practically proven over many years – these include wear & abrasion resistance, corrosion resistance and significantly improved lubricity over an uncoated material. I would even say that our own brand of Chrome, Armoloy NTDC can offer substantial benefits over ordinary chrome but that is another area for discussion.

As is common knowledge, hexavalent Chrome is among the list of products included in the SVHC list produced by ECHA, the European Chemicals Agency. The SVHC list comprises of chemicals or Substances of Very High Concern. Whether or not you agree that hexavalent Chrome should be on that list is an argument that is currently the subject of certain legal processes across Europe. Nevertheless, it has to be recognised that hexavalent Chrome is currently on the list.

**However, and this is where much of the misrepresentation is rooted, REACH does not seek to ban hexavalent Chrome; it just seeks to regulate it as long as it continues to be the best available option because no other equivalent has been readily identified.**

Is it so unreasonable to want to restrict the use of any chemical that can be readily substituted by another, less harmful variety? Is this not a crucial part of the 'Duty of Care' that we all sign up to in the Health & Safety at Work act? All of this falls under standard procedures under COSSH and Risk Reduction analyses. Surely, it is in the interest of all of us to want to minimise the presence of hazardous chemicals, not only in the workplace but as a general principal of safeguarding the environment? Is it wrong to want to see regulations that offer a long term safeguard for all of us?

At Aromloy we readily accept that hexavalent Chrome is not a pleasant substance and that the term toxic suits it very well. We also accept the proposal that it be eliminated, where possible, from coatings that were deposited in the hexavalent state, i.e. certain Chromate passivation finishes were a crucial move in improving the contact environment, certainly in the automotive industry. I can also follow the logic that says, where trivalent Chrome has apparently proved to be an effective alternative as in the decorative chrome industry, then, if



*Hexavalent Chrome – still extensively and effectively used in industry today*

this is shown to be correct, the less injurious form should be substituted at the earliest opportunity.

But, and here is the big but, what if an effective alternative is not available? Engineering Chrome, Hard Chrome or our own Armoloy Nodular Thin Dense Chrome cannot be deposited from trivalent Chrome. Certainly in our case and, to the best of our knowledge in the other examples of engineering Chrome, the chemical process is inextricably bound with the hexavalent form of Chromium. We would also add that, if properly processed, the final Chrome coating is virtually chemically inert and can be certified as safe for use on Food, Pharmaceutical and Medical equipment. Again, referring back to our own product, Armoloy NTDC - this has been adequately tested for toxicology and biocompatibility and also approved for use in high radiation nuclear environments. Certainly, there is NO REACH liability for Downstream users.

*'We are not aware of any other process that has... the overall versatility of Chromium'*

You may ask 'is there no equivalent of this material or even an acceptable alternative'? Well, our answer is ...not entirely. Scientists, both civilian and military, have been searching and testing for years and it is claimed that alternative processes are known and are available.

We think not. These potential alternatives have included thermal spray plasma coating, alternative chemical processes (note that both Nickel and Cobalt salts are on the REACH agenda), explosive bonding and vacuum chamber processes.

We are not aware of any other process that has both the overall versatility of Chromium and combines its simultaneous advantages of hardness, corrosion resistance and lubricity in a single coating. Certainly, a number of alternatives claim to be as effective as Chromium and, in certain areas, there is no doubt that they can be employed advantageously and, in niche applications, may well be superior.

However, have you ever seen a vacuum chamber three metres, four metres or even five metres long? Do you consider 480 – 500 degrees Centigrade as a low temperature process? Will your alternative process keep your components well below the boiling point of water during coating but function in service from – 200 Centigrade to + 700 Centigrade? Can the process be applied to finished tolerances of +/- 1 micron in Critical areas thus avoiding costly re-machining after coating?

Ultimately, the customer will decide on the viability of the alternative processes and, here at Armoloy UK, we have ultimate confidence in the package that we can offer.

As far as future restrictions go, we have no problems with a tightening of controls. We have all seen the pollution and habitat wastage that result from unregulated processes. We welcome a level playing field for all processors where the same standards of

pollution control and working conditions are applied to all. As a Gold Subscriber member of REACHREADY, we are continually familiarising ourselves with the legislative deadlines and relevant hurdles that we are required to clear.

Our Process and Quality control systems are fully accredited to ISO9001, AS9100 and NADCAP. Our current aerospace projects include the Airbus A380 airliner, the Airbus Military A400M airlifter, the Boeing 787 airliner and the F35 joint strike fighter which are all scheduled to run well past 2030.

There is no doubt that beyond 2018, under the current proposed legislation and full implementation of REACH, the Chrome plating industry will be irrevocably changed. It is possible that some companies will remove Chrome from the range of treatments they offer. The new regulations will certainly require a significant investment for those who are inextricably tied to the industry but in no way does that mean that the product will disappear.

Yes - there is a continuing significant future for engineering Chrome and we at Armoloy(UK) intend to be an important part of it.

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# ABB underlines safety credentials with new oil and gas accreditation

ABB's Measurement Products business has achieved ISO 29001 accreditation for its Workington factory, underlining its commitment to meeting the stringent quality requirements of the oil and gas industry.

Introduced in 2010, ISO 29001 provides a single quality document for the approval of the quality systems of organisations providing design, development, production, installation or service for use in petroleum, petrochemical and natural gas industry applications.

ABB's Measurement Products Workington site is one of the first companies to achieve ISO 29001 accreditation. Already ABB's Centre of Excellence for measurement in the oil and gas industry, the Workington site specialises in the design and manufacture of flow, temperature and level instrumentation for use in the oil and gas industry, as well as other industries.

Oil and gas is an extremely demanding market, with safety, accuracy and reliability at the top



ABB's Measurement Products Workington site is one of the first companies to achieve ISO 29001 accreditation.

*'Oil and gas is an extremely demanding market, with safety, accuracy and reliability at the top of its agenda...'*

The ISO 29001 standard is targeted at manufacturers of oil and gas industry equipment and material and aims to create a continuously-improving quality management system that emphasises defect prevention and the reduction of product variation and waste. The specific requirements in the standard were developed between the International Standards Organisation (ISO), the American Petroleum Institute (API) and the oil and gas industry in general, to provide consistency and improved quality assurance in goods and services.

ABB Measurement Products supplies a comprehensive range of measurement solutions for use throughout all stages of oil and gas production and processing, including topside instrumentation, subsea wellhead flowmeters and solutions for refineries and chemical plants.

of its agenda for instrumentation. Workington's unsurpassed capability enables ABB to meet all these needs.

*"Our focus on the oil and gas industry, together with our determination to strive for the highest standards in the design and manufacture of instrumentation, were key factors in our decision to achieve ISO 29001 accreditation,"* explains Ananad Puthran, Workington site operations manager. *"This new certification clearly underlines ABB's position as a world leader in the supply of Flow, Temperature and Level equipment to the Oil and Gas industry, and its commitment to safety and the environment. Achieving the standard demonstrates that our oil and gas customers can have absolute confidence in our products."*



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The advertisement features several images of different types of valves, including safety relief valves and pressure reducing valves, in various sizes and colors (blue, green, brown).

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# The economical alternative to Pneumatically Actuated Ball Valves

Flow Control Experts Zoedale has reported a sharp increase in demand for their range of Co Axial VIP Valves for use in UK based Process Manufacturers. The VIP valve from quality Italian Manufacturer Omal is an alternative to a pneumatically actuated brass ball valve and can save up to 60% space and use 80% less air than the traditional alternative. Zoedale's customers are also reporting lower maintenance costs and longer life spans making it an economical choice.



The VIP valve is an alternative to a pneumatically actuated brass ball valve

## Features and Benefits of VIP Co-Axial Valves

There are many benefits to the VIP Co-Axial Valve some of which are:

- The Pneumatic actuator is integrated within the valve.
- Long Lifetime Guaranteed, the VIP's Lifetime is up to 10 times longer with Reduced Maintenance costs.
- Less Air consumption, up to 80% compared with single return pneumatic actuated ball valve.
- ATEX Approved, the valve can be installed in potentially explosive environments.

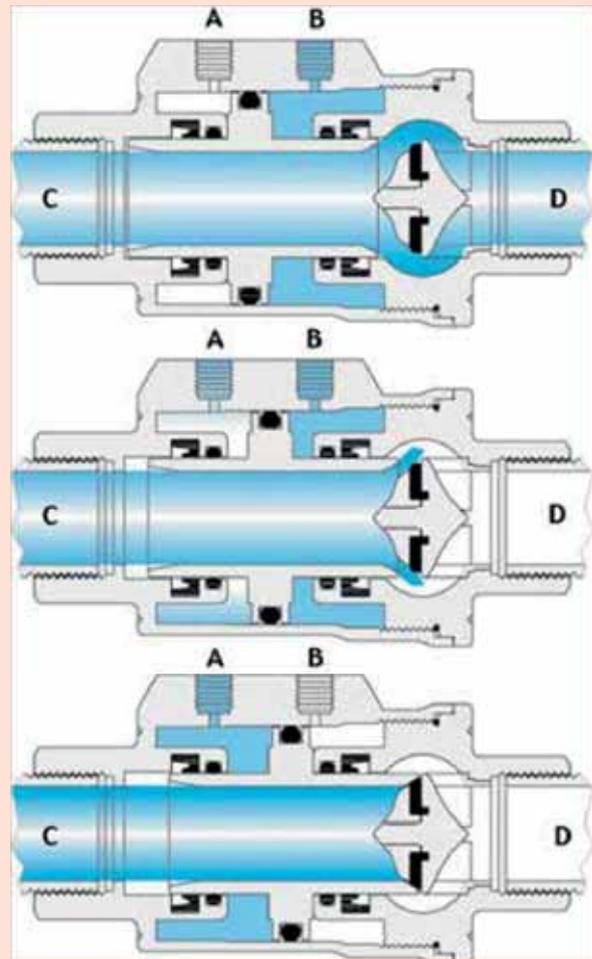
## Specifications

The valve is available as normally closed, normally open and double acting configurations, in sizes from 3/8" to 2" and is suitable for media pressures up to 10 Bar and vacuum at 740 mm Hg. The Valve has BSP threaded ends as per UNI/ISO Rp—DIN2999, Various seal materials available, (NBR, Viton, EPDM) Available with feedback reed switch on request. VIP valves can be mounted in any position. They have improved fluid dynamics which allows minimum pressure losses. They can be supplied with seals in NBR, FKM or EPDM.

*"The VIP's Lifetime is up to 10 times longer with Reduced Maintenance costs."*

## What Are Co-Axial Valves?

- They are a compact alternative to a pneumatic actuator and valve.
- Both Double Acting and Spring Return (normally open and normally closed) valves are available in sizes ranging from 3/8" to 2".



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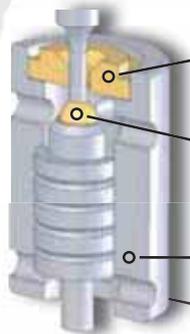
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- Ceramic seat fits perfectly, increasing control
- Ceramic Shuttle Ball tip wears evenly, reducing downtime
- Design eliminates unstable frequency resonance



**Come and see Pressure Tech's range of products at ONS 2012 Hall B Stand 214**

# Company Profile: YPS Valves



All valves are manufactured in accordance with ISO 9001

**YPS Valves Ltd is one of Europe's leading designers, manufacturers, modifiers and stockists of stainless steel and nickel alloy gate, globe and check valves for hydrocarbon processing, chemical, nuclear and off shore industries worldwide.**

We provide individual or large quantity production and can tailor a valve supply package to suit your service applications, budget and programme. All materials for our own manufactured product are sourced through approved suppliers in the UK, Europe and USA who we assess to ensure they meet the quality of ISO 9001.

Our extensive range includes our own brand valve, Langley. Having all necessary and accredited manufacturing, modification and testing capabilities means we can design, manufacture or modify this to suit your exacting applications and specifications, ranging from high alloy valves with specialist features for critical service or manufactured to industry standard valve requirements.

We also offer a 'managed' pre-design and post supply technical assistance throughout the procurement, manufacture and installation process.

Stock holding includes a complete range of internationally accepted valve brands such as Calobri, OMB, Velan and Neway, in addition to the Langley valve.

These are suitable for our 'fast track' design and modification service which enables conversion to cryogenic, bellows seal and high temperature emission certificate product.

Rachel Wormald, YPS Managing Director said: *'As a solution driven business we are committed through the manufacture of the Langley valve to provide the end user with a product which meets specific service applications.'*

*'Since the business was launched over 35 years ago, we have carried out constant product development to ensure our valves achieve optimum efficiency and customer satisfaction.'*

*'Our attitude to valve supply enables us to quote global giants including Shell, Esso/Exxon, BP, Sasol, Sinopec and Chevron among our clients.'*

## Langley Valve Product Range

The Langley Valve stainless steel product range includes:

- Wedge Gate valves
- Wedge in wedge (catalyst) Gate valves, for high temperature service

- Globe and Y type Globe valves
- Check valves including wafer check
- Two piece swing Check valves for corrosive service applications
- Bellows sealed valves
- Wrought Gate, Globe and Check valves
- Elevated temperature and cryogenic service valves
- ASME B16.34/API 603, API 600/ISO 10434, API 602/ISO 15761, BS 1868 and BS 1873 and API594 designs

All valves are manufactured in accordance with ISO 9001: 2008 (design, manufacturing and testing) and to PED Category 3, Module H. and in accordance with PED 97/23/EC.

## Specialist Testing

YPS Valves has a specialist in-house testing facility which was acquired from Leeds University and enables us to continually assess the performance of our product range.

In addition to routine hydrostatic and gas pressure tests, we are able to perform cryogenic tests to BS6364 and emission testing to ISO 15848 and also customers' own specifications and requirements.

The YPS Valves testing service is a niche service which is available to external valve manufacturers.

As many of our products are for use under extreme conditions, we offer a sophisticated range of in-house testing to suit most end user requirements including:

- Low temperature testing down to -196°C
- Elevated temperature testing up to 700°C
- Emission leak detection 77/312 and ISO 15848 utilising Helium Mass Spectrometers
- Vacuum testing 77/308
- Dye penetrant examination for detecting surface defects in casting, forging and welding
- Ferrite testing
- Positive material identification
- Prototype testing
- API598 hydrostatic and BS EN 12266 levels 1 & 2
- Hydrostatic testing to 700 bar (10,000 psi)



Rachel Wormald with Adrian Ducker, Chairman



YPS's specialist testing panel

Rachel said: 'Emissions performance testing is a key area of growth for our business as a result of rising pressure from Governments and 'green thinking' societies for businesses to operate as environmentally friendly as possible.

'Testing is offered in accordance with ISO 15848 and is carried out at cyclic temperatures and pressures that cover the valves' full range of service conditions, whilst mechanically operating. This enables us to accurately qualify the performance of packings and gaskets in their actual environment prior to dispatch to ensure we provide clients with high performance, high integrity valves, that last.'

## Growth And Development

As part of an on-going programme of investment in equipment and systems YPS has invested £250,000 in new CNC machinery, with a similar amount committed for 2014.

The new machinery and tooling, specifically adapted for valve production, has significantly improved production efficiency and is one of four CNC machines which form part of the valve manufacturing process at YPS.

## New Polish Office

YPS has opened a Polish office to improve its service and product supply to both existing and new customers in the key Eastern Europe market.

The Polish office is based in Luklow in the east of the country and is managed by Arter Gowronski and headed by Ian Bass, YPS Polska Sales Director, who reports to the Group board in Leeds.

YPS also has an office in Nanjing, China, from where it services Asia and the Far East.

**YPS Valves Ltd**  
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# The drain gang conquer Kilimanjaro in huge fundraising effort



Pictured (from left): Simon Bennett, Phil Green and John Wilson, with Darren Wood of Ham Baker

**Two employees from Saint-Gobain PAM UK and one from Saint-Gobain Weber, both part of international materials company Saint-Gobain, have successfully negotiated the climb of Mount Kilimanjaro in Tanzania, raising more than £17,000 for four different charities.**

Battling through altitude sickness, extreme temperatures and fatigue, John Wilson, Phil Green (Saint-Gobain PAM UK) and Simon Bennett (Saint-Gobain Weber), collectively known as 'The Drain Gang', reached the Uhuru summit as part of the gruelling seven day trek through the Tanzanian rainforest and mountain foothills. The summit, 19,341ft above sea level, marks Kilimanjaro as the tallest free standing mountain in the world.

John, Phil and Simon took on the Lemosho route, approaching the mountain from the west. At more than 70km in distance, the route provides excellent opportunity for climbers to acclimatise to the altitude. As a result, it has a high success rate of climbers reaching the summit.

The team successfully raised £17,841.88 for four charities: WaterAid, which transforms lives by improving access to safe water; Breast Cancer Care, which supports anyone affected by breast cancer; MacMillan Cancer Support, providing practical, medical and financial support for those battling cancer; and

Help for Heroes, a charity to help those who have been wounded in Britain's current conflicts.

Phil Green said: 'We went through an intense training regime to prepare for the extreme change in altitude. Despite the number of hours of training we put in, it's difficult to be 100 per cent ready for the climb. Nothing can prepare you for the sheer challenge of the climb.'

John Wilson added: 'It was our mental determination, as much as our physical fitness that spurred us on. We had come so far, even when it became difficult we couldn't give up. We worked as a team and encouraged each other when the going got tough.'

Saint-Gobain PAM UK would like to congratulate John, Phil and Simon for their incredible achievement and their excellent fundraising effort.



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# Significant Isolation & ESDV Business for CVS

Since Control Valve Solutions Limited (CVS) was established in 2009 the Technical Team has serviced and repaired a range of valves requiring a high degree of specialist technical skills. As the name implies, Control Valves were initially the main focus but over the last few years the team has established itself as a specialist in the repair and supply of Isolation Valves and Emergency Shutdown Valve (ESDV) packages. In the last 12 months there has been a four-fold increase in the number of Isolation Valves and double the number of ESDVs being booked into the Portlethen workshop.

CVS' significant growth as a specialist in the repair and supply of Isolation & ESDV's has been no coincidence. Some three years ago the CVS management team made a decision to up sell its services to its existing clients after investing in new staff and equipment. Now as CVS enters a new phase in its development, with a strategic plan up to 2018, the range of valves that the CVS Team can repair and service in the workshop will be expanding even further.

As with all valves the CVS Team customise each valve package to suit the needs of the platform operators using in-house engineering skills to deliver the right package that is correctly tested and documented. The Valve Engineers at CVS, with over 85 years of experience between them have the latest technology to pressure test valves to API standards up to 15000psi. This team is capable of handling Isolation Valves of any size and rating below 10 ton.

*'...exceptional attention to detail...'*

When supplying a new actuated valve package, once a suitable valve has been identified, the process then requires the customisation of the instrumentation including actuator sizing, control panel design and piping according to the end user or platform specification. Schematics and General arrangement drawings are then produced and supplied to the customer along with their documentation pack. The CVS team is proud of its exceptional attention to detail when it comes to the QA of all the parts received. This gives customers the guarantee that the specification has been understood and each valve package is delivered by qualified valve and instrument engineers, tested to the required specification and certified using NAMAS approved calibrated instruments with UCAS traceability. Testing the completed valve package concludes a comprehensive 24-point QA process.

CVS believe it is different because the technical team take a keen interest in valve failures and the root-cause analysis. Technology is completely embraced where knowledge is positively encouraged and shared with



*Isolation Valve – 18" 1500lb SDV for Overhaul & Test*

clients. CVS's experience with partial stroke devices is a good example of where the client can better understand their ESDVs.

CVS's ability to turnaround valves depends upon what has been specified but the average repair time for an isolation valve is between 2 to 4 weeks and 6 to 12 weeks for supply. However, CVS recently had an obsolete actuator that was urgently required. The actuator cylinders were completely reverse engineered and the whole job was turned around in 14 hours. This in itself saved the platform operator around £14M in lost production.

By contrast ESDVs cannot be rushed although packages have been turned around in 3 to 4 days but the key for CVS is in providing a quality service and not the speed of service.

CVS has solved many ESDV issues by calling on the expertise of manufacturers and pulling together the company's internal technical staff. The CVS Team are able to simulate process conditions to verify the information being provided. The company's detailed technical approach when it comes to partial stroke testing and providing complete traceability of valves is reinforcing CVS's reputation for providing a comprehensive bespoke valve service all under one roof.



*Emergency Shutdown Valve (ESDV) – Full ESDV Package*



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# Modified Valves

## can you afford to take the risk?

The modification of standard valves to suit alternative and often very specific use is nothing new. More and more contractors and end users are turning to modified valves to provide an alternative solution to manufacturer lead-times when they need to find something quick to fill a gap. It may be tail end project items that have been missed, or urgent replacements for a forthcoming maintenance shut-down. It may even be something so specific that the major manufacturer cannot justify interrupting their day to day commodity production.

However, we wonder how many end users actually know the provenance of the modified valve they're buying, particularly when the valve has passed through many hands on its way along the supply chain.

In our experience, often things such as warranty, legislative compliance, and fitness for purpose are simply assumed by the end user when in fact they have become watered down through the supply chain to a point where responsibility becomes questionable.

An example of this came to us recently. The end user had been supplied with a small class 1500 stainless steel ball valve which somewhere along the supply route had been modified with the addition of a cryogenic bonnet. The user was reporting that cryogenic product was leaking from between the top of the valve body and the bottom of the bonnet extension. Having experienced difficulty going back down the original supply chain, the distributor turned to us for a solution. Once we had all the details of the valve in question a reason for the leakage experienced was fairly clear; the ISO5211 F04 mounting pad on the top of the valve body, whilst perfectly adequate to attach an actuator or switch box, did not provide a suitable means of attachment for the extended bonnet under pressure at 204 barg. Fortunately the consequence for the user had 'only' the cost of down time while a suitable replacement was installed. It could have been a whole lot worse.

When modifications are done correctly, the modified product can be considered equal to the manufacturer's original product in terms of quality and performance. This is assuming that due consideration of intended design and operating conditions, is taken by an organisation capable of accurate technical assessment of the implications the modification may have on the product's compliance with applicable standards and



*How many end users actually know the provenance of the modified valve they're buying?*

legislation. Additionally certified approval/authority to modify from the original manufacturer, and the means to ensure compliance is maintained following modification, should be considered.

It's worth noting that even the simplest modification, such as the practice of machining a screwed end valve to socket weld, may invalidate compliance with the Pressure Equipment Directive if it's not something that the original manufacturer has considered during their technical conformance process. CE marking for European Directives such as the PED not only provides an indication that the marked product can be considered safe to use within declared parameters, if marked correctly it also provides traceability back to the manufacturer. The manufacturer will be quick to relinquish responsibility for their product if it's no longer in its originally declared form. However, if the modification has been performed by an organisation with, for example, a valid Module H PED Certificate,

there ought to be evidence that the implications of the modification have been considered and adequately catered for by design.

*'modification of a standard valve for cryogenic duty... much more than welding a bit of tube around an extended stem'*

Material selection is an area of significant importance. Those familiar with the PED will be aware of the constraints placed on manufacturers to use approved materials for pressure bearing components. The same constraints are in place when modifying a valve. Whether by use of Particular Material Appraisal or harmonised material standards, the need to control and monitor original material manufacture is crucial to ensuring materials of a necessary quality are used. Material approval for category III & IV pressure equipment must be conducted by a PED Notified Body. When designing a valve, vessel or assembly based on a material standard's specified mechanical and chemical properties, adequate controls must be in place to ensure the material used does actually provide these properties. For example, austenitic stainless steels normally associated with low temperature such as ASTM A351 CF8M may only be permitted for use at -196°C if consideration has been given to the material's impact properties at this extreme temperature. As such, modification of a standard valve for cryogenic duty should involve much more than welding a bit of tube around an extended stem. Material selection is critical, and welding activities too must be controlled to ensure the mechanical and chemical properties of the weld are compatible with those of the parent metal.

Another example of a common modification is the joining of number of valves together to form a manifold assembly. The directive defines an assembly as *several pieces of pressure equipment assembled by a manufacturer to constitute an integrated and functional whole*. As such, a manifold may be required to comply with the PED, undergo technical conformity assessment in accordance with the relevant sections of the directive and be CE marked if appropriate.

In the current financial climate the need to save short term cost is prominent in the mind of most decision makers. Cost

shouldn't be allowed to compromise quality, but, as a number of large food retailers have discovered recently, the risk is there.

A PED compliant valve, where appropriate, will bear a CE mark and Notified Body identification, also a means of identifying the manufacturer or legal entity applying the CE mark and some means of traceability such as a serial or batch number. If modified by someone other than the manufacturer this could be negated. In the case of CE marked valves, modification in compliance with the PED will require the organisation doing the modification to take ownership of the product, apply their CE mark, identification mark and traceability. As such, where it's obvious that modification has taken place, the provenance of the modified product ought to be just as obvious to those further down the supply chain. Where the original manufacturer remains as the sole means of identification on obviously modified product, the purchaser should be querying the provenance with their supplier.

In conclusion, done the right way, there should be no greater risk associated with the use of modified valves as there is with original manufacturer's products.

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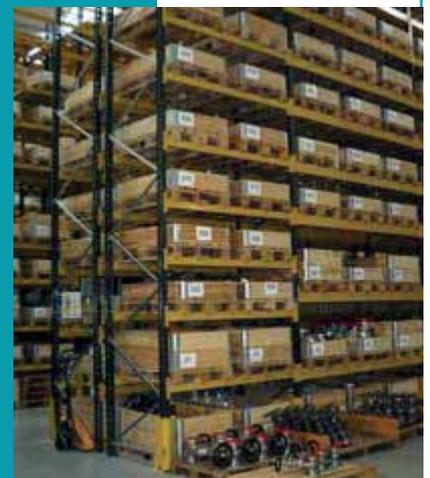
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# Strategic new appointment for Albion



Gary Murray,  
Sales Manager

Albion Valves, an increasingly popular UK valves supplier has appointed a new Sales Manager for Scotland and Northern Ireland. Gary Murray, brings twenty years industry experience to the role, having been recruited from a sales management role in commercial swimming pool design, service and maintenance.

Gary originally from Glasgow, is a fully qualified mechanical engineer by trade and his areas of expertise include: field sales, KPI management, business development, national accounts, business planning, P&L development and networking.

Gary's keen business acumen and ability to exceed targets, places him in good stead for his new role at Albion, where he is tasked with managing some of Albion's key accounts and maximizing sales and business growth for one of Albion's most significant commercial hubs.

Gary Commented:

*"I am delighted to be on board with Albion, they have an excellent reputation as a company who are easy and professional to deal with, and who willingly go the extra mile in providing first-rate customer service. I very much look forward to the challenges this new role brings."*

David Keys, Albion Managing Director added:

*"We are delighted to welcome Gary to the team. He joins us at a critical time in our growth, and brings a wealth of experience to the company. His appointment enables us to add value in the services we provide to our distributors, as well as opening up new business opportunities for us. We are confident he will be a valuable asset to the team."*

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# Advanced Valve Solutions' steam cooled attemporator

## Innovative Solution to Thermal Shock Problems in Power Generation

Advanced Valve Solutions, the specialist Valve and Engineering Solutions Provider have developed an innovative solution to the problem of Thermal Shocking experienced by valves during steam conditioning in power generators.

### Two shift operation power plants

Power stations that were originally designed for base load applications are now increasingly being asked to operate on a two shift, stop start regime, more commonly known as dual shifting. The multiple start/stops that these stations are now experiencing, has the potential to increase of operational issues due to the to the constantly changing process parameters.

For example dual shift stations will experience additional thermal stress in the headers, drums, high temperature piping, valves plus the auxiliary equipment leading to additional wear and tear of their systems and result in early failure of component parts. The consequences cannot be ignored, if the plant is not operated correctly or more importantly modified properly to handle these changes the lifetime of the components within the plant will decrease enormously.

The changing operational requirements of the plant, require the steam attemporators, de-superheater valves, drains, feed water control valves, main steam isolation valves and the turbine quick closing valves are reviewed. These critical pieces of equipment have to be specifically designed to take the new dual shifting process requirements into consideration, this done operational performance of the plant can be improved and wear and tear of systems and components can be controlled and significantly reduced.

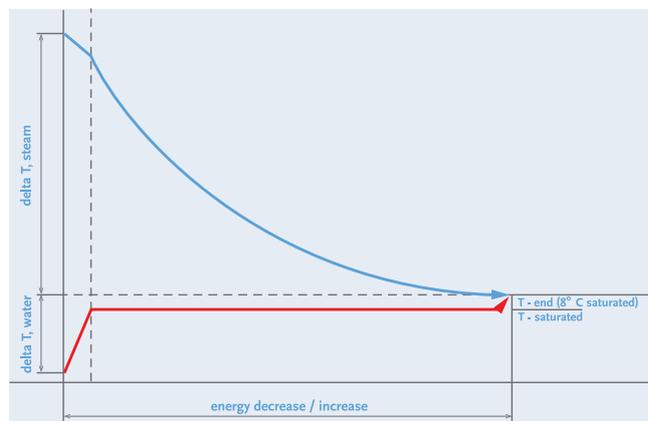
Consequently as these pieces of equipment have been specifically designed for the new operating conditions of the station they are no longer a limiting factor to the start up time of the plant.

The following paper highlights some of the more common issues found in duel shifting power stations with special regards to steam control.

### Steam cooling, the Theory

Steam cooling is the opposite process of super heating, and is in fact the controlled destruction of energy, however this function is crucial in steam boilers and other process installations.

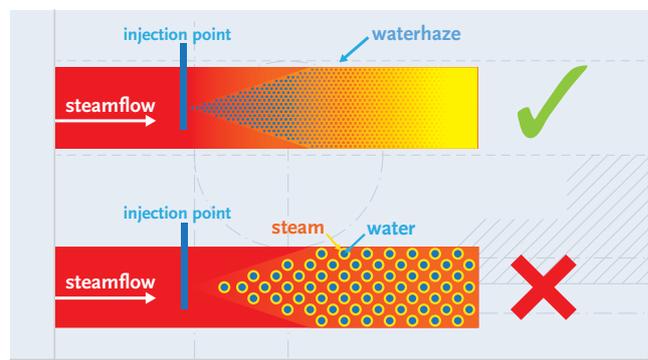
As the cooling water is brought into the superheated steam, which will immediately reach boiling point and will to evaporate into a fine mist. The energy needed to do so is taken from the steam around the water and the temperature of the steam is effectively reduced. The graph below details two lines, with the blue line indicating the steam temperature, while the red line represents the water temperature.



### 1. The droplet size of the injected water should be maintained, as small as possible.

If the water droplets, brought into the steam process line, are as small as possible, the combined droplets form an enormous heat exchanging surface. Therefore quick cooling will take place, whereby the potential for thermal shock is significantly reduced. Several solutions to create small droplets can be defined through correct atomisation control, and as highlighted.

Furthermore, the temperature of the cooling water should be as high as possible, as this helps in the evaporation process.



**2. The cooling water has to be injected into a turbulent steam flow, with a minimum velocity of 8 m/sec.**

The turbulence will assist the droplets in evaporating. It "agitates" the droplets and prevents them from staying in a straight flow line.

**3. The cooling water has to be injected throughout the whole flow, so all the steam can be cooled to the pre-set or desired temperature**

Care should be taken to avoid injecting only into the centre of the process medium, which could give the effect of a two phase flow. Unequal distribution of droplets by means of too narrower spray pattern could lead to a two phase flow condition known as stratification. This effect has been known to give some spurious temperature readings downstream of the device ultimately leading to poor temperature control. If you should have temperature problems please contact us.

**4. Sufficient superheated temperature**

Steam cooling cannot be done till approx. 8 deg C above saturation, due to the influence of the wall temperature.

*If the 4 points below are fulfilled good steam cooling can take place*

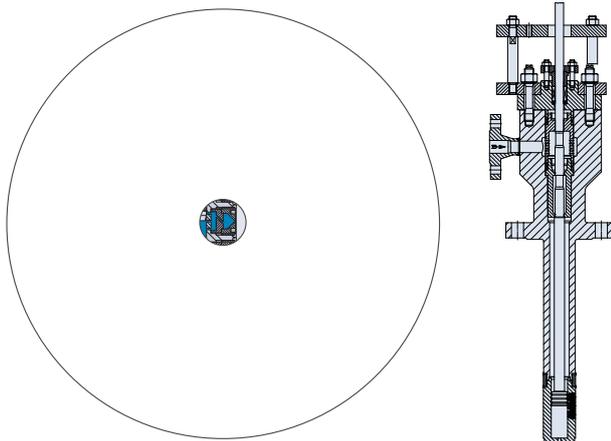
- **steamflow**
- **injection point**
- **waterhaze**
- **steam water**

*Untill now we discussed small droplets, representing a huge surface area which will assist to make evaporation as quickly possible.*

**How to create small droplets? This requires energy.**

**1. By means of a pressure drop**

If water is pushed through a fixed orifice, it's velocity will create small water droplets. A nozzle is a piece of equipment that optimizes the creation of fine droplets. Nozzles can be used as single injection points or can be brought together in a multi nozzle injection cooler. Venturi cooler with a single nozzle injection. The venturi increases the velocity and the turbulence. The cooling water flow is controlled by a separate control valve. A single point nozzle injection. The cooling water flow is controlled by a separate control valve.



**2. Steam atomizing using the velocity of critical expanding steam**

The velocity of critical expanding steam can be used to atomize cooling water. This method is good at creating fine droplets over the full rangeability. Steam is brought into the outer ring, feeding into a number of bores. Critical expansion will take place creating high velocity steam. From the inside of the core, cooling water is injected through small bores into the high velocity steam. The water flow is controlled by a separate control valve. The cooling water is atomized and will cool the steam down stream the cooler.

**From Base load operation to start up**

Installations, running on base load do have a fairly constant set of process conditions. The implication is that the coolers are also running on a similar constant load condition. A basic old style cooler designed for these applications will work. Old style coolers are based on a perforated tube with a simple array of small holes. As long as the pressure drop is high enough and there is enough turbulence from the steam flow the cooler can work satisfactory. However if an installation is starting and stopping every day the cooling requirements are far more onerous. For a start the required valve rangeability is very high. Starting from an absolute minimum up to the maximum process conditions, through all these conditions the cooling water has to be sprayed properly. The requirements can be fulfilled by different types of coolers. The steam assisted atomizing units are performing well in these circumstances. However single nozzle coolers are limited in their rangeability in these instances. A cooler with a number of nozzles will give a correct result. For this design a piston with piston rings is opening the nozzles one by one. At a minimum flow only one small nozzle can atomize really small mass flows, at maximum capacity all nozzles, up to 24 pieces can spray an impressive amount of cooling water. In all cases the water droplet size remains at its optimal size.

**Multi nozzle coolers**

The multi nozzle cooler is based on the use of a set of nozzles, to be opened one by one. When pushing down the plug will open the different nozzles. A continuous and fine cooling spray, based on the correct pressure drop is the result.

**There are more design features to be recognized in this design:**

First of all, the valve body, located in the mass flow will create bending forces. HORA is building the body of the valve in one piece, forged in several material qualities, such as F1, F11, F22 and P91.

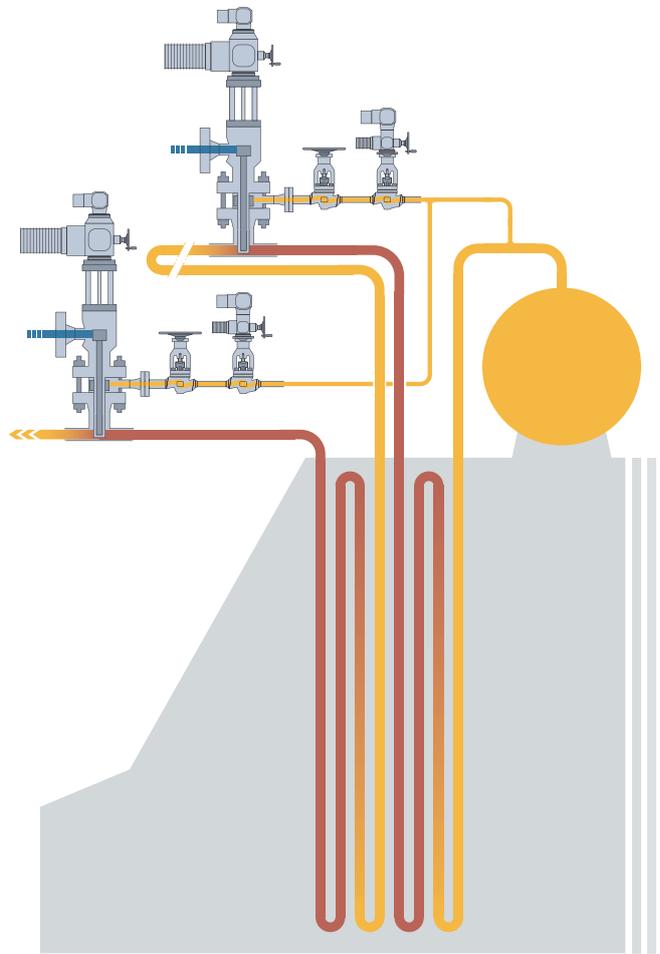
The second advantage is formed by the location of the seat: outside the hot part of the cooler, the seat will seal the injection water.

In case the cooling water pressure is very high it is possible to install additional pressure reducing stages. This feature always maintains an optimum pressure drop over the nozzle. A number of these coolers have been fitted to a coal fired power station in The

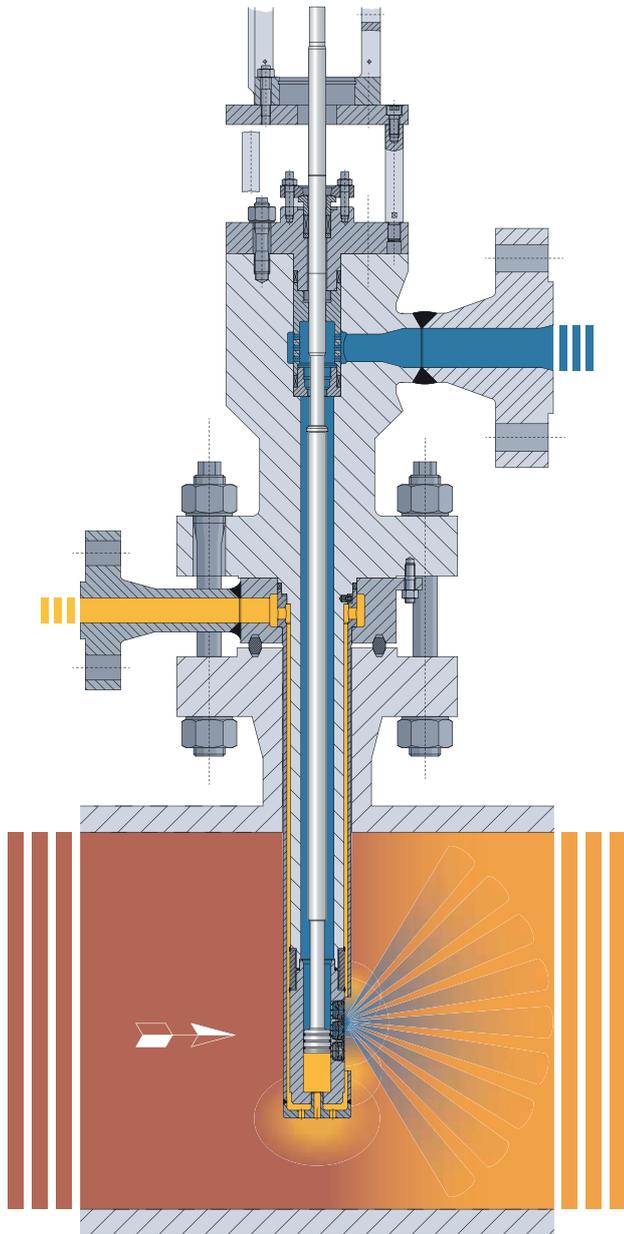
Netherlands, The coolers, fed from the main feed water pump at 220 barg are cooling the hot reheat at 50 barg. The 170 bar pressure drop is handled by three control stages and the nozzle head. The coolers are performing very well.

**The cooled cooler**

There are applications for steam coolers in very complex situations. If a cooler is not working continuously and only has to function occasionally. This can occur for example during start up and shut down or in case of an emergency to protect the main steam lines. In this instance the nozzle section will become very hot. The moment the cooler is required to start, thermal



HRSG schematic with the installed coolers, cooling steam and preheated injection water.



HORA standard cooler with two additional stages, single forged body and multi nozzle head.

shock will occur and the cooler will be permanently damaged.

With the development of the “cooled cooler” these applications can be easily solved. Based on a “reversed heating jacket” or “cooling jacket”. Saturated steam, extracted before the super heaters is used to keep the cooler at a more acceptable temperature. The cooling steam, is later mixed with the superheated steam on leaving the cooling jacket.

**The cooled cooler:**

**Number of possible cycles. > 100,000**

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# KOSO

# Sun Yeh appoint Allvalves as their official distributor

Allvalves Online have been awarded the official distribution agreement to represent Sun Yeh in the UK, Ireland and Germany. The agreement will see stock held in Pershore, UK and also in Alfeld, Germany, from January 2014. Allvalves Online and Allvalves Germany will offer loose actuators and actuated valve assemblies.

Sun Yeh is a Taiwanese based manufacturer of quarter and multi turn electric actuators. Manufacturing since 1986, They have built a global business by understanding their customer's demands in detail, and developing quarter-turn, spring return and linear valve actuators that meet their customers' needs. Sun Yeh offer a range of quality products which are used extensively in multiple industries including all forms of water treatment, HVAC, marine, chemicals, pharmaceuticals, food production, general industry and many others.

Products of superior quality require sophisticated manufacturing and control systems using advanced inspection instruments and state-



The agreement was made between the UK, German and Taiwanese Partners at a meeting in Pershore during October

of-the-art facilities to ensure that every step in the production process is accurate and confirmed. In order to provide high quality products to customers, products are 100% inspected before shipping.

Sun Yeh actuators carry CE and CSA approvals. The company also has ISO 9001, ISO 14001, OHSAS 18001, REACH, and RoHS certificates. They hold patents in Taiwan, USA, Japan and China.

Allvalves Online have spent the last 8 months working behind the scenes with Sun Yeh. Following a meeting with Sun Yeh and Allvalves' new German partners at the company offices in Pershore during October this year, the prestigious agreement was made.

The product range includes the well-known and globally respected OM series covering a torque range from 10Nm to over 1000Nm, voltages from 12V to 220V, and functionality that includes on/off, modulating and failsafe. Optional extras including speed control, fieldbus communications and a number of approvals that separates Sun Yeh from some its competitors.

Adam Chapman explains the importance of the agreement;

*'We are delighted to have been granted official distributor status with Sun Yeh. This was an idea that started earlier this year and has ended with us coming to an arrangement with a quality, globally recognised electric actuator manufacturer that will enable us to compete in current and new markets. Sun Yeh actuator's wide range of torque outputs and impressive options enable us to compete at a new level and work with a new set of customers.'*

*The deal also recognises our long term development plans and confirms their confidence in us as a good, reputable company building a new brand, Allvalves Online, not only here in the UK, but with sensible and achievable plans to take the brand into Europe in 2014 - and eventually globally.'*

For full information regarding the breaking news of this agreement and of course, pricing, technical datasheets and full product range, visit [www.allvalves.co.uk](http://www.allvalves.co.uk).

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# The Need for Speed

Pneumatic actuators are frequently being asked to deliver reduced stroking times; whether for Emergency Shut Down (ESD) valve applications or on control valves that need instant response to transient process conditions. As valves increase in size, the air consumption for the corresponding actuator is a defining factor in selecting the control instrumentation that has to deliver the speed of operation demanded.

This need for faster stroking times has led to a variety of different methods of providing the necessary airflow using multiple filter regulators, volume boosters, quick exhaust valves, high flow spool valves and other components in the control circuit. This duplication of components leads to increased control circuit piping length and number of connections which in addition to the cost of materials and extended build time, introduces inefficiencies due to pipe routing limitations, number of bends and more potential leak paths.

*'maximise flow performance'*

By designing the pipe routing to maximise flow performance using larger bore tube and shorter pipe runs it maximises the advantages of incorporating filter regulators and volume boosters sized to produce the flows demanded and remove the issues of air starvation.

The Italian manufactured Sitecna® FR16 1" NPT filter regulator now available in the UK from Red Dragon Valves is ideal for these high flow applications and in addition to the robust 316L stainless steel construction with traceability to EN10204 3.1, the FR16 carries ATEX II 2GD and GOST certification as standard. It has a class leading Cv of 11.5 with filter elements of 5 or 25micron and manual or automatic condensate drain options. There are also 4 different elastomer options for compatibility with a wide range of gaseous media and ambient temperatures down to -55°C. Available as relieving or non-relieving operation, the FR16 can be supplied with additional offshore paint finishes or manufactured in alloys such as Monel, Duplex or 6MO for particularly corrosive environments.

Sitecna® has over 30 years of experience in designing and manufacturing high performance pneumatic regulators and valves for the harshest environments and their



Sitecna® FR16 1" NPT filter regulator now available in the UK from Red Dragon Valves

products have been successfully installed on critical systems from Siberia to Australia. The complete range includes filter regulators, filters and regulators, volume boosters, lockup valves, spool valves, quick exhaust valves, flow regulators, back pressure regulators, pressure sensing relays and high flow silencers.



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# Alco's new R&D and Production Facility

Expanding international valve manufacturer with innovation at its heart



Alco staff outside Unit 1, the company's Brighouse HQ

**Yorkshire based valve manufacturer Alco Valves Group has opened a new facility in Brighouse, West Yorkshire. The 14,000sq ft new facility extends the company's headquarters' capacity to over 40,000 Sq ft. This is in addition to the group's manufacturing facility in Manchester, sales offices and warehouses in the USA, Canada and Singapore.**

Operations Manager James Stangroom says that while the company is a global brand, it is still a privately owned British Company:

*'Founded nearly 40 years ago and still with a family culture. We have fathers and sons, fathers and daughters working here. There is a fantastic team atmosphere.'*

Mr Stangroom believes that this positive atmosphere is conducive to Alco's emphasis on quality, which he believes sets the company apart from its competitors. Sales Manager James Hinchliffe agrees:

*'We produce a quality engineered product. As such, everyone needs to take responsibility for quality. That is what we continue to achieve.'*

The pair also believe that the significant investments made at Alco contribute to the positive working atmosphere and ultimately the success of the business. As well as the new facility next door to Alco's existing plant in Brighouse, Alco has invested

in a 10 tonne crane, hyperbaric testing facilities and 15 new members of staff in the last six months. The company also plan to employ a further 20 staff in the coming six months including roles such as valve fitters, OC operatives, valve design engineers as well as sales and administration roles. In addition to the expansion of the production facilities the Research and Development department (R&D) has also benefitted from moving into a larger area at the new site and increasing staff numbers whilst adding advanced technologies such as rapid 3D digital modeling, 3D laser object scanning and 3D rapid printing. These technologies are employed as a method of rapid



James Stangroom and James Hinchliffe outside Alco's new Unit 2 in Brighouse

prototyping of three dimensional valve parts from a computer generated image/drawing and then creating a physical component in plastic or metal materials within minutes or hours rather than conventional CNC machining of prototype parts, which can take days.

*'We are investing ahead of the demand curve.'* Says Mr Hinchliffe *'Our forward order book is in fantastic shape, and our teams are very busy therefore we wouldn't want there to be any barriers between winning the work our products deserve. These investments will mean we can operate at an increased capacity without sacrificing lead times.'*

Alco's new workshop will specialise in the production of large bore double block and bleed valves with diameters from 3" to 12". There are also two testing bays, offices for the design and sales teams as well as a document hub to manage the paperwork required to maintain the company's qualified status, quality standards and the approvals for end users such as Shell, Total, BP, Chevron and Aramco. Currently valves are being manufactured and tested to 10,000 psi. This will be increased to 15,000 and 20,000 psi in the coming months.

#### **'Top performing company'**

The company has been making high pressure valves and manifolds to the highest international standards for the offshore, petro-chemical, subsea, scientific and power generating industries for nearly 40 years. Ball valves, needle valves, double block & bleed valves, severe service valves, cryogenic and high temperature valves are all designed and made at the Brighouse plant. Alco's worldwide expansion over the years has seen it open and operate sales offices, manufacturing plants, technical support offices and warehouses in the UK, Houston Texas USA, Toronto and Calgary in Canada, Singapore, the Middle East, South East Asia and the Far East. In addition, the company has many agents and distributors in over 30 other countries around the world. The business is celebrating some international project awards from major blue-chip clients. In July Alco was awarded £6.5m of contracts for the oil and



*Part of the Alco Valves Team working hard*

gas industries alone. The Group's sales are expected to exceed £30m this year. The Group was also recognised as one of Yorkshire's top 100 performing companies in a recent Yorkshire Post survey, it was ranked in 58th place this year but aiming to be ranked higher next year.

There is also a very healthy forward order book into 2014 and beyond. This only goes to confirm Alco's position as a world leader in high pressure valve design, valve technologies and manufacturing methods.

Alco's Group Managing Director, Stuart Lomax, said *'Our expansion and grip on international marketplaces is vitally important to the future of the business and our current and future employees. It is very satisfying that some of our expansion has already taken place here in the UK and with tens of thousands of British made valves being exported to an impressive global client base each year. This is a really exciting time for our businesses, both here in the UK and abroad.'*



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*By BVAA's Technical Consultant,  
Peter Churm*



## **Fugitive Emissions Standards**

**The two Fugitive Emission test standards EN ISO 15848-1 and EN ISO 15848-2 are being revised by ISO.**

At the recent ISO/TC153 /SC1 WG10 meeting the latest comments on the CD standards were reviewed and decisions taken. The ISO/TC153/SC1/WG10 meeting report and the ISO comments forms showing decisions taken are available to members via BVAA Secretariat.

The CD standards were to be submitted to DIS enquiry by 31 October 2013.

# Allvalves Online Report on Two Years of Successful Trading

As its second year comes to an end, Allvalves Online can be pleased with its achievements as an embryonic company. Starting as an online web shop using the knowledge of its Managing Director, Dave Chapman, and the creative web based skills of Adam Chapman, Sales Director, they were able to create a fresh take on online purchasing and availability of technical information in the valve and actuator market place. Bringing brands together under one site has played a key role in the company's success with the majority of the suppliers they work with located either in the UK or in mainland Europe, allowing quality products, technical data and reliable delivery times to be freely available.

The company's ability to promote the brands they work with, initially with Genebre from Spain, led to a number of industry respected manufacturers wanting to work with Allvalves, and in particular to build the reputation or re-establish brand awareness within the UK, and ultimately worldwide. This includes Adler Valves from Italy with their quality wafer pattern ball valves, and Hidroten, the PVC valve and fittings manufacturer from Spain. Able to demonstrate success in its web marketing of products, many of the big names in the UK have been added to the growing list of well known brands working with Allvalves.

Another highlight for the company has been its export business which has again shown the company's ability to compete online globally. This year alone Allvalves Online have exported to countries including Denmark, Italy, Spain, Norway, Netherlands, USA, Mexico, Canada, Japan, Australia, Poland and Nigeria.

Outside of the UK, interest in Allvalves Online is growing and this has been a result of not only its presence online but also its networking at international trade shows, the company attended shows in the UK including Sustainability Live and the Offshore Europe show in Aberdeen. They also attended shows in Germany last year including Achema and Valve World and it was at these shows that interest from Germany developed. Following a meeting in June earlier this year in Hannover, Germany, an agreement is now in place to launch Allvalves Online Europe. A global brand will now be built initially using a German based office offering sales, support and stock from mainland Europe. Adam Chapman explains how Allvalves will work in Europe:

*'The idea is simple, we want to take the Allvalves idea and brand that we started less than 24 months ago into new markets, and generate further global awareness of our brand. Working with our new German partners, who I might add, have more than 20 years experience*



Allvalves Online Sales Director, Adam Chapman with the company's BVA membership Plaque

*in the valve and actuator market, we know that the reputation we have built based on good product knowledge and technical support will be extended into Europe with that great German efficiency.'*

The business model within Europe enables Allvalves Europe to open sales offices and stock distribution centres around Europe with early interest already expressed from the Netherlands and Poland.

## 'Vision'

Allvalves Online had started with the vision to create an online business offering manual valves and pipe fittings. Although this remains the core of the business, the company quickly adapted to its customers' demands for actuation products. Using the technical knowledge and many years of experience of the Dave Chapman, they moved into the area of electric and pneumatic actuators and building actuated valve packages. Working with orders from

major contractors, plant engineers and operators from a wide variety of industries around the UK, Allvalves Online have worked on specialist applications including a chromic acid installation using modulating failsafe electric actuators with PFA lined ball valves, ATEX approved actuated valve assemblies for ammonia sites and an application using modulating 180 degree ball valves. Adam explains the success behind its actuation centre;

*'We have used my father's 30+ years of experience working with valves and actuators, initially as a practical, hands-on marine engineer on super-tankers, to build a large knowledge base to enable Allvalves Online to correctly select the correct actuated valve assembly to satisfy the customers' requirements. With all actuators and actuated valves being assembled and dry bench function tested by us in our warehouse in Pershore, Worcestershire, we guarantee a level of quality that some of our competitors simply can't and don't replicate. This becomes clear when customers visit us, which we encourage, and see that we do carry stock, and that we build and test our actuated valves in-house'.*

Plans are now in place for 2014 to grow the company for a third consecutive year, and in addition to the launch of a sales office in Europe, Allvalves Online will be working with new suppliers and new product ranges. As in any business however, it is the people that make the difference and Allvalves Online has recently expanded its team in Pershore with the employment of a new web development and Marketing Manager, Keith Davis. Keith joins Allvalves Online having spent the last three years within the industry using his web based expertise and technical sales ability to help build another very successful online based business. Keith is already working on a revamped Allvalves Online UK website and also on developing the core for the new European sites. Allvalves Online have plans to launch a Southern sales office within 12 months, which Keith will head up.



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# Saint-Gobain Seals Group's Custom OmniSeal® Spring-Energized Seals Installed in Environmentally-Friendly Industrial Dyeing Machines

Over the past few years, Saint-Gobain Seals Group has been working closely with DyeCoo Textile Systems B.V. (based in the Netherlands), the world's first supplier of industrial CO<sub>2</sub> dyeing equipment, to develop a sealing solution for a new technology where carbon dioxide substitutes water in the dyeing process (the method used to add color to textile products such as fibres, yarns and fabrics). With this innovative, waterless dyeing technology, industrial dye machines heat carbon dioxide until it has the properties of both a liquid and a gas, at which point it penetrates the fabric and diffuses pigment throughout the material. As it returns to its gaseous state, 95% of the CO<sub>2</sub> can be recycled for further use, saving billions of liters of water as well as billions of gallons of toxic chemicals dumped into waterways.

Textile environmental safety and control has attracted the attention of the textiles industry, rising in recent years, especially in Asia where much of the world's textile dyeing occurs, due to the massive amount of water required in these processes per day. Temperature and time management are two key factors in dyeing where water is used to clean equipment, as cooling waters, and for rinsing and processing dyes and products. It is estimated that on average, almost 100 liters of water is used to process only 1 kg of textile goods, making water utilization a prime concern for the industry. Furthermore, wastewater carries a host of different chemicals from the processing of dyes and The World Bank estimates that 17 to 20 percent of industrial water pollution comes from textile dyeing and treatment (a fifth of the world's industrial water pollution). Humans then ingest the contaminated water or food irrigated by the water.

Saint-Gobain Seals Group was approached by DyeCoo to find a solution to seal CO<sub>2</sub> under high pressures of up to 400 bars and temperatures up to 120°C, which poses a major challenge for ordinary seals. In most cases, seals will fail when exposed to extreme conditions such as high pressure which cause their applications and products to fail.

Using their OmniSeal® product, a spring-energized seal technology, Saint-Gobain Seals Group engineers developed a custom version where the seal jacket is manufactured from Fluoroloy®, a Seals Group's proprietary PTFE compound, and features a special formed spring to activate the seal. These custom seals are used on the doors of the industrial dye machines and prevents the growing extrusion gap whenever



*The Saint-Gobain Omni Seal*

the vessel gains pressure, essentially solving big tolerance issues due to the high pressure. Rigorous testing confirmed that the OmniSeal® solution produced optimum results and DyeCoo is currently using this robust solution in all of their machines. Notable companies such as Nike and Adidas have taken note of this more sustainable option and have sold clothing that were made of fabric dyed in these environmentally-friendly machines. IKEA GreenTech, an IKEA Group venture capital company, has also invested an undisclosed sum in the Dutch dyeing equipment company. By using this sealing solution, DyeCoo has been able to continue their mission of contributing to a sustainable environment in terms of water consumption, energy consumption, CO<sub>2</sub> emissions and waste disposal.

The above custom solution demonstrates Saint-Gobain Seals Group's business model in which they focus on co-development relationships, engineer-to-engineer direct collaboration and more than 93% of their products are custom engineered to the customers' applications.



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# CRANE Presents its Product Solutions at the 2013 Coking Conference in India

CRANE ChemPharma & Energy presented its product solutions at the Coking Conference & Exhibition on September 30-October 4, 2013, in New Delhi (India). During the conference, CRANE emphasized the features and benefits of two of its trusted brands: the Pacific® Wedgeplug Valve and the Krombach® Metal Seated Ball Valve (MSBV).

There are certain strategic design characteristics that make these valves remarkable. Pacific Wedgeplug Valves have metal sealing surfaces (improving reliability of shut-off), and provide bi-directional sealing. Krombach® Metal Seated Ball Valve's ball and seat are machined to such precise tolerances that ball and seat lapping does not have to be performed individually for each valve – making both the ball and seat freely interchangeable (if equal in nominal size). Krombach MSBVs are equipped with a self-cleaning system, and their leak-proof characteristics meet the rigorous requirements for isolation service.



Crane's metal seated ball valve

*'We are keen to continue our mission to not only design and supply highly engineered products and solutions, but to enhance the inherent value we offer by promoting safety in their applications. Coking and other petroleum processing are industries we focus on, and we design valves with their particular needs in mind. The Conference provided an important forum for Crane to convey these messages in a client-facing environment where attendees were looking for solutions,'* said Hari Jinaga, VP/GM.



Both the ball and seat are freely interchangeable

Information on both the Pacific® Wedgeplug and Krombach Metal Seated Ball Valve can be found on CRANE Energy's enhanced website ([www.cranecpe.com](http://www.cranecpe.com)), which features new "Technical Info" menus in its online product catalogue.

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# Bray bucks trend with Inchinnan expansion

**Bray Controls (UK) Ltd, has just completed a £2.2 million expansion programme at its European headquarters in Inchinnan. The works created a larger, more modern working environment with improved customer communications, increased inventory holdings and test capabilities. This comes at a time when the business is enjoying rapid growth, as it introduces new products and expands into new territories.**

A division of the family owned Texas-based Bray International Inc, the Inchinnan facility, which is owned by the business, has been increased from 27,000 sq ft to 37,000 sq ft, with the potential for a further 10,000 sq ft to be added to the site in the future. From a staff of only seven when it opened its doors in Scotland in 1990, Bray now employs more than 70 people in the UK. Employees in France, Germany, Holland, Poland, Russia and Dubai, all report into the Scottish-based European headquarters.

*'...our policy of recruiting young people from within the local community... means a great deal to us.'*

Commenting on the Bray Controls investment and company performance, George Crooks, Managing Director for Europe said: *"Amidst turbulent times in the economy, we have succeeded in bucking the trend by experiencing rapid growth, most dramatically over the last three years when we have seen our turnover almost double. Fundamental to our achievements has been a loyal workforce, of whom we are extremely proud. We can boast a team of highly experienced people, including those who have been with us since we opened here in Scotland. Several have stayed on past retirement age, and we have a management team almost all appointed through internal promotion. We were delighted to receive a special recognition award from Invest in Renfrewshire due to our policy of recruiting young people from within the local community. That means a great deal to us."*

Success can be attributed to a strategy of targeting specific growing economies and expanding into new markets in the Middle East and Africa. The introduction of new products to an already fully integrated and comprehensive catalogue of valves, actuators and accessories has also helped place Bray at the forefront of the global butterfly valve and flow control market.

The expansion has not only been about creating a facility that is fitting for a European HQ and a great environment in which to work. With speed of response



*Bray now employs more than 70 people in the UK.*

a crucial element of our success, it has also provided the extra capacity that affords a far larger inventory of components as Bray manufacture and assemble to order.

Bray was recently declared Scottish winner of the British Chambers of Commerce Awards for "Commitment to People Development" and "Exporter of the Year", and joins the other UK finalists in the National Award for "Business of the Year" to be held in London later in the year.



*The extra capacity that affords a far larger inventory of components*



**Bray Controls (UK) Ltd.**

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[www.bray.com](http://www.bray.com)

# 4th Consecutive Open Day Success in OE13 Build-up



Valve Tech Vinnie on hand to welcome record number of visitors at CVS' Two-Day Open Event

The 4th consecutive Annual Open Days held at the end of July at Control Valve Solutions Limited (CVS) were a resounding success and paved the way for the company strengthening its supplier relationships at Offshore Europe 2013 (OE13).

This year's guest list was extensive and the CVS Team were delighted to welcome record number of visitors over the two days representing AMEC, Bluewater Services, CETA, Conoco Phillips, EnQuest, Petrofac, TAQA, Talisman Sinopec Energy, TOTAL E&P UK and Wood Group PSN to name a few.

As a complete solutions provider CVS was able to bring together four manufacturers from the Emerson Group including ASCO Numatics, TopWorx, Fisher and Bettis. With these four business units dominating the supply of new valves and related products in the oil and gas industry in the North Sea, CVS is in a good position within this high integrity marketplace.

Each business unit was represented with its own experts who gave new product demonstrations throughout the 2-day event on:

- **Modular Controls for Isolation Valves by ASCO Numatics**
- **Partial Stroke Devices by TopWorx**

- **Regulators and PD Positioners by Fisher**
- **CBB & G series Actuators by Bettis**

Colin Burns representing Fisher who did a demonstration of the DVC6200 Linkage Free Technology & Valve Diagnostics summed up his participation by saying: *'It was a marvellous few days with an incredible number of people who were interested in all the stands. More specifically for our Digital Valve Control demonstration people were asking questions about the interactive FieldVue, reliability, capabilities and inter-changeability.'*

*'...developing intimate relationships...'*

For Ian Parkinson from ASCO Numatics he said: *'The open days were an ideal showcase for CVS' relationship with Emerson and demonstrated our ability to provide solutions to the Oil & Gas Industry. By developing intimate relationships at a local level our specialised distribution channels will strengthen our presence in the sector.'*

Mike Howells of ASCO Numatics who was teamed up with his colleague Ian Parkinson for the demonstrations

was again positive about the Open Days saying: *'There was a mix of people who were eager to learn about what's new and we didn't disappoint being able to show them our new intrinsically safe low power valves and the Actuator Control System.'*

A similar theme was expressed by Martin Hunt of TopWorx who said *'The Open Days were a success because I met decision makers with a real need for CVS and our services as well as younger people who have just started in their careers and wanted to find out more about the valves engineering may specify. This was a great showcase of CVS as a solutions provider working with manufacturers who can provide support within an industry where there is high integrity.'*

Graeme McLeish of Bettis concluded by saying *'This was a really good opportunity to showcase what Bettis can do. There was a wide range of visitors from engineers with years of experience under their belt through to students who all expressed a genuine interest and wanted to understand how our CBB & G series Actuators can improve operations.'*

There was so much interest in the different demonstrations that some of the Emerson team demonstrations were included in CVS' stand events at OE13 and the Lunch & Learn theme was extended so that individual companies can now request their own in-house sessions.

At OE13 CVS' 20 metre stand was manned by the Sales & Marketing team who also welcomed Emerson staff demonstrating the Actuator Control System and DVC6200 Linkage Free Technology & Valve Diagnostics. With more than 63,000 people from around the world attending OE13 over four days it was a fantastic opportunity for CVS to showcase its range of services and better still do this working with its suppliers.

There were an encouraging number of top quality enquiries at OE13 including bookings for Lunch & Learn sessions that have a really positive effect on a person's day-to-day role but also support them with their continuous professional development.



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Redefining Flow Control

# Metso celebrates the 90th anniversary of its renowned Mapag® valves



*The well-known Mapabloc rotary valve with double block-and-bleed and steam purging inside the seat*

**On October 1, Metso celebrated 90 years of success for its Mapag product brand of valves at the Metso Valve Technology Center in Horgau, Germany. This range of butterfly valves has been especially valued internationally in all types of challenging industrial applications thanks to its exceptional reliability and low life cycle costs.**

One of Metso's strong family of valve product brands, Mapag, has developed over the years into a product brand well known for its high performance and specialty valves for safety areas in industrial plants. These valves improve process efficiency in applications in the oil & gas, industrial gas, chemical and petrochemical industries, offshore, and in power plants.

Demand for these valves has been continuing to grow as raw materials and energy sources are becoming scarcer and costs continue to rise. The range of Mapag valves increases productivity, minimizes security risk and optimizes the cost of advanced processes.

The current range of butterfly valves covers operating temperatures from -270 °C (-454 °F) up to +1,450 °C (+2,642 °F) and works reliably in high pressures from a vacuum up to 400 bar (5,800 psi).

The Metso Valve Technology Center in Germany is well equipped especially with refrigeration technology. Valves are tested to ensure they comply with both cryogenic and thermal shock tests that meet the latest international standards.

Three core values that the Metso Mapag product brand will continue to offer customers are customization

through continuous innovation for a wide range of applications, reliability with advanced performance, and strong partnership through operational savings. By further focusing on these values, customers can be assured that their needs will continue to be met as they face ever more challenging operating environments and strive to lower their costs of operation.

During the celebration on October 1, visitors were invited to an opportunity tour the factory, which is one of the largest industrial employers in the region.

## Experienced in valves

Metso is a leading valve solutions and services provider. Metso's Flow Control solutions include control valves, automated on/off and emergency shut-down valves, as well as smart positioners and condition monitoring. Metso's world-leading brands include Neles®, Jamesbury® and Mapag®.



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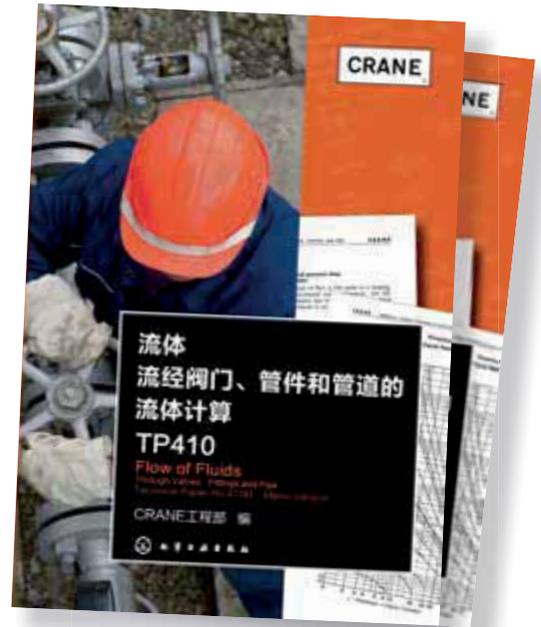
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# CRANE Sponsor Valve World Asia

CRANE ChemPharma & Energy and CRANE Nuclear, leading providers of highly-engineered products and solutions for fluid handling applications worldwide, provided title sponsorship of the 2013 Valve World Asia Conference and Nuclear Exchange in Suzhou, P.R. China on September 11 & 12. In addition to featuring their extensive line of valves, nuclear testing technology and training capabilities, Crane introduced the Chinese translation of TP410 and distributed copies to conference attendees.

*'This year's Valve World Asia Conference and Expo represented an exciting milestone for Crane, as it offered us the opportunity to educate local audiences and facilitate the cross-cultural exchange of knowledge with the Chinese version of TP410,'* said Dale Friemoth, Vice President Business Development, Crane Fluid Handling. *'Not only did we illustrate our innovative product solutions, but we were also able to show we can propel the industry forward with a comprehensive package of products, services and education for the Asian market.'*

To supplement the launch of the Chinese edition of TP410, Crane's Kevin Su held seminars in the Learning Lounge on the expo floor. The seminars focused on the heart of Technical Paper 410 and provided an overview of flow theory, formulae for pressure loss and key engineering data. The presentation also reviewed the fundamentals of piping systems,



flow of fluids software and the interactive website, which includes built in models from pump manufacturers and a piping system simulation.

Nuclear Exchange hands-on master classes were held in the Learning Lounge throughout the conference, including *Valve Diagnostics in the Nuclear Power Industry and Operating Benefits and Maintenance of a Nuclear Plug Valve*, both hosted by Crane Valve Services. The valve diagnostics class delivered a detailed training session on the breakthrough VOTES® Infinity Diagnostic System, offering an overview of the system and associated peripherals as well as an in-depth look at its software and analysis features and capabilities.

Visitors to the Crane booth also explored the state-of-the-art Noz-Chek® & Duo-Chek® valves, WTA® bellows sealed globe valves, Xomox® and Flowseal® high performance butterfly valves and Krombach® brand double-offset and triple-offset butterfly valves, among others.

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# Is your 3/2 solenoid valve redundant?

Of the vast number of 3/2 solenoid valves worldwide it is impossible to tell how many are piloting actuators that are part of 'critical' processes, i.e. processes that have an immediate impact on the safety or throughput of a system or plant. In many cases, any failure of a critical control valve can result in tremendous commercial losses until the cause of the failure can be addressed and in the wake of several high profile industrial incidents, the trend is for increased levels of control system complexity to achieve greater reliability.

## Redundancy for all?

One way of achieving a reduced probability of failure is to double up on components that can fail. Solenoid valves can be combined in a 1oo2 configuration so that with two valves fitted and both coils energised, only one out of the 2 valves needs to operate correctly in order for the control function to be achieved. This only requires the mounting of a second valve, additional pipework and the control valve then has redundancy in the solenoid control circuit, but there are drawbacks:

- For existing systems, it isn't a retro-fit solution.
- An additional valve and piping may be difficult to fit in a restricted space.
- Additional piping introduces more time required for the installation and depending on the piping material, can be a significant extra cost.
- Extra piping can manifest in slower operation of the control valve through increased piping volumes, restrictions and pressure drops.
- There is also the potential for increased air loss through additional potential leak paths due to the larger number of pipe connections.

## Ask for a Redundant valve instead

The Nadi C90 series valve manufactured in Italy, offers 3/2 operation and 1oo2 redundant configuration in a single compact unit as well as:

- 3 port design – can be fitted in place of existing single 3/2 valves.
- Compact design with IP65 or ATEX Exd coils.



*The Nadi C90 series valve manufactured in Italy, offers 3/2 operation and 1oo2 redundant configuration in a single compact unit*

- No additional leak paths or air restrictions introduced.
- Eliminates additional piping and installation costs.
- Enables replacement of a solenoid coil while the other is still in operation.

Available in brass or 316 stainless steel bodies and suitable for ambient temperatures between -60° and +60°C, this is a robust solution to an increasing concern and is much more cost effective than piping a second valve. For details on this and the soon to be released C91 series valve, please contact Red Dragon's sales team.



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# New National Sales Manager for Bray Controls

Bray Controls, a leading global supplier of Valves and Actuators is pleased to announce the recent promotion of Paul Tanner to National Sales Manager. Paul has worked with Bray for eight years and has been integral to the focused growth strategy that has seen Bray almost double its sales over the last three years.

Paul takes over from John Mallon who although in semi-retirement still works with Bray two days a week as Technical Manager and facilitates training courses within Bray. After completing his degree in Mechanical Engineering Paul moved to Australia and took up the role of Regional Manager for Keystone Pacific. He joined Bray in 2005 as Area Sales Manager.

Paul commented: *'This is an exciting time for Bray, the company is expanding into new market sectors, primarily Oil and Gas. Our new projects team headed up by Kara Townsley BEng Hons, AIMEchE enables us to become involved at the project initiation in an advisory capacity. Use of sophisticated modelling and sizing tools mean we can proactively help customers achieve the best engineered solutions. During the next 6 months Bray has many exciting product releases planned. These new products will further enhance the Bray Product Portfolio which will greatly contribute to our planned business growth.'*



Paul Tanner joined Bray in 2005 as Area Sales Manager

George Crooks, MD of Bray Controls (UK) Ltd said: *'Paul is a real asset to Bray and his knowledge and skills have proven invaluable. Retaining John as Technical Manager combines decades of experience.'*



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*By BVAA's Technical Consultant,  
Peter Churm*

**TECHNICAL  
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## Impact of the revision of harmonised standards on the presumption of conformity

**CEN/BSI has issued a document concerning the implications of revisions to Harmonised European Standards.**

ATEX standards are cited as an example of the information regarding the changes that should be included in a revised harmonised standard – proposed to be carried over to PED harmonised standards.

The revision of harmonised European standards has an impact on the presumption of conformity

of a product. When a harmonised EN standard is revised, the date of withdrawal of the previous edition is stated in the OJEU as the date of cessation of presumption of conformity. However is the certificate of Type Approval still valid?

The new provision of the New Legislative Framework (NLF) reinforces the responsibility of the manufacturer on assessing the impact of the modifications of the harmonised EN standard on the certificate of type approval.

# Hardide Coatings solves hard chrome plating problem

Hardide Coatings, innovator in advanced surface coating technology, has developed a revolutionary alternative to toxic hard-chrome plating (HCP) which they claim will soon be restricted or banned.

Hardide-A meets strict new EU and US environmental standards and provides comparable wear, corrosion, hardness, surface finish and substrate bonding properties to HCP. Unlike most HCP alternatives, Hardide-A is also suitable for internal surfaces and complex shapes.

HCP has been a mainstay of industrial coating in aerospace, heavy equipment, automotive and various other industries for many years. However, the hexavalent chrome salts used to produce HCP pose extreme health and environmental hazards, say Hardide.

The safeguarding EU and US regulations mean chrome plating is incurring rising costs, extensive regulation and onerous paperwork. Under EU REACH, HCP use will be severely restricted and could be banned. A search has been led by the aerospace industry to find suitable alternatives.

Hardide-A matches the standard thickness (50-100 microns) and hardness (800-1200 Hv) of HCP, simplifying the transition without need for dimensional changes or drawing re-design. HCP's intrinsic performance limitations hinder its more demanding wear applications and Hardide-A outperforms it in several key areas. This includes enhanced protection against corrosion, wear and chemically aggressive media, enhanced fatigue life and a non-porous structure.

*'...comparable or better performance...'*

A number of other alternatives to HCP are available including thermal spray, in particular high-velocity oxy-fuel (HVOF) and emerging processes such as electroless nickel composite plating, explosive bonding, electrodeposited nanocrystalline cobalt-phosphorus alloys and physical vapour deposition (PVD) coatings. To date, HVOF and other spray coatings have been considered the best available alternative to HCP. However, Hardide-A provides several advantages over HVOF such as versatile geometric compatibility, corrosion and fatigue resistance and facilitated finishing.

Philip Kirkham, Chief Executive Officer of Hardide Coatings said: 'Hardide-A provides comparable or better performance over hard chrome with none of



*Hardide-A meets strict new EU and US environmental standards*

*the environmental issues. We are working on test programmes with customers including AgustaWestland, Airbus and other aerospace OEMs (original equipment manufacturers).'*

The company has successfully completed the first of two test phases to approve Hardide-A as a replacement for HCP on an application for AgustaWestland, and, if successful, the Hardide coating will be approved for use on a specific AgustaWestland helicopter rotor blade component. The helicopter manufacturer is also considering other applications for the Hardide coating technology.

The Hardide coating has featured positively as an alternative for hard chromium plating for severe service valves in a peer-reviewed article\* in Elsevier's Materials Chemistry and Physics, the international journal on science, characterisation and processing of advanced materials. The July 2013 article was independently authored by valve manufacturer Velan Inc, the Université de Montréal and Notre Dame University-Louize, Lebanon.

\*Published as "L.Vernhes, et al., Alternatives for hard chromium plating: Nanostructured coatings for severe-service valves, Materials Chemistry and Physics (2013)"



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# AUMA's potable project success

AUMA's success establishing long term collaboration with project consultants was a key factor in the company securing a contract to supply actuation technology for valve control processes at the Káraný Water Works in the Czech Republic.



Consultant collaboration was key to AUMA securing a Káraný Water Works contract in the Czech Republic.



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Built in 1912, the Káraný facility adopts natural, non-chemical processes to provide potable water for the residents of Prague. The scheme is one of the longest established water works in the region.

*'...supporting the water industry for over five decades..'*

Against a backdrop of a strong portfolio of potable and non-potable installations around the globe, the Káraný project is the first major water utility contract for AUMA in the Czech Republic. With strength supporting the water industry developed over five decades, and skills supporting consultants, AUMA reports that it is in a strong position to develop its presence in the Czech water sector.

AUMA supplied 49 actuators from its SA and SG ranges with SEMIPACT local control unit and GS standard gearboxes.

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Adverts from yesterday, products for tomorrow

# Modular Process Instrument Mounting System - Single-Source Installation

An entirely new range of modular manifolds and mounting accessories for installing small-bore process instruments is now available from the Instrumentation Products Division of Parker Hannifin – the global leader in motion and control technologies. The new range complies with Shell's influential Material and Equipment Standards and Code (MES-C) specification. All of the modular components are proven inter-compatible. This enables plant and instrumentation engineers to configure a complete process instrumentation hook-up that meets rigorous quality standards, and to order the fully assembled solution – including application-specific manifolds – from Parker rapidly and easily.

*'The modularity and scope of this new mounting system for process instruments ensures quality and at the same time delivers enormous time savings, by providing a compatible single-source solution,'* says Parker's Nicolas Villemain. *'The system can also radically lower lifecycle ownership costs, because of the high quality of its design, and the way it creates a site standard for users.'*

Parker developed its new range of MES-C-compliant products as a direct result of its Enterprise Framework Agreement (EFA) with Shell. Under the terms of this agreement, the company is providing Shell and its affiliates with a single source supply of inter-compatible small-bore instrumentation products, including instrument valves, manifolds, process-to-instrument valves, fittings, tubing and protective enclosures. Many other oil and gas companies and suppliers now specify that all components between a process pipe and instruments must be MES-C compliant, as part of their drive to increase standardisation and ensure system quality.



*The new system includes 2- and 4-valve manifolds, and wide range of accessories*



*The new system complies with Shell's influential MES-C specification*

Parker's new MES-C-compliant modular mounting instrumentation system includes a comprehensive selection of 2- and 4-valve manifolds, vent and purge blocks, seal pots, filling connectors, port protectors, heating modules and environmental protection enclosures. The company has established an excellent relationship with Shell, involving close engineering cooperation and regular reviews of its portfolio of MES-C-compliant products to ensure that it is up to date and meets industry needs.

Suitable for use with fluid or gas media, Parker's MES-C-compliant manifolds are available in a variety of 2- and 4-valve configurations to match the application. The 2-valve manifolds feature a single isolate/vent block, with a choice of Type C, D or E, F and G configurations to suit pressure applications and level measurement on atmospheric tanks, and different types of pressure transmitter. The 4-valve manifolds offer a Type A double-isolate/equalise/vent block for general applications, and a Type B double-isolate/double-vent block for applications where contamination of process streams is not permitted.

All Parker MES-C-compliant manifolds have a pressure rating of up to 6,000 PSI (414 bar) and as standard are manufactured from 316 stainless steel, with other corrosion resistant alloys available on request. The G1/4 BSPP female port on every manifold features a ready fitted and pinned compression fitting; users can specify 10 mm or 3/8-inch OD Parker two ferrule A-LOK or single ferrule CPI fittings.

Parker offers a choice of single- and double-vent and purge blocks for MES-C-compliant manifolds. The single-vent block is designed for static pressure applications, while

the double-vent model is suitable for differential pressure applications and connects to impulse lines on standard 54 mm (2-1/8 inch) centres. All vent and purge valves have an anti-tamper feature. A filling connector with an integral check valve is available for instrumentation systems that require purge protection but are not equipped with a vent and purge block.

For frost protection, or to maintain the temperature of the process media being measured, Parker's MESC-compliant manifolds can incorporate a steam tracing or electrical heating block. Both types of block mount directly onto the manifold to provide very efficient heat transfer through conduction. Rated at 50 watts, the explosion-proof electrical heating block operates directly from any voltage in the range 110 to 265 V, has an IP68 protection rating, and is ATEX certified for use in zone 1 and 21 environments. The steam tracing block is supplied with ready-fitted 10 mm or 3/8-inch A-LOK or CPI compression fittings for connection to the steam line.

Other accessories in Parker's range of MESC-compliant products include port protectors with mesh wire screens to prevent debris or insects entering outlet vents or the open ends of instrument tubing, and a seal pot for instrumentation systems that require an open seal for applications involving high temperature, toxic or corrosive media.

To accommodate different layout schemes and simplify installation, Parker offers four types of back plate for its MESC-compliant instrumentation systems, each of which bolts directly to the manifold. All four back plates feature a simple clamp assembly that allows easy mounting on a 2-inch pipe stand, and are predrilled to accept accessories such as protective enclosures.

Two levels of environmental protection are available for Parker's MESC-compliant instrumentation systems, to suit the climatic conditions at the installation site. To protect the flow or pressure transmitter from direct sunlight or heavy rain, a simple protective shade can be used. However, for complete environmental protection of both the manifold and the instrument body, Parker offers a fully formed enclosure, manufactured from glass fibre polyester; this material has a very low thermal conductivity, making it ideal for applications where manifold heaters are used to guard against low temperatures.



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Redefining Flow Control

# Picture Perfect: RPV Open Blasting and Coating Division



Inside RPV's new Shot Blasting Facility

**RPV the leading international valve stockist/distributor has further extended its service portfolio by opening a 'Blasting and Coating Division' at its Suffolk Headquarters. The facility, which opened in early October, comes complete with 10 tonne lifting capacity and the ability to process over 1,000 valves and associated products per week.**

*'This new division enables greater control over orders offering quick turnaround, meeting customer's delivery requests. Having this division also enables RPV to offer the full package from stocking valves, modification, all types of pressure testing to blasting and coating for sizes 1/4" to 48"'* says QA/QC Director Steven Withers.

The addition of a Blasting and Coating Division is one of several investments made by RPV as the company continues towards its goal of becoming a 'one-stop-shop' for the valve purchaser. This latest investment follows the opening of RPV's testing facilities, which were featured in issue 26 of *Valve User*.

## **'Preparation is vital...'**

*'The company has invested in staff with over 40 years of specialist experience'* says Mr Withers *'they know*

*that in this field preparation is vital to the final finish and operation.'*

All valves and associated equipment are fully prepared on arrival at the facility, prior to blasting. Specialist blasting tape is applied to all critical areas including ends, stem, threads, gland areas and nameplates to prevent damage and the ingress of blasting shot.

The shot blasting is carried out in a large bespoke housed unit 6m x 3m. The unit is design to recycle all blast media. All products, unless specifically requested by the customer, are shot blasted to Swedish standard 2.5 using aluminium oxide shot. Working to this standard eliminates the rust which can be produced by steel shot and produces a profile finish of between 40 and 100 microns.

The products are then ready for painting. Paint is applied by wet coat system, from primer only through to multi coats in accordance with customer's specifications. Three dry back spray booths, each with their own extraction, have been installed at the facility to provide quick seamless production times between each coat. A capability which further contributes to RPV's goal of reducing lead times for the customer. With the same goal in mind, a curing and baking oven is available at the

facility. The 2 ½ x 2m gas recirculating oven can be used to enhance curing times for larger batches. The oven is also used for powder coat finishes, stove enamelling and plastics.

### ‘Ensuring quality’

*‘Inspection and calibration are carried out throughout the process, ensuring quality and that the work is carried out exactly to the customer’s specifications’ says Mr Withers.*

Inspection is carried out after shot blasting using a calibrated surface profile gauge. Humidity, temperature and dew point is monitored using a calibrated gauge. Inspection is carried out after each coat. Thickness is measured using a calibrated DFT gauge. Upon request pull off tests can be performed. Upon completion of final inspection, the product is de-masked and a paint report issued detailing the processes carried out and



One of RPV’s three ‘dry back spray booths’



RPV’s gas recirculating oven further reduces lead times for large batches

consumables used. Upon request third party inspections can carry out witnessing of any or all of the processes and paint report endorsed. Each painted product is wrapped and carefully packed to ensure customers receive in pristine condition.

As any QA / QC Director would be, Mr Withers is happy to have full control of another aspect of RPV’s portfolio. *‘At RPV we are extremely well versed in working to individual customers specifications. Over the years we have developed effective systems for stock monitoring which include holding digital files for each valve’s test certificates. The Blasting and Coating Division has slotted seamlessly into the RPV system, so customers can expect the usual, fully traceable RPV service at the usual, market-beating, lead times,’* he concluded.

Further details on the new facility can be obtained through RPV’s sales team.



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By BVAA’s Technical Consultant,  
Peter Churm



## API 6D Task Group meeting SC6 TG1 (6D/6DS TSG on Revisions and Corrections)

As part of the planned meeting schedule to revise/correct API 6D/6DS a meeting of the API 6D Task Group was held on 4 – 5 September 2013 at Cameron –V&M Houston, Texas.

BVAA members can access the meeting reports and discussion outcomes via the BVAA Secretariat.

# SIPOS Supports Prunérov II Power Station Refurb



Original image courtesy of Petr Štefek Photocaption: SIPOS actuators used for PP Prunérov II Power Station refurbishment

**More than 100 SIPOS 5 HiMod electric actuators have recently been specified and ordered as part of the latest modernisation program for the Prunérov Power Station, the largest coal-fired power station complex in the Czech Republic.**

The Prunérov II Power station is the Czech Republic's newest fossil fuel powered station and consists of five 210 MW generating units which started operation in 1981/82. The contract to modernise the power station and increase unit capacity from 210MW to 250MW has involved improvements to the valve and control systems. With support of the local SIPOS agent, AUMA Servopohony, the SIPOS 5 HiMod electric actuator was selected by the subcontractor, Škoda Power - Doosan, Vítkovice, a.s.

*'...excellent durability...'*

The SIPOS 5 HiMod is the latest and highest specification product to come from the specialist electric actuator manufacturer. Developed to provide high precision under continuous duty operation, the actuator

incorporates a high resolution encoder. This allows delivery of repeatable drive shaft position accuracy to less than 0.2%.

The HiMod has excellent durability with superior corrosion resistance and IP68 Protection Class. The installation procedure is completely 'non-intrusive' and adjustment of end positions can be achieved without opening the actuator. This, together with a double-sealed electro-connection compartment, guarantees that electronic components are kept safe from harmful environmental contamination.

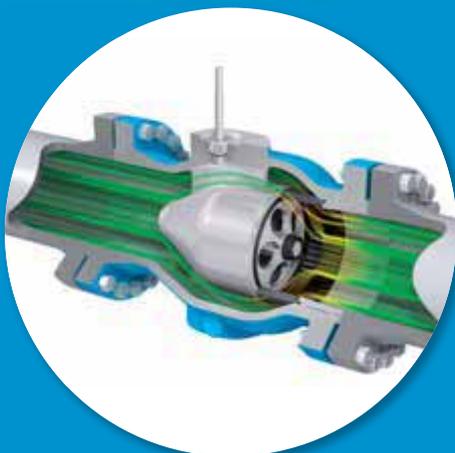
SIPOS are so confident in the quality of the HiMod that they offer a five year warranty for motor and gearbox components.

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# The Best Things in Life are Free...

2013 has seen some big changes at Colson Industries, the West Yorkshire based Valve Manufacturer. One of the changes is the introduction of a free training service to help better inform about the benefits that can be derived by specifying the Colson range of products. The new training programme started at the beginning of the year and has proved very popular with new and existing clients.

Colson prides itself on its forward thinking team, who are always looking to improve the company's services. At the request of one of Colson's customers Technical Manager Dean Groombridge was asked to compile a two hour training program back in October 2012.

Mr Groombridge has over twenty years' experience in the Valve



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industry, sixteen of those spent at Colson. He was able to use his knowledge to create a program that covered all areas of the product range. This proved to be so successful that Colson has decided to offer this to other customers. The business shows its customers how valves are constructed and give advice to help them make a better informed choice when buying the product they need. This is helping customers to save both time and money, essential in today's economy.

National Sales Manager Jason Hilton has team up with Dean Groombridge to deliver the course and it is still proving as popular as

ever. If you think your company would benefit from our training course please contact Colson's sales team for further details.

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# Management team expands at PPE

Customers will benefit from continual operational and quality improvements

Precision Polymer Engineering (PPE), one of the world's leading manufacturers of high performance moulded elastomer seals has appointed Lawrence Aldridge as operational excellence manager following a rigorous recruitment process.

The role is designed to champion operational excellence across the organisation both in manufacturing operations and across all other functions. Lawrence will work in both PPE and its sister company FTL Technology (FTL) based in Leeds, UK. His targets will be to improve efficiency across the businesses, reduce waste and continue driving output quality to world-leading standards. Lawrence has also joined the PPE senior management team and will be a key member of the team participating in the overall planning and running of the business.

## 'Continual Drive'

From the point of view of customers, the continual drive in PPE and FTL for operational excellence means that the customer experience is continually improving. Whether it be in terms of on-time delivery, product quality, global customer service or responsiveness to customer requests, PPE and FTL already operate at the highest standards. There is always a desire to 'raise the bar' and by doing this the two companies aim to always meet or exceed customer expectations.

Lawrence's role is at the centre of this drive for continual improvement and operational excellence.

## 'Delivering excellence'

Lawrence has a strong track record of delivering operational and quality improvements having previously worked as quality & business improvement manager for a leading LED manufacturing company and quality manager at one of the UK's largest printing groups. He brings with him an abundance of experience and ideas to help drive operational excellence at all levels in all functions.

Paul Gillyon, managing director of PPE said, 'we are delighted that Lawrence has chosen to join the management team here at PPE. He brings with him many skills that complement our ethos of delivering excellence for our customers worldwide. I am sure the benefits will be experienced by our customers as we continue to do a better and better job for them.'

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# Emerson introduces digital valve controller

## Fisher® FIELDVUE™ DVC6200 stainless steel housing and sealed construction prevents corrosion damage to components

Emerson Process Management's Fisher® FIELDVUE™ DVC6200 digital valve controller family gains added capability with its all stainless steel housing that withstands the corrosive atmospheres often experienced in chemical plants, pulp and paper mills, as well as near-shore and offshore oil and gas installations.

All DVC6200 series instruments utilise a patented linkage-less, non-contact feedback design to detect valve position. This valve positioning technology eliminates any travel feedback issues caused by corrosion, high cycle or high vibration applications.

In addition to external protection, corrosion resistance is found within the stainless steel housing with the digital controller's fully encapsulated printed wiring boards. Internal component protection



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is further enhanced by a separate, weather-tight field wiring terminal box that isolates the field wiring connection from other areas of the instrument.

With over one million units installed worldwide, FIELDVUE digital valve controllers prove highly suited to difficult process environments, where they provide unmatched valve operation. The DVC6200 series is offered with CSA, IECEx, ATEX and FM hazardous area approvals as well as other certifications/approvals. It is also listed in the Lloyd's Register for industrial, marine and offshore use.



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# MOGAS Industries Turns Forty

## *From Machine Shop to International Valve Exporter*



*Matt Mogas, President & CEO, and right, Louis Mogas, Chairman*

Known worldwide as the leading manufacturer of severe service, metal-seated ball valves for the most extreme industrial applications in power, mining, process and specialty application industries, MOGAS Industries, Inc. celebrates their fortieth year in business.

Louis Mogas formed Mogas Machine Works in 1973 with 16 employees working under 19,000 sq ft of manufacturing space on a couple of acres. Today, privately owned MOGAS Industries employs over 250 people across six countries. Their Houston-based headquarters now has 86,000 sq ft of manufacturing capacity spanning 15 acres. Recent campus improvements, such as newly constructed 'Class A' corporate offices, a 3-acre wooded park and numerous facility upgrades attest to MOGAS' success—not only as a significant manufacturer—but also to the Company staying true to its original



*MOGAS logos: 1973 and today.*

business philosophy of putting people before profits.

*'Individual and team emotional commitment is what we have at MOGAS, and that creates the greatest work place of all time.'* says Louis Mogas, Chairman.

### Continuous Product Improvements

Other core values, such as continuous product improvement and acting with the highest of integrity, have also been an integral part of the business. Building upon their extensive field experience, MOGAS relentlessly pursues research & development breakthroughs in design, materials and coatings to deliver the most-trusted, highest-quality valves in any industry. When a company works with MOGAS, every aspect of the experience is designed to provide the products, service, knowledge and responsiveness needed to get the job done – on time, as promised.

### Global Reach

A significant part of MOGAS sales is international, with sales and service centers in China, Australia, Canada, South America, Africa, The Middle East and Europe. With representatives and technicians in more than 40 countries, MOGAS is known for partnering with its customers to meet the ever-increasing challenges of severe-service applications.

### Community Dedication

Serving the community is ingrained in the MOGAS culture. The Company contributes significant resources to many worthy causes and enthusiastically supports their employees' robust spirit of volunteerism. Charitable contributions to organizations include: Ronald McDonald House, MS150, Camp for All, The Periwinkle Foundation, America's Heroes First Foundation and Black Elementary School. The Company also supports private initiatives for public good, focusing on quality of life.

Matt Mogas, President and CEO, summarizes MOGAS' future: *'This company started with a vision of partnering with customers to create a valve solution to their unique process or problem. This continual investment in failure analysis, and the investment in the people who share our success, are vital for MOGAS to celebrate future birthdays.'*

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Redefining Flow Control

# Spirax Sarco delivers steam solution for carbon capture project

Spirax Sarco has delivered a comprehensive steam-driven heat exchange solution for a ground-breaking carbon capture project at Ferrybridge coal-fired power station in Yorkshire. The Spirax Sarco system is a key element in the success of this cutting-edge project to develop large-scale technology to mitigate the environmental damage from burning fossil fuels.

Carbon Capture and Storage (CCS) technology aims to capture carbon dioxide from the flue gas of major emitters such as power stations and store it out of harm's way, possibly by burying it in exhausted oil and gas reservoirs or saline aquifers.

The Ferrybridge project demonstrates the 'capture' part of the process at a much larger scale than previous pilot schemes, using an amine-based solvent to absorb up to 100 tonnes of carbon dioxide per day. Spirax Sarco's steam system is used to re-boil and regenerate the carbon dioxide saturated solvent for reuse by stripping the carbon dioxide out under carefully controlled high-temperature conditions.

*'...the right choice...'*

The temperature and pressure in the clean-up column, or stripper, has to be controlled precisely. If the temperature is too high, the amine solvent breaks down. If it's too low, the pressure in the column drops, which means it subsequently takes more energy to compress the carbon dioxide ready for transport and storage.

Steam is the ideal heating medium, because it helps provide very precise temperature control. According to project partner Doosan Power Systems, Spirax Sarco was the right choice to provide the steam system.

The company's all-round steam expertise and project management capability meant that Spirax Sarco could deliver a skid-mounted solution and free Doosan's team to work on other areas of this complex process design. *'Spirax Sarco has an excellent reputation in dealing with steam and condensate management,'* says Scott Hume, Process Engineer at Doosan. *'They supplied everything as a package, from the steam interface back to the condensate return line, including the heat exchanger. That simplified the scope of work for our team and it really helped.'*



CCS technology aims to capture carbon dioxide from the flue gas of major emitters

Spirax Sarco supplied everything needed to make the steam system run smoothly, including safety valves, pressure reducing valves, steam traps, heat exchanger, condensate receiving vessel and condensate return system.

The team was working under tight time constraints, but got the entire solution designed, checked and built within 12 weeks.

Ferrybridge power station is operated by SSE plc, which has worked with partners Doosan Power Systems and Vattenfall R&D to build the carbon capture pilot plant.

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# Driving Customer Confidence through Innovation

*'James Walker was founded in the 1880s, but it is by continually looking forward that they inspire the confidence of their global customer base;'* says Global Marketing and Business Development Manager, John Bowers.

It is a challenge for companies in the modern market place to continue to innovate since customers today have an automatic expectation for products and systems to evolve to meet new challenges. James Walker has state of the art testing facilities at its Cockermouth plant in Cumbria, including test rigs designed to replicate conditions seen in valves, putting its sealing products through the same rigours they can expect to face in the field. The results of these tests go a long way to inspiring customer confidence and reinforcing James Walker's position as a market leader - a position the company maintains by continuing to introduce a stream of successful new products and solutions to market.



James Walker's Cockermouth facility

*'The appropriate expertise...'*

An industry leader in sealing technology, James Walker invests heavily in research, development and innovation. The investment is not merely financial. The company structure and culture is arranged in such a way as to foster innovation. *'We work in dedicated teams, and encourage those teams to take ownership for what they do.'* Says Mr Bowers *'The approach works because we have the appropriate expertise within the business.'*

This may sound like a simple methodology, but for a company with 11 production, engineering, distribution and customer support sites in the UK, and a further 40 spread across Continental Europe, Australia, New Zealand, SE Asia, South Africa and the Americas; organising these teams is a design feat in itself.

## Taking the industry forward

Despite having over 2000 employees across the globe, James Walker remains privately owned.

Mr Bowers believes this gives the company the flexibility it needs to help continue to support the challenges faced by the valve industry, even during difficult times for the global economy. Private ownership also helps to create a family ethos, and a business environment that employees do not want to leave once they have become part of the James Walker team.

James Walker was founded in the 1880's and it was the principle of applying *'engineering science'* in order to *'...enable machinery to work more reliably'* that fuelled the company's growth in those early years. That growth was so rapid, that James Walker has been a global company for over 100 years. However one can easily see the link between the founding principle of James Walker in the late 1800s, and the modern company's focus on research, development and innovation today.

The company continues to provide new products which prove to be extremely popular with the industries they supply. A recent

An advertisement for Alco Valves. At the top left is the Alco Valves logo, which consists of a stylized 'A' and 'V' inside a circle, followed by the text 'Alco Valves' and 'Industrial Valve Manufacturers' below it. To the right of the logo is the text 'Manufacturers and suppliers of high and low pressure valve solutions worldwide.' Below this text are three images of different valve types: a high pressure valve, a 2-way inline manifold, and a multi-way manifold. To the right of each image is its respective label: 'High Pressure', '2 Way Inline Manifolds', and 'Multi-Way Manifolds'. At the bottom of the advertisement, it says 'Needle Valves from www.alco-valves.com'. Below the website address are the contact details: 'Tel: 01484 710511 Fax: 01484 713009' and 'Email: uk@alco-valves.com'.

example is the success of James Walker's *RotaBolt*®, the tension control device that uniquely assures bolted joint integrity. The concept is very simple; a bolt that is not just accurately calibrated but that also provides a tactile or visual indication that it has been installed at, and is maintaining, the correct bolting design tension, assuring the integrity of the joints where bolts are subject to vibration and other stresses. The clever part is that James Walker engineers have been able to take this simple idea and turn it into a finished product range that is easy to manufacture, robust and above all reliable. The result – a highly successful product adopted across a range of industries that is now manufactured and distributed across the globe.

Increasingly James Walker has become known, not only for effective products, but also for the provision of design solutions. Mr Bowers believes that it is the company's complementary teams, spanning disciplines as well as Continents that mean it is ideally positioned to provide this.



*Results from James Walker's state of the art testing facilities help to drive customer confidence*

*'We have teams in Brazil, China, India, Australia, New Zealand, South Africa, the Middle East, and USA as well as across Europe and we insist on local support in each of those countries. We invest heavily in training so that our teams can provide solutions that don't just work but provide additional benefits such as reduced maintenance costs or performance improvements for our customers.'* says Mr Bowers.

By providing customer support on a local level backed up by dedicated teams of experts who have the freedom to focus on driving research and development, James Walker is achieving its aim of building customer confidence and maintaining a position as a leading global provider of effective, innovative sealing solutions.

**James Walker**

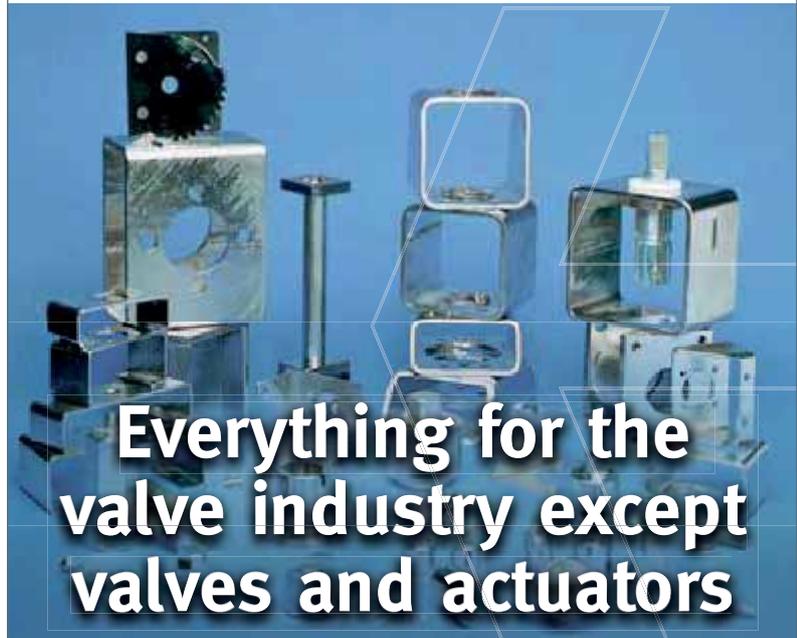
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Redefining Flow Control

# KOSO Kent Introl enhances Brazil presence through CCRC registration

KOSO Kent Introl's (KKI) Brazilian presence has been further enhanced with the Yorkshire engineering company successfully completing the prestigious CCRC registration with global energy giant, Petrobras. This certificate offers a gateway for UK-Brazil trading.

The CRCC (Certificado de Registro no Cadastro Corporativo) is essentially Petrobras' central register of those companies it has approved to supply products and services. The process for completing CRCC registration is a stringent one and required extensive scrutiny of all aspects of KKI's business affairs. The process has been known to take as long as two years, but KKI was able to successfully complete their registration comfortably within this timeframe.

For the past decade, KKI has exported its valve products to the rapidly developing oil and gas industry in Brazil. To show its commitment to the region, in 2010, the company appointed UK-based Mark Harris to develop Brazilian market opportunities for KKI. Mark continues to build strong customer relationships in the upstream oil and gas market with the help of newly appointed-agent Marcos Reis, based in Rio.



Mark Harris

Mark Harris, KKI's area business manager for Brazil commented: 'Our registration onto the CRCC register is a great achievement and will allow us to work directly with Petrobras on future projects in Brazil. It's been a great team effort and we're looking forward to reaping the benefits of a continued and strengthening presence in this important region.'

*'...team effort...'*

KKI's strategy for this key region is to develop a strong presence in Brazil; with the goal of eventually incorporating an in-country manufacturing and aftercare facility that utilises local labour and suppliers. Ultimately, KKI's objective is to meet the Brazilian government's requirements for suppliers to provide up to 75% local content. In the meantime, Mark with Marcos are focused on continuing to build strong customer relationships in the upstream oil and gas market sector. Securing CRCC enrolment demonstrates the success of this approach.

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# Acquisition expands Rotork's valve adaptation business

The acquisition of Renfro Associates Inc. heralds the expansion of Rotork's valve adaptation and accessories business, with manufacture in the USA adding to Rotork Valvekits well established UK-based operations. The combined resources of both companies have created the largest operation of its kind in the world.

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

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

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



An area of the Renfro Associates workshop facility at Broken Arrow, Oklahoma

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*By BVAA's Technical Consultant,  
Peter Churm*

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## **BS EN ISO 4126-1:2013 Safety devices for protection against excessive pressure - Part 1: Safety valves**

Attention is drawn to the implications that hydrostatic pressure testing may be waived for certain types of safety valves. This might result in manufacturers using this standard failing to meet the essential safety requirements in the Pressure Equipment Regulations 1999 (as amended). This matter was raised with the Commission Working Group "Pressure" and a guideline issued to clarify the position (WGP Guideline 8/14 can be found on the European Commission website, <http://ec.europa.eu/enterprise>)

Attention is drawn to National Annex NA (informative) and National Annex NB (informative), which are based on BS 6759-1:1984, BS 6759-2:1984 and BS 6759-3:1984.

National Annex NA gives advice on performance testing of safety valves for hot water duty for UK users of this European Standard, and enables type test approval to be obtained. National Annex NB provides further supplementary information on materials, springs and the operating system, and guidance on safety valve mounting and installation.

# Scandinavian appointment supports global expansion for SIPOS

A new agent in Norway supports global expansion for SIPOS Aktorik. The latest partner for the electric actuator supplier is J.S. Cock. Founded in 1897 and with headquarters in Oslo, SIPOS' newest agent is a leading supplier of valves, instrumentation and complete valve packages for hydro power, water treatment plants, pulp & paper, smelter, marine, petrochemical, food and the pharmaceutical industries.

*'...ideally placed...'*

SIPOS' network of over 50 SIPOS agents worldwide ensures that the actuator manufacturer has an established presence in every continent. The company's partners all receive comprehensive technical training from SIPOS to ensure the highest standard of local support around the globe.

Commenting on the appointment, Felix Metzenthin Sales Director at SIPOS Aktorik said:

*'We are pleased to welcome J.S. Cock into our worldwide family of distributors and agents. With branch offices in Arendal, Bergen and Stavanger, full product support is provided for SIPOS' actuation technology across Norway.'*

With four offices located across the south of Norway plus representation and valve stock from leading manufacturers worldwide, J.S. Cock is ideally placed to provide sales and service for electric actuators from SIPOS Aktorik.



Premises of SIPOS' new Norwegian agent, J.S. Cock



J.S.Cock's Morten Steinset and John Bergh

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By BVAA's Technical Consultant,  
Peter Churm

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## CEN/DIS enquiry on prEN ISO 4126-6

**Result of the parallel CEN / DIS Enquiry on prEN ISO 4126-6 "Safety devices for protection against excessive pressure -- Part 6: Application, selection and installation of bursting disc safety devices"**

prEN ISO 4126-6 was submitted to the parallel CEN / DIS Enquiry which closed on 14 July 2013. The draft was approved with comments, in both ISO and in CEN. P-Members voting: 9 in favour out of 10 = 90 % (requirement  $\geq 66.66\%$ )

The comments received will be considered by ISO/TC 185/WG 19 at its next meeting.

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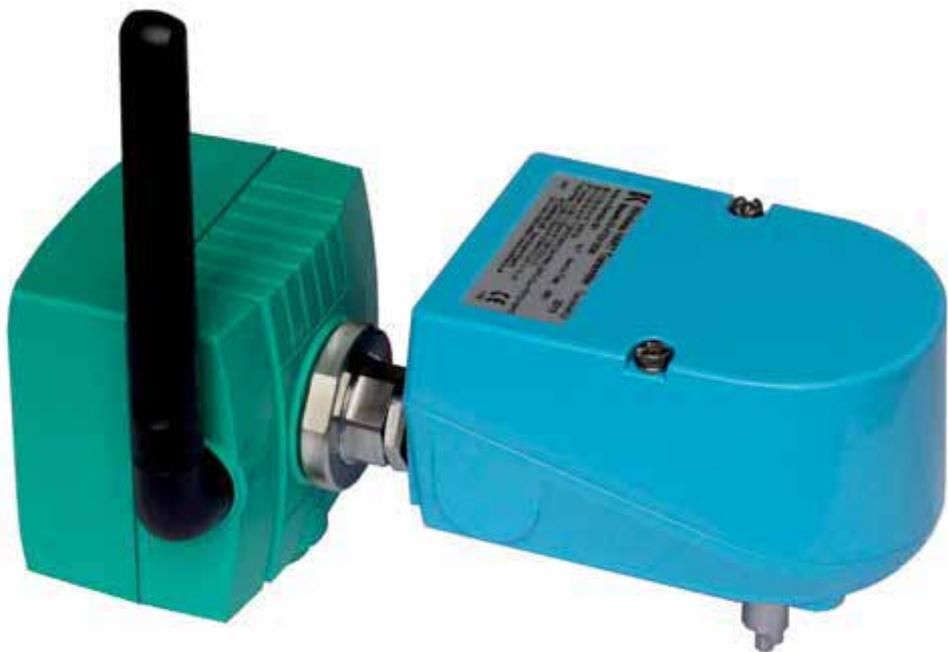
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# K Controls 007 K4-20 WirelessHART® Valve Position Monitor

There are many unmonitored manual and actuated isolating valves in industrial process plants, where a cable run from the control room is not available and would be too costly or disruptive to install. To solve this problem K Controls has entered into a partnership with Pepperl and Fuchs to develop the 007 K4-20 WirelessHART® Valve Position Monitor to provide frequent, wireless updates about a valve's position and eliminate the need for time consuming and risky visual inspections.

The 007 K4-20 WH is powered by a battery pack with a lifespan of up to 5 years depending on the transmission rate. The rotatable antenna can be adjusted to achieve optimal reception. The unit is easily



K Controls 007 K4-20 WirelessHART® Valve Position Monitor

*'Robust security  
and secure data...'*

programmed with a configuration tool (DTM: Device Type Manager or DD: Device Description). The WirelessHART® protocol utilizes a time synchronized, self-organizing, and self-healing mesh architecture.

The protocol supports operation in the 2.4 GHz ISM band (Industrial, Scientific and Medical band) that is licence free and used worldwide. Signals from the 007 K4-20 WH and other wireless HART devices are sent to a WirelessHART® Gateway which is the interface between the WirelessHART® network and the control system

or asset management system. The gateway supports up to 250 participants and can be connected to the control system using either an RS485 or Ethernet interface, which can transmit either the MODBUS® or HART® protocols.

A flat mesh approach is used where all wireless field devices form a network. Every participating field device serves simultaneously as a signal source and a repeater. A message is sent from a field device to its nearest neighbour, which then passes the message on, until the message reaches the WirelessHART® Gateway. The mesh architecture can therefore significantly increase the total area covered way beyond the 75m to 200m range possible between two individual field devices. In addition, alternative routes are set up during in the initialization phase. If the message cannot be



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transmitted on a particular path, due to an obstacle, interference or a defective field device, the message is automatically sent via an alternative route. So, in addition to extending the range, the flat mesh network provides redundant communication routes to increase reliability. Field devices can be added to the network as required; this will also increase the number of alternative paths available.

*WirelessHART*<sup>®</sup> employs robust security measures to protect the network and secure the data at all times. The communication in the network is coordinated with TDMA (Time Division Multiple Access), which synchronizes the network participants in 10 ms timeframes. This enables a very reliable (collision-free) network, and reduces the lead and lag times during which a station must be active. To avoid jamming, *WirelessHART*<sup>®</sup> also uses FHSS transmission technology, (Frequency Hopping Spread Spectrum). All 15 channels as defined in IEEE802.15.4 are used in parallel and *WirelessHART*<sup>®</sup> uses FHSS to “hop” across these channels. Channels that are already in use are blacked out to avoid collisions with other wireless communication systems. The combination of 10ms synchronization and 15 channels allows 1500 communications per second.

The 007 K4-20 WH has IP66 rated enclosures manufactured from a combination of engineered plastic and either coated aluminium or stainless steel. For hazardous areas the certification is ATEX and IECEx intrinsically safe Ex ia IIC T4 Gb (-40°C ≤ Ta ≤ +60°C) for hazardous gasses in Zones 1 and 2 and Ex tb IIIC T135°C Db IP6x (-40°C ≤ Ta ≤ +60°C) for combustible dusts in Zones 21 and 22. It is suitable for inclusion in any existing *WirelessHART* system that uses a true *WirelessHART* protocol.



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Redefining Flow Control

# Extending valve life and productivity during shutdown refurbishment projects

The Aftermarket team at KKI is in full flow at the moment, once again supporting the annual shutdown at one of the UK's largest refineries.

The shutdown project follows many months of careful planning, with QA audits, customer visits and shutdown requirement reviews taking place in the lead up to the shutdown being implemented. This preparation period allowed requisite spares to be identified, manufactured or procured in readiness for the shutdown, therefore ensuring the quickest possible turnaround for the customer. Historical OEM documentation such as BOMs, CVTSs and modification records have played a vital role in the preparation work – as they do in all shutdowns that we support.

This particular shutdown will see over 100 valves being received by the team for assessment and refurbishment over a 3-week period. The sheer scale of the project will see the team working with a huge variety of spares, which have already included:

- Soft parts such as body joints packing sets, actuator seal kits
- Trim parts such as plug assemblies, stems guides and seats
- Fasteners such as studs and nuts for body/bonnet, gland arrangements and actuators
- Major components such as bodies and bonnets.

In this shutdown alone, over 5500 components have already been produced and additional items including a 10" double-seated trim have been identified as requiring manufacture during the outage.

*'...increased performance and the continued reliability...'*



Over 100 valves will be received by the team over a 3-week period



KKI's Aftermarket team is based in a dedicated 18,000sq ft aftermarket facility in Brighouse, Yorkshire

KKI prides itself on the quality of the spares it manufactures; all are supplied with a certificate of conformance and original equipment manufacturer (OEM) guarantee. Valve trim components are etched with a part number and heat number for ease of traceability, with material certification available if required.

When first produced, a KKI control valve is, of course, tailored to meet a customer's anticipated process conditions. However, for a variety of reasons, over the course of the valve's lifetime, the working process conditions can change, with potential detrimental effects to the effectiveness of the valve and process. The KKI Applications department has the knowledge and experience to evaluate and recommend the best economical solution to ensure control valves provide increased performance and the continued reliability associated with KKI equipment.

In a shutdown such as the one currently underway, the team will assess the state of the valve and internals and, where deemed necessary, will instigate an application review which will include the valve's process conditions. On completion of the review, if appropriate, they will then recommend an upgrade solution.

As a result of this approach, the team has been involved in numerous successful upgrades which include:

- Base material changes, special overlays, use of tungsten carbides
- Trim design changes with additional stages of pressure letdown
- Instrumentation changes for increased response times

- Special packing arrangements for low emission requirements
- Combinations of the above for severe service applications.

KKI's Aftermarket team is based in a dedicated 18,000sq ft aftermarket facility in Brighouse, Yorkshire, which was designed and configured by its own workforce. It therefore provides a working environment that supports optimum efficiency and future growth as well as housing the specialist facilities required for subsea work, such as separate areas for testing and secure storage.

Although the Aftermarket team operates independently, being situated adjacent to the company's main manufacturing sites allows the retention of close working relationship with the rest of KKI, specifically in design and manufacturing disciplines. This ensures that customers benefit from access to KKI's 'total quality' expertise; particularly invaluable in projects such as the current shutdown.

# kentintrol

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*By BVAA's Technical  
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## Result of the UAP Vote on FprEN 13547

**FprEN 13547 "Industrial valves - Copper alloy ball valves"**

This draft standard was submitted to UAP Vote which closed on 28 July 2013. The draft was approved and will now be ratified by CEN in due course.

Some technical comments have been received at this late stage and they will have to be considered at the next revision.



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# Valvestock launches Industrial Pumps offering

Valvestock, the specialist valve and actuator arm of Pipe Centre, has established an industrial pumps offering to target the specialist requirements of large-scale projects across the UK, support OEMs and deliver a unique multi-product offering to industrial end users.

The new operation is being headed by Andy Walsh, who joins Pipe Centre from pump manufacturer Ebara. Andy is qualified in fluid engineering from Monash University, Australia, and has more than 25 years experience in industrial pumps, with hands-on experience of HMD Kontro, Wilo, Emu, Grundfos and Lowara ranges, to name a few.

*'A wealth of experience'*

Marcus Sampson, Valvestock trading manager, says: *'Andy brings a wealth of experience, market knowledge and drive to help develop our ambitions in the industrial pumps market. I very much look forward to working with him.'*

Andy will be based at Valvestock's new premises in Fareham and works alongside valve specialists Stuart Coggan and Steve Ohm and export co-ordinator Lee Wilson, to support industrial pump projects in several key sectors.

Specialist sectors include power generation, food and beverage, water and waste, iron and steel-making, pharmaceuticals, industrial boiler feed, and quarrying and mining.

*'We see huge opportunities in these areas for assisting clients with new and replacement pump projects,'* said Andy Walsh.

*'Industrial applications have their own unique challenges, and often require co-ordinating input from a number of disciplines.'*



Andy Walsh

*'Bringing together the technical and application knowledge within Pipe Center and Valvestock, and marrying it with our own wide-ranging experience of large-scale industrial projects, enables us to offer a unique service.'*

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# Severn Glocon acquires HPHT company Calidus Engineering

Control valve engineering specialist Severn Glocon Group has strengthened its presence in the subsea oil and gas market with the acquisition of High Pressure High Temperature (HPHT) downhole tools company Calidus Engineering. Now renamed Severn Subsea Technologies Ltd, the company will provide research, development and test facilities to enhance Severn Glocon's subsea valves capability.

A former subsidiary of Badger Explorer (Norway), Calidus is a multi-discipline engineering firm developing innovative subsea and downhole technologies for harsh HPHT environments. Severn Glocon Group is taking this strategic move in a bid to align its operations to better meet future technical challenges in subsea oil and gas production. Calidus' downhole products already developed will provide major sales opportunities with worldwide oil and gas corporations.

In addition to modelling and engineering design services, Severn Subsea Technologies' Redruth (UK) facility has a machine shop equipped for manufacturing prototypes. The business is set to become the nucleus for Group subsea R&D and systems integration activity, in tandem with small-bore subsea valve firm LB Bentley's R&D Team and the Severn Unival Brighthouse Valve Innovation Centre.

The acquisition enhances core capabilities to strengthen the Group's global positioning in the subsea market, and builds on the acquisition of LB Bentley in 2012. It also increases the scope for new subsea systems developments based on LB Bentley's valve technology.



*The acquisition enhances core capabilities to strengthen the Group's global positioning in the subsea market*



*The company has been renamed Severn Subsea Technologies Ltd*

*'...The acquisition enhances core capabilities to strengthen the Group's global positioning in the subsea market...'*

Severn Glocon Group Chief Executive Maurice Critchley says the acquisition underlines the firm's ambitions to be at the forefront of technical developments for the oil and gas industry:

*'Offshore operating conditions are becoming ever more extreme, so hardware engineers and manufacturers need to invest in developing breakthrough technologies. As an industry we have a duty to collaborate and innovate. At Severn, we're using intelligence-led R&D to identify potential technology gaps and focus our engineering expertise in the right places. Calidus brings a valuable new set of skills to our portfolio as we upscale our R&D efforts.'*

From its West Country technology facility, Calidus is receiving revenues from local and global clients in the oil and gas industry, as well as from the field of R&D.



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# KSB's valves used in the salvage of the Costa Concordia

Over three hundred ISORIA pneumatically actuated butterfly valves have been supplied by the KSB Group for use in the salvaging of the cruise ship Costa Concordia, which capsized off Giglio Island on 13 January 2012.

The role of the 328 valves was to fill and vent tanks located in the sponsons (giant steel boxes), the first 15 of which were welded to the port-side hull to act as ballasting bodies when righting the wreck. At a later stage, these sponsons, together with another 15 installed on the star-board side of the cruise ship, were flooded and used to stabilise the wreck.



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*'...valves were subjected to special tests...'*

Prior to being used in the recovery, the ISORIA pneumatically actuated butterfly valves were subjected to special pressure tests at the Italian KSB plant in Concorezzo.

There, KSB Italia's technicians simulated an ambient pressure corresponding to a water depth of 40 metres. The valves' actuators are designed to ensure that a pre-set fail-safe position is adopted in the event of insufficient compressed air supply. If the actuators cannot be controlled due to a power supply failure, it is also possible for divers to operate them manually. As soon as the 50-metre crack in the ship's side has been sealed, the sponsons were filled with air to get the vessel up and floating again.



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# Major Win for Metso in China

**Superior tightness in difficult applications resulted a major order for Metso valves from Yantai Wanhua Polyurethanes Limited in China**

Metso has been awarded a high-value contract for pneumatic ball valves and butterfly valves by Yantai Wanhua Polyurethanes Limited. The valves will be used in the MDI integration project (diphenylmethane diisocyanate) at their existing factory site and a new PO/AE integration project under construction in China (epoxy propane and acrylic ester). This is the first partnership between Metso and Yantai Wanhua, which has invested approximately RMB 30 billion (USD 5 billion) in these two projects.

*'Metso's valve solutions were chosen because they meet the strictest standards regarding leakage class and low fugitive emission,' says Steven Wang, Account Manager, Automation, Metso.*

The PO/AE integration project includes plants for propane dehydrogenation, acrylate, and acrylic acid resin, propylene oxide, and polyhydric alcohols, as well as a LPG storage cavern. Metso will supply ball valves including its X series, D series stemball valves, 9000 series flanged valves, S6 series metal seated high pressure valves, and the R-series V-port segment control valves. Materials of construction range from WCB and CF8M grade to Hastelloy, 316L and Monel per the customer's specification.

The key components of the MDI project, which includes plants for producing isocyanate, oxidized hydrogen chloride, and nitrobenzene, require valves that deliver a superior tightness in difficult applications over long time and which promise control of fugitive



*The Neldisc® L6 series is a triple eccentric butterfly valve with a metal seat*



*Yantai Wanhua has invested approximately RMB 30 billion in two projects*

emissions. Metso's deliveries include 700, L6 Neldisc® triple eccentric butterfly valves that are engineered to accommodate the projects unique requirements.

The Neldisc® L6 series is a triple eccentric butterfly valve with a metal seat. The trim consists of a high-precision elliptical disc and a chrome plated (Incoloy 825) seat, which is attached to the casing with a stainless steel clamp ring, making it easy to assemble and dismantle for maintenance. Such metal seats are more resistant to abrasion and more tolerant of liquids at a high pressure and temperature, all of which ensures a longer operational life. When the valve is open, the disc and seat are separated, which significantly reduces abrasion between the sealing components, reduces operational delays and wear on sealing surfaces, and also lowers valve torque. When the valve is closed, the sealing is achieved through the elasticity of the valve seat; assistance from pressure generated by flowing liquid is not required, meaning that a firm sealing can be achieved even where the pressure differential is low.



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# Innovative Rotork valve actuation selected for Australia's giant clean LNG projects



*On the left, CVA actuator, model CVO1200, operates a 3 inch ball valve to control the gas flow and pressure. Behind the CVA, Skilmatic model SI-Q51 electro-hydraulic actuator operates a 2 inch safety shutdown ball valve on the water extraction line. The Skilmatic model SI-Q60 on the right is controlling a 4 inch safety shutdown ball valve on the gas line.*

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

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

For the upstream mainland wellheads, HART-enabled Rotork CVA modulating electric actuators have been ordered for process valve control at an eventual total of 2000 widely distributed sites. In addition to the natural gas, CVA actuators will also control the flow on the extraction process for coal seam water. This resource will be treated for use by agricultural

and industrial customers as well as supplementing domestic water supplies.

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

Nearly 1000 Rotork Skilmatic SI and EH range electro-hydraulic actuators have been ordered for control valves, shutdown valves, wellhead skids and metering skids. These self-contained actuators combine the simplicity and convenience of electrical operation with the modulating precision of hydraulic actuation and the reliability of mechanical failsafe motion. Designed to SIL3 standards for use in safety critical applications, Skilmatic actuators are also programmable for partial

stroke testing, enabling valves to be tested without interrupting routine processes.

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

The balance of Rotork orders on this giant project involves fluid power actuators for the pipeline and the LNG plants on Curtis Island. The majority of these are CP and GP range pneumatic actuators operating butterfly valves on LNG production lines. The actuators are customised with control packages to meet specific operating duties, including SIL2 and SIL3 applications.

The remainder are GO range gas-over-oil actuators, most of which are for the large mainline pipeline shutdown valves. GO actuators are designed to use the pressure of the pipeline gas as the motive power source. Integral control functions facilitate a wide range of duties, usually safety related and including line break, low pressure close, high differential inhibit and ESD.

Rotork's international sales network has made an important contribution to this success, with orders received at Rotork offices in Australia, China, Singapore, Italy and the USA. As well as providing a simplified contractual route for the different products, the Rotork global organisation has the ability to co-



One of the many wellhead and separator skids installed on the Queensland mainland.

ordinate manufacture at various production centres and secure on-time deliveries to customers across the world. In Australia, Rotork has moved to larger premises in order to fully support the Queensland projects.

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*By BVAA's Technical Consultant,  
Peter Churm*

**TECHNICAL  
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## Draft Umbrella valve test standard

### **Draft BS EN 16668 Industrial valves - Requirements and testing for metallic valves as pressure accessories**

This document is currently submitted to the CEN Enquiry. BSI is deliberating whether the UK should submit a negative (with reasons) or positive vote on this draft.

This European Standard is an umbrella standard referencing European harmonised Standards applicable to industrial metallic valves as pressure accessories for industrial applications and covers the minimum requirements to meet the Essential Safety Requirements of the Pressure Equipment Directive (EU Directive 97/23/EC).

This European standard applies to metallic valves as pressure accessories for industrial applications with a maximum allowable pressure PS greater than 0,5 bar

in accordance with the Pressure Equipment Directive (PED) 97/23/EC and specifies minimum requirements applicable to design, manufacture, testing, materials and documentation.

All essential safety requirements of the Pressure Equipment Directive (PED) 97/23/EC have been taken into consideration and those applicable to valves are addressed in this European standard.

This European standard is not applicable to

1. Safety valve and bursting disc (a safety accessory),
2. Sight glass with its frames (component of a pressure equipment) and
3. Measurement chambers,

...but may be used for the pressure bearing parts of safety accessories such as bodies, bonnets and covers.

# AUMA produces new part-turn actuator

The new AUMA SQ .2 part-turn actuator has been successfully introduced to market. Designed for butterfly and ball valve automation, the SQ .2 replaces AUMA's established SG .1 range.

Enhancements set to expand process control applications for AUMA in the power and water industries include a significant increase in torque range, sophisticated diagnostics and asset management functionality.

A new actuator size in the SQ .2 series more than doubles the torque range offered by AUMA's predecessor product: this is a significant expansion now covering 50Nm to 2,400Nm.

*'Enhancements include additional temperature and vibration sensors'*

Advanced features and benefits include adoption over a wider torque range without the need for a gearbox – this provides a more compact and cost effective actuation solution. Sophisticated diagnostics and asset management enhancements include additional temperature and vibration sensors. For enhanced



*Production commences for the new AUMA SQ .2 part-turn actuator*

positioning accuracy, and an increased number of permissible starts per hour, an SQR version for modulating duty replaces the SGR.

Commissioning and operation of SQ actuators are identical to the SA .2 multi-turn range, introduced by AUMA in 2010. Both ranges are available with simple AM or micro-controller operated AC integral controls – as a result, controls are interchangeable and, at plants where both product series are installed, on-site device management is simplified.

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# RPV Invests in PMI Niton Analyser



*The PMI Niton Analyser is used to determine the positive material identification (PMI) of ferrous metals, nonferrous metal alloys and cobalt based material*

**Suffolk based valve stockist and distributor RPV, has further expanded its range of testing capabilities. The company's test house now includes a PMI Niton Analyser to aide with the inspection and verification of the materials of the products in stock. The expansion follows the significant investment in the RPV's test house facilities to include cryogenic testing to a temperature of -196°C, as announced in Valve User 26.**

The PMI Niton Analyser is used to determine the positive material identification (PMI) of ferrous metals, nonferrous metal alloys and cobalt based material. RPV have invested in specialist training for six members of staff to operate the testing gun.

Steven Withers, RPV's QA / QC Director, is pleased to unveil this new capability and the associated reduction in lead times for customers.

*'We are delighted to further add to our testing capabilities. By bringing this service in house we can reduce the lead times for customers who require PMI testing. The work will be carried out under our PED certification, giving us full quality control.'*

Testing, using the gun's built in x-ray tube, is underway at the RPV test house now. Enquiries can be made through RPV's sales team.



*RPV's test house continues to expand*



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# Smart: How James O'Donnell Revolutionised Actuator Productivity

James O'Donnell, the man who devised the revolutionary 'Smart Actuator', the Actuator that delivers a 75% power saving on standard models, has always been an inventor. As a child he loved tinkering with electronics kits and 'educational toys'. Growing up with the internet, it was natural that his inquisitive mind took him into a degree in computer science and business studies. And he has been tinkering ever since.

The inspiration for this life-changing innovation came whilst playing with a Scaletric car. While examining how to make the motor more efficient on the track, James realised that his thinking could have much wider implications. The detail was, for a long time, a closely-guarded secret and following that eureka moment, much of James's time has been spent with lawyers ensuring the technology can be patented across the globe.

The next stage was for James to understand the applications of this discovery. James's father, Tony, runs a successful computer maintenance company. So, using parts lying around in the workshop and utilising a deep knowledge of computers – and their insides – he added some complex electronics to this motor configuration and the very first electric motor system was created in the Rift Lab.

Together with Tony and a family friend who just happened to have over 25 years of experience on the valve actuator industry, they looked for ways to use this new technology. The team worked together to see if this motor could be used to revolutionise this market. They realised that the market had not seen significant mechanical or technological innovation for many decades and much the same product configuration is sold across the world.

Both James and Tony are fans of the concept of 'disruptive technologies' and they began looking in more detail at the actuator's design – something which has not fundamentally changed for many decades.

As James explains, the challenge was to bring fresh thinking to an old, traditional product: *'I started this exercise with a relatively simple aim to develop a part-turn electric actuator, capable of delivering a range of torque outputs (from 20 to 100Nm) with an operating time of 4 seconds and which complies with all the appropriate market regulations in the different markets round the world.'*

*'Very quickly I realised it seemed difficult or even impossible to turn 100Nm in 4 seconds without spending a huge amount of money on a motor. The motors capable of realistically turning 4 seconds were too slow and the motors with the speed to do the job did not have the required torque within a budget which could produce a competitive product.'*



*James O'Donnell and Dad Tony – 'tinkering'*

James set about analysing the market and taking apart a number of actuators from across the world.

He concluded that in most entry level actuators half of the cost goes in the motor, and the other half is equally split between electronics – usually simple power supply and relays - and mechanics.

*'...energy usage reduction of approximately 75 per cent...'*

He continues: *'If we take an objective look at what an actuator is, we can see it is simply a means of converting electricity into rotary motion. We can also quite quickly determine that there is a relationship between current and torque, and a relationship between volts and speed. Although this is a simplification it is useful shorthand for understanding this problem.'*

*'I found splitting the current between a range of smaller electric machines enables the core components of those machines to be utilised much more efficiently. A combination of smaller motors working together allows them all to operate more efficiently in terms of resources, energy usage and the overall cost than a single machine.'*

*'Once this realisation was made we could adjust the core budget to significantly enhance the electronics inside the model and vastly enhance the features available from the end unit - while keeping the cost broadly the same.'*

*'We end up with a unit which can turn over 100Nm in under 2 seconds. Utilising the motors close to their optimum efficiency, we have found demonstrates a significant energy usage reduction of approximately 75 per cent against most existing units. This lets us shift the paradigm within the actuator market allowing us to introduce aspects like a universal power supply containing both high and low voltages and a processor with a power comparable to or greater than that that of most smart phones.'*

*'And by reducing the core amounts of copper and magnets required, we greatly reduce the core carbon footprint of manufacture, keep the unit weight low which reduces the required infrastructure costs.'*

James and Tony formed Rift Technology in 2011 and set about the task of developing working prototypes to test their proposition.

## *'Amazing results'*

*'The workshop became full of deconstructed actuators and parts were strewn all over the floor of every room in Dad's house,' James explains. 'In the end the family forced us to move everything into two workshops below the house. But every time we created an actuator, we were able to show the same amazing results and we were able to make demonstrations to potential investors and partners. We used to joke that every time someone saw the tests performed they ended up being 'Rifted'. That club is growing by the day and each person is amazed to see the results.'*

The path to manufacturing the very first 'Rift Driven' product has been complex. Innovating is a difficult



*Splitting the current between a range of smaller electric machines enables the core components of those machines to be utilised much more efficiently*

task during recessionary times and the team really got to know the true meaning of the credit crunch. James says: *"The banks were simply not prepared to help out and every potential investor wanted just too much equity to make the long-term proposition appealing. We've seen a variety of funding solutions but in the end, we have focused on raising our own private capital to get to a position where we can start shipping actuators."*

*'If possible we would like to keep manufacture of this in the UK and create wealth and opportunities locally. We all live in Worcestershire and it would be great if we are able to keep producing our actuators in the county.'*

James and Tony met with partners to help create the parts for the first actuators and the very first units came off the production line in August, 2013.

Meanwhile the Smart Actuator company was founded to market and distribute the new actuator and the company immediately received plaudits. The company was given an award by the local Chamber of Commerce for its innovation and the parent company received support from an unlikely supporter. Motor sport legend John Surtees saw a demonstration and offered his support to help take the technology to a wider audience. The team at Rift Technology are now looking forward to meeting with global motor manufacturing partners to look at offering the technology to Formula 1 and eventually volume production cars.

While many interested parties are making their way to Malvern to see the motor test for themselves, much of the team's efforts is spent delivering the very first actuators off the production line.

James adds: *'Like all new products, there are teething problems and the inevitable hiccups. However, it is great to see that every actuator coming off the production line shows the same great performance. We are now looking at new materials to make the actuator last longer as well and we are fully expecting this to be simply the best actuator available for a wider range of tasks'*

*'We are in the process of taking our prototypes out to our global sales partners and we are booking up space at exhibitions to start shifting product'*

*'It's been an incredibly intense journey, but we all hope that once the word starts getting out, our order book will be full for many years to come.'*



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

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

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

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

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



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



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

Right: This IO3 unit, the latest version of Rotork's intelligent actuation product range, drives through Rotork IB gearboxes and extension drive shafts to control the position of the two outlet modulating penstocks on the site's new Ultra-Violet disinfection plant.

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

The SCADA system runs the automated processes and collects control, status and diagnostic data from each actuator. This information is available on the site and at Wessex Water's regional operation centre at Bath, where remote diagnostics has proved to be a cost effective method of maintenance and service by identifying the right operational staff to be sent to site if required.

The upgrade project at Weston-super-Mare STW has been performed by a partnership made up of the Halcrow Group, Dean & Dyball Civil Engineering, Nomenca and Wessex Engineering & Construction Services. The Rotork equipment was supplied in accordance with the Framework Agreement which the company holds with Wessex Water.

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# Self-powered standalone temperature transmitter from ABB opens up new installation possibilities

ABB has developed a standalone, self-powered temperature transmitter with WirelessHART™, offering a cost effective and maintenance-free alternative to wired or battery-powered devices.

Wireless instruments offer the ideal solution wherever it may be costly or impractical to run cabling. Battery-powered WirelessHART technology allows for quick and simple instrument installation to allow operators to monitor new process information to improve plant visibility.

However, the battery will eventually need replacing, incurring time and cost. Battery life can be prolonged but only by slowing down the data transfer rate, affecting the instrument's response time.

These challenges are overcome by ABB's self-powered temperature transmitter. Featuring a built-in thermoelectric generator (TEG), the device uses the Seebeck Effect to harvest electrical energy from thermal energy. The temperature difference between the ambient and the pipe temperature produces a voltage difference, which is then used to power the device. This technology enables the transmitter to be fitted onto a steam or process pipe, with the latent heat being used to provide the power needed for operation.



Battery-powered WirelessHART technology allows for quick and simple instrument installation

*'The temperature difference between the ambient and the pipe temperature produces a voltage difference, which is then used to power the device'*

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To help protect against the risk of a power failure, for example if the process medium or steam flow is deactivated or the temperature gradient falls below the 30K needed to power the device, the device also includes a back-up battery. Under ordinary circumstances, this battery should hardly ever need to be used, giving it a potential operating life of up to 20 years.

The status of the device can be relayed via WirelessHART™ to a centralised control system, including ABB's System 800xa, which offers the necessary functions and tools to integrate wireless devices into the control network.

To help operators find out whether their application could benefit from using the self-powered transmitter, ABB's service experts can perform a site survey. Using the results of the survey, they will advise on the suitability of wireless technology for the application, together with any steps that need to be taken to optimise its effectiveness.



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# Safety Interlocking Pressure Relief Valve Systems

Whether onshore or offshore, maintenance procedures to Safety Relief Systems on live plants is a cause for concern, particularly as an open path to relief must be maintained during all times of the work exercise. Smith Flow Control's PSV system ensures maintenance procedures on safety relief systems operate in a safe sequence.

Most modern piping arrangements include spare relief capacity, which enables continuous production while routine maintenance procedures are conducted. This eliminates the need to isolate and shut down the process on a live plant, which has major time and cost saving advantages.

Twin or multiple safety relief valve systems are usually fitted with isolation block valves upstream and downstream of each safety relief valve. It is imperative to open the block valves isolating the spare relief valve before the block valves of the work-piece relief valve are closed. This is a more acute problem if the respective relief valves and isolating block valves are distant or out of sight of each other.

Various API and ASME codes recognise this hazard and recommend the use of interlocks to safeguard the process. By fitting a valve interlock to the upstream and downstream isolating valves, it ensures the process occurs only in the safe, designated sequence and recommendations are fully implemented.



Smith Flow Control's PSV system ensures maintenance procedures on safety relief systems operate in a safe sequence



**Smith Flow Control Ltd**

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## Leif E. Darner named to Flowserve Board of Directors

**Flowserve Corporation, a leading provider of flow control products and services for the global infrastructure markets, announced that its board of directors has elected Leif E. Darner as a member of the board. With the addition of Darner, the Flowserve board increases to 11 members, 10 of whom are independent.**

Darner, 61, is the former chief executive officer of performance coatings for Akzo Nobel N.V., a leading global paints and coatings company and major producer of specialty chemicals with 2012 revenues of more than \$20 billion. While at Akzo Nobel, Darner grew annual performance coatings revenues to exceed \$7.5 billion annually. Prior to his most recent role, Darner led the chemicals business of Akzo Nobel and was previously the general manager of the marine and protective coatings unit.

*'Leif brings to the Flowserve board a wealth of industrial knowledge and a valuable international perspective,'* said James O. Rollans, non-executive chairman of the Flowserve board of directors.

*'Leif's leadership experience, demonstrated through his proven track record of growing international businesses in global markets, aligns well with the Flowserve growth strategy and makes him an ideal fit for the board. We are pleased to have him join and expect his contributions to have an immediate and positive impact on the company.'*

Darner received Bachelor of Business Administration and Master of Business Administration degrees from Göteborg University in Sweden.



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# Westons Cider saves £42,000 annually with reverse osmosis from Spirax Sarco

**Westons Cider is saving around £42,000 per year in fuel and water costs following the installation of a Reverse Osmosis (RO) water treatment unit from Spirax Sarco.**

The new RO system has reduced water and energy losses by cutting the amount of boiler blowdown and water needed. Accurate metering of fuel oil and water has pinpointed the savings, including 3,800 litres of oil saved over a 15-day period. What's more, the savings are likely to be even higher than these measurements suggest because of reduced CO<sub>2</sub> emissions and a lower Climate Change Levy (CCL), although these have yet to be quantified.

*'A step-change in control and efficiency'*

There are also other clear signs that confirm the savings, according to Westons Cider's, Jason Roberts. *'Before we installed the RO system I could put my hand on the boiler blowdown pipe and it was warm, so there must have been hot water being discharged frequently into the blowdown vessel from the boiler,'* he says. *'Now it's almost always cold, so we're definitely losing less water and energy.'*

Regular boiler blowdown is needed to prevent dissolved solids from accumulating in the boiler, where they can cause problems such as foaming and scale. The RO system from Spirax Sarco treats water before it reaches the boiler feedtank and removes more than 98% of contamination to produce high-quality, low-conductivity water.

The project has shown a step-change in control and efficiency and has enabled an increase in the boiler cycles of concentration, resulting in reduced boiler make up and boiler blowdown. A cut in blowdown from 3% to less than 1% has been achieved, saving oil, water and boiler treatment chemicals.

In fact, the RO-treated water is so clean that it has effectively descaled the boiler, reports Mr Roberts: *'It started out by descaling and cleaning up the steam system, but the blowdown rate soon dropped back to a much lower level than before.'*

The Westons Cider site in Much Marcle, Ledbury, makes cider and perry. The 2,000kg/h boiler produces steam



*The new RO system has reduced water and energy losses*

*'The project has shown a step-change in control and efficiency'*

for various process duties, including pasteurisation and cleaning. *'Westons is a very environmentally conscious company,'* says Mr Roberts. *'When Spirax Sarco suggested that installing RO could save boiler blowdown water we were very interested. The installation was quick and easy and the RO system is compact. We're very pleased with the results and we may well consider using RO again in other applications.'*

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# Emerson introduces high thrust piston actuators

**Fisher® actuator provides accurate and reliable actuation of a broad range of sliding stem control valves, in challenging oil and gas applications**

Emerson Process Management has introduced the Fisher® 685 double acting piston actuator that provides high thrust output for short to long travel applications. The accurate and reliable operation of the actuator improves process control and increases availability - contributing to increased productivity and efficiency.

Designed for use with both medium and large Fisher sliding-stem control valves, including the easy-e™ and FB series, the 685 actuator is suitable for general, severe, and critical service applications. The range includes piston diameters from 305 to 660mm and travel from 25 to 610mm as standard, with special constructions available up to 1118mm piston diameter. The actuator has a high thrust capability, with a maximum of 351.4 kN (79,000 lbf) available at 10.3 barg supply pressure.

The actuators feature ¾" NPT supply connections, with 1" or 1¼" NPT supply connections available on the larger size actuators. Larger air connections reduce the complexity of instrument piping and improve actuator response to control signals giving better process control. This enables fast operating times of less than 2 seconds in critical applications such as compressor anti-surge.

*'...reducing maintenance costs...'*

Low friction piston seals and either chrome plated or Xylan coated cylinder bores, reduce sliding friction and wear - minimising deadband, reducing maintenance costs and extending operational life.

These low maintenance actuators can be specified with durable corrosion resistant paint and are suitable for operation over a wide temperature range. Standard constructions offer a temperature range of -40°C to +93°C, however higher or lower temperatures are possible. Special constructions extend this range from -54°C to +204°C making these actuators ideal for the extreme conditions found in many oil and gas onshore plants and offshore platforms.

The 685 can be used with the FIELDVUE™ DVC6200 digital valve controller for throttling applications, or



*Emerson's Fisher® 685 double acting piston actuator provides high thrust output for short to long travel applications*

with switching valves for on/off control. This actuator can also be fitted with volume boosters for fast stroking requirements.

The 685 is part of a broad range of Fisher piston actuators that provide accurate throttling or on-off operation for sliding-stem control valves.

  
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# Disaster struck at The Forest of Dean...

45 fire fighters attended a catastrophic DN900 high-pressure pipeline failure at the Wyelands intake pumping station, leaving many households without drinking water...

Over 70 years ago The Forest of Dean was designated as a National Forest Park; the first in England, offering a wealth of natural beauty and outdoor pursuits. Early last year the tranquillity was interrupted when 45 fire fighters were called to the forest because together with water authority engineers, a catastrophic DN900 high-pressure pipeline failure had accrued at the Wyelands intake pumping station, leaving many households without drinking water.

The contractor charged with the refurbishment faced numerous challenges including the replacement of 40 year old valves having imperial dimensions and working within restrictive confined spaces.

The current valve framework manufacturer was unable to accommodate the request for non-standard design configurations and therefore T-T's valve division Aquaflow were approached. After meticulous technical discussions a contract was secured for the supply of several replacement valves.

Aquaflow therefore supplied three DN400 engineered high-performance non-slam style checks rated to 40 Bar having imperial BS10-H flange drilling, integral bypass arrangement and non-standard face-to-face dimensions in order to negate costly pipework modifications. Accompanied with a DN900 wedge gate valve having a by-pass assembly rated to 25 Bar, complete with remote electrically actuated operating equipment fabricated in-house to suit site specific requirements. The valves were manufactured in robust ductile iron with all coatings and materials having WRAS approval to ensure the drinking water network does not get contaminated.



*Aquaflow valves we used during the refurbishment works*



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# Modular Distribution Manifolds are Configurable for Individual Applications

A choice of three styles of modular fluid distribution manifold, backed by a factory configuration service, has been announced by the Instrumentation Products Division of Parker Hannifin – the global leader in motion and control technologies.

Parker's new manifold range supports a wide range of applications, from the distribution and control of low pressure instrument air or plant air, to high pressure instrument or hydraulic applications operating at up to 6000 PSI.

*'A wide range of applications...'*

Two of the distribution manifold options are based on ball valves for quick on-off actuation and control. A further option offers a needle valve manifold, to suit applications that might require lower flow rates or more precise control, or compact construction.

The first of the ball valve options, the Hi-Pro Distribution Manifold, is



*Two of the distribution manifold options are based on ball valves for quick on-off actuation and control*

based on a 10 mm orifice version of Parker's Hi-Pro ball valve - which is rated for pressures up to 6000 PSI. Up to 20 of these 316 stainless steel valves can be factory-assembled to order by Parker onto the distribution manifold base. Users can also specify other build options including fitting a purge valve.

A similar style of manifold is available for lower pressure air distribution applications. This version - the Hi-Pro Air Header Manifold - provides up to 20 Hi-Pro 10 mm ball valves mounted onto a distribution manifold body made from a two-inch 316 stainless steel pipe with either a flanged or threaded inlet at one end. The manifold is rated for pressures up to 800 PSI depending on the options specified.

Parker's third option - H Series Distribution Manifold - provides a compact manifold body that accepts a user-defined choice of five or 10 metal-seated needle valves - rated for pressures up to 6000 PSI. Users can also specify numerous build options including the addition of a single isolate valve connected to the inlet.

The advertisement for Johnson Valves features the company logo at the top. Below the logo, there are several images of different valve types, including ball valves, needle valves, and solenoid valves. The text 'AUTHORISED STOCKIST FOR' is prominently displayed, followed by the logos for ASCO, JOUCOMATIC, and NUMATICS. At the bottom, contact information is provided: 't +44 (0) 23 80669 666 sales@johnsonvalves.com' and 'f +44 (0) 23 80669 606 www.johnsonvalves.com'.



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### **HQ Electric Actuators**

The HQ range of electric actuators features torque figures from 40 to 10,000Nm with a variety of control options including fail-safe battery backup actuators. The HQ is now widely used throughout the UK by some of the industries leading manufacturers and utility companies. HQ electric actuators are also available with ATEX Eexd certification.

### **ET Series Scotch Yoke Actuators**

ET heavy duty scotch yoke actuators are ATEX, PED and CE certified. Available with torque figures up to 25,000Nm, the range can be supplied with jack screw or hydraulic manual override systems. Combined with our APL valve position monitors, we are now able to supply pneumatic actuators complete with controls for larger Oil and Gas applications.



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Our range features torque figures up to 4380Nm and includes 90°, 180° and 3-position fail mid actuators which are available in anodised aluminium. In addition to the aluminium design we have a ductile iron version for aggressive atmospheres / offshore locations. All designs conform to Namur and ISO 5211 standards.



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# Three Year Contract for Flexitallic

Flexitallic has secured a new three-year contract with Total Lindsey Oil Refinery for the supply and servicing of standard gaskets and exchangers at the refinery in North Lincolnshire.

The contract was secured through a competitive tender process and continues a relationship in excess of 20 years between Flexitallic and the refinery at North Killingholme.

*'...continual innovation and development of products...'*

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As part of the new agreement Flexitallic, which has its UK headquarters in Cleckheaton, West Yorkshire, will continue to deliver a range of its gasket technology to the site.

Total Lindsey Oil Refinery is currently Britain's third largest, with a processing capacity in excess of 200,000 barrels per day.

Laura Parker, Refinery and Distributor Sales Manager from Flexitallic, said: *'Total Lindsey Oil Refinery is a very prestigious and long-standing customer and we are delighted to be able to extend our relationship with the company.'*

*'Our ability to provide a comprehensive service, in terms of both the levels of technical support and the quality of our gaskets we manufacture, has helped us secure this agreement.'*

She added: *'Through continual innovation and development of products, Flexitallic has maintained its position at the forefront of gasket technologies and expertise.'*

*'This has enabled the company to secure a strong position in markets such as the petrochemical, oil & gas and power generation. These sectors demand the highest quality products and technical knowledge from their suppliers and these two contracts perfectly demonstrate Flexitallic's ability to meet these challenges.'*



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# Zoedale Sponsor Student Tech Event

Flow Control specialists Zoedale recently sponsored a Student Technology event in Dublin. 40 University Students gathered at the Dublin HQ of Global technology firm SAP for a 26 hour non-stop event based on Social Media Analysis. Social Media is a great way for businesses to interact with their audience but very few firms actually use it to gain market analysis and find buyers for their products.

The challenge set by a Global FMCG organisation was to analyse 3 months worth of raw data from Twitter, Facebook and Google+ to find the key influencers, engage with them and use their influence to promote products. The software on offer was various SAP Business Intelligence tools, SAP HANA (an in memory database) and Social Intelligence tool Net Base.

*'Social Media is now a fact of life for businesses...'*

Most of the Students worked for over 24 hours Zoedale sent 2 members of their Marketing team to Mentor the students and help out with the Project Management and technology aspect of the challenge. The teams met at 9am for a briefing and introduction to the technology then were left to design their own solutions. The teams worked throughout the day



*Most of the Students worked for over 24 hours*



*Zoedale sponsored the innovative student social media event in Dublin*

defining what they wanted to analyse, how it would be displayed and who the typical user would be. Then the real work started! Analysing raw social media data is time consuming as words can have more than one meaning so a lot of the work was done on defining keywords and also negative keywords.

By 8am the next day most of the students were still working, putting the final touches to their presentations and drinking coffee & Red Bull! Senior delegates from the FMCG watched all the presentations and were very impressed. The winning solution involved searching for keywords in the Social Media data then cross referencing these with the posters credibility and influence using Klout scores. They also linked with the organisations own CRM system to provide a complete picture of their target customers.

Social Media is now a fact of life for businesses and the ability to subliminally offer a product to someone who is just about to start looking is priceless.

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# SFC's Key Management System Ensures Safe Operation of Interlocks



The key cabinets to hold operational keys

To complement its key interlock system, industrial safety company Smith Flow Control (SFC) offers a high quality key management system.

SFC has designed a range of horizontal key cabinets to hold operational keys and ensure safe application under secure supervisory control. Each interlocked system has a dedicated, engraved tag location within the key cabinet to ensure total integrity and all keys are visually displayed inside the cabinet during periods of normal operation.

*'Visual alert'*

Once the initial key has been retrieved from the central key cabinet, an operator can begin the sequence of key transfer events that allows dangerous machinery and critical valves to be operated in a safe and pre-determined way, eliminating human error.

To facilitate this, key cabinets should be located in a secure place, typically a control room. Initial keys are typically issued by the Permit Officer. Key cabinets have fully lockable doors to prevent unauthorised access.

Throughout the procedure, the control room has a clear indication of work in progress at any time; a transparent Perspex window provides visual key status. A 'visual alert' tag is revealed when the key is removed, providing details of the issued key, its designated location and a 'work in progress' signal. Smith Flow Control also offers a more advanced version of this key cabinet, which incorporates micro switch actuation to signal key movements.

Key cabinets vary in size, but utilise a new horizontal design which allows greater capacity and storage for up to 280 keys. SFC offers the units in a choice of carbon or stainless steel.



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