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Pump Centre

PUMPACTION

THE OFFICIAL NEWSLETTER OF THE PUMP CENTRE

FEBRUARY 2014

Conference Preview Issue 2014

30th April 2014
The International Centre, Telford
Registration now open

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www.pumpcentre.com

Flexible, efficient and safe metering

Motor-driven diaphragm metering pumps Sigma (S1Cb/S2Cb/S3Cb)

NEW

The entire Sigma motor-driven metering pump product range, control type S1Cb/S2Cb/S3Cb, has been equipped with intelligent features to provide a high level of operating convenience, safety and efficiency. The pump range comes with a removable operating unit and an automatic overpressure cut-off as standard. Adjustable metering profiles ensure optimum metering results. The mobile operating unit offers additional operating convenience ensuring that the pump can be quickly and easily adapted to any specific application.

Speed control with an integrated frequency converter can adapt the metering behaviour to the chemical or application.
Motion and speed profiles are also recorded as is energy demand. The supply of energy depends on the amount of power needed and is controlled to suit the requirements of the application in hand.

Benefits

- Process safety thanks to multi-layer diaphragm with diaphragm rupture warning system
- Ventilation option provides reliable function
- Metering profiles for optimum metering results
- Removable operating unit with large illuminated LCD for maximum operating convenience
- Simplified management of spare parts when using the Sigma product family
- Simple integration in systems with bus networking using PROFIBUS® or CANopen interface

Metering options

- Volume-proportional
- Measured variable-dependent
- Time-controlled
- Pulse-controlled

Capacity range

- Pump capacity 20 – 1000 l/h
- Pressure 12 – 4 bar

ProMinent Fluid Controls, Resolution Road, Ashby, Leicestershire, LE65 1DW
Tel: 01530 560555 Fax: 01530 560777
www.prominent.co.uk

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Thank you Derek !

Derek Jackson, Chairman of Hidrostal Ltd and long standing member of the Pump Centre Council recently announced that he was to retire at the end of 2013. Derek has been actively involved with the Pump Centre for many years. He was a leading figure in the group that helped develop the Pump Centre's Pumping Station Design Guide and he served continuously on the Council for well over a decade.

Derek's working life has been dedicated to the pump industry starting in 1957 with an engineering apprenticeship at Vickers Armstrong. In 1980 he established Hidrostal Limited to promote the sale and application of Hidrostal screw centrifugal impeller pumps in the UK. Derek became an honorary member of the Pump Centre in 2009, one of only two people to receive this award.

All those involved in the Pump Centre would like to thank Derek for his enthusiastic support over the years and would like to wish him all the best in his retirement.

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Editor's Column

Dear Reader

The Pump Centre Conference and Exhibition is rapidly approaching. This year, due to venue availability, the Conference is slightly earlier than normal and it will be held on Wednesday 30th April 2014.

The main conference theme is "THE FUTURE OF FIT FOR PURPOSE PUMPING" and the centre pages of this newsletter provide a detailed preview of what is happening on the day. The main conference is targeted predominantly, but not exclusively, at the Water Industry. However, most of the breakout sessions deliver more generic technical information.

One of the main aims of the Conference is to provide all delegates with the opportunity to attend a wide range of technical training presentations and subsequently help them to raise their general understanding of pumps and pumping. To achieve this, all the technical sessions at the conference are available FREE and delegates are able to cherry pick the sessions which interest them.

The event has become a great place, where delegates can learn about pumping, meet key suppliers, see the latest products & services **and** have the opportunity to network with all the key industry contacts in a very relaxed environment under one roof.

The exhibition has grown significantly over the past few years and now includes pumps, systems and associated mechanical and electrical equipment. The event is attracting new exhibitors every year and I have included below a few comments from the last year's exhibitors:

"Exhibiting at the Pump Centre Exhibition and Conference has been key to our company for many years. The 2013 show was our most successful yet, giving us a real platform to meet our customers, contacts and suppliers. We have already booked an even larger stand for 2014."
Derek Jackson, Chairman, Hidrostal.

"The Pump Centre event gave the opportunity for customers to see all of their suppliers in the large exhibition hall, and to see demonstrated the high level of collaboration in the supply chain today who are working on behalf of the UK water industry, also the excellent technical sessions allowed the knowledge sharing of innovation in the water industry today"
Andrew Reeks, Business Manager Water, Siemens.

"We have been exhibiting at the Pump Centre Exhibition for the past 6 years and have watched the event grow to become one of the largest UK Water and Waste Water exhibitions. This event attracts the right calibre of people and focuses on the right topics affecting the pumping industry. Because of the popularity of this exhibition we have decided to become a main sponsor for 2014".
Alistair MacKinnon, Sales Manager, Pulsar Process Measurement.

Every year at the Conference we promote the PUMP CENTRE YOUNG ENGINEER award. The aim is to encourage and reward engineers who are at the beginning of their careers and who are working on pump related projects. There are two categories of award:

- PROFESSIONAL
- CRAFT/TECHNICIAN

Candidates need to be less than 28 and 23 years old for each category, respectively.

Entering is very simple and if you are interested just send an email to john.howarth@esrtechnology.com requesting a nomination form. The deadline for nomination forms is the first week in March.

John Howarth
Pump Centre Manager
john.howarth@esrtechnology.com

Pump Centre, ESR Technology Ltd, Whittle House,
410 The Quadrant, Birchwood Park, Warrington, WA3 6FW

This month, we are delighted to welcome two more new members taking the total number of members to a record 130. We are pleased to include some background information of both companies below and wish them a long and productive association with us.

Don't forget that tables are still available at the Annual Dinner, so why not take the opportunity to come along and enjoy what has become a must attend event for many members. With both great food and sociable atmosphere it is something we all look forward to.

Lutz and Lutz-Jesco: Total Fluid Control

The Lutz group today is a leading manufacturer of drum pumps, dosing pumps and accessories, disinfection products and associated control equipment with a global network of subsidiaries and distributors offering local support.

In 1954 the company founder Karl Lutz started making electrical drum and container pumps in Wertheim, Germany. The pump range today includes versions with electric or air motors, ATEX pumps, flow meters for batch transfer, eccentric screw pumps for viscous media to 100,000cps and a sanitary offering. In recent years, the brand has developed into a synonym for complete systems designed to handle any fluid filling and transfer job.

Lutz-Jesco has been involved in the development, production, worldwide installation and service of chemical dosing pumps, disinfection systems and associated control equipment for over 60 years in a diverse range of industries that include potable water disinfection, flocculation in wastewater treatment, legionella control within commercial buildings, acid and caustic dosing within effluent treatment plants and swimming pool water treatment.

The current offering is diverse and includes low flow precise stepper motor driven dosing pumps, traditional solenoid dosing pumps, a new range of diaphragm dosing pumps driven by IE4 energy efficient motors with flows to 1000 lph. Control options include manual, pulse, 4-20mA with display of dose rate, remote start/stop, alarm signals and optional Ethernet. Chemical dosing pumps with larger flows to 8000 lph and pressures to 400 bar are also available.

Both Lutz & Lutz-Jesco are certified to ISO 9001:2008 standards for quality management and Lutz-Jesco additionally to ISO 14001:2004 for environmental management.

Download the Lutz-jesco app: https://itunes.apple.com/en/app/lutz-jesco/id577038173?mt=8

Visit us at **stand 12** at the Pump Centre Exhibition.

www.lutz-jesco.co.uk
www.lutzpump.co.uk

Etatron DS Spa

In 2014 Italian pump manufacturer Etatron DS Spa celebrates its 35th anniversary. Founded in 1979 Etatron have continuously developed their products to become a leading manufacturer of chemical dosing pumps.

In the UK Etatron GB is an integral part of the global Etatron network, with a presence in over 100 countries. Etatron GB is the branch office to supply and support UK and Irish customers.

Etatron's mission is to design and manufacture quality chemical dosing equipment and to ensure all products are produced with an awareness of environmental concerns. All products are manufactured under ISO9001:2008 quality controls with UL/CSA certification and CE grading. The Etatron chemical dosing range is suitable for water treatment and a wide range of processes for industry.

The product range includes the following:

- The new eOne pump, the next generation of chemical dosing. These solenoid pumps feature innovative technologies to provide reliable, accurate dosing with inclusive suction and discharge control safety features.
- The industry proven DLX, PKX and BT solenoid pumps offer functions including manual operation, 4-20 mA and proportional control combined with several pump head configurations to ensure chemical compatibility and gassing off issues.
- The robust motor driven mechanical diaphragm and piston pumps are suitable where greater flows and pressures are required (Max 1027 l/h flow - 25 Bar Pressure), available with single, three phase or ATEX rated motors.
- An extensive range dosing controllers including the new eSelect, which is an updated and improved addition to the product range to monitor and regulating pH Correction, RX or Chlorine dosing systems.

Etatron always endeavour to provide comprehensive customer support. Our products are designed to be easily installed and maintained with accessories that ensure safe and efficient functioning for a wide range of chemical dosing applications.

For more information please visit us at **stand 41** at the Pump Centre Exhibition.

www.etatron.co.uk

PumpMeter.

Gain a deeper insight into your pump

Would it be beneficial if you could look inside the pump to see exactly how it performs? Now you can with the innovative PumpMeter from KSB.

This monitoring unit is easy to install and more importantly gives, 'real-time' information on where a specific pump is operating within a system.

By the use of WRAS approved transducers, the PumpMeter constantly reads critical pressure conditions and, by doing so, establishes a load profile, thus showing energy saving potential during the life of the pump.

Commissioning and operation is simplified as all the important outputs are displayed on one simple screen.

KSB Limited • 2 Cotton Way • Loughborough • Leicestershire • LE11 5TF • 01509 231872

Welcome to:-

SMEDEGAARD Pumping Technology A KSB Company · KSB

Smedegaard Ltd • 10 Beech Business Park • Bridgewater • Sommerset • TA6 4FF • 01278 458686

KSB

Split Sealing the World's Rotating Equipment Applications

Since their introduction in 1986, off-the-shelf split seals have been used throughout the process industries around the world to simplify maintenance activities and reduce their associated costs. Split seals have found wide acceptance throughout almost every industry and application in the over 100 countries in which they are now sold. Since the first generation split seal was introduced, many technological improvements have been made and integrated into the latest generation designs. These improvements have greatly expanded the window of operation and application of split seals. The pressure envelope of today's second generation split seal has been pushed upward to 35 barg. Vacuum conditions present no problem either and easily match the vacuum performance of non-split seals. Extended motion capabilities of modern split seals generally exceed those of conventional non-split designs allowing them to be installed safely on large equipment where radial motion and low-frequency vibrations may be present.

Municipal water and wastewater management have found split seals to be an excellent, cost effective, reliable sealing option, realizing many of the benefits found by other industries i.e. the pulp and paper industry.

The equipment used in the transportation of raw, treated, or reclaimed water is generally large and cumbersome to perform maintenance upon. The removal of a shaft sleeve to replace a worn packing sleeve or the replacement of a conventional mechanical seal was a labour and time intensive process. With the very common vertical pumps, removal of the motor was required to complete the repair. Likewise, with the very common double suction pumps, that generally speaking, do not use a spacer type coupling, it is necessary to split the pump casing, remove the rotating element, replace the necessary sleeves or seals then re-assemble the pump. If this was done in the field, it would often require special lifting equipment on-site during the repair process. Split seals eliminated the need for removing anything from the pump except the seal. The split seal can be installed, in place and by one technician, without removing the pump, motor or coupling, drastically simplifying the repair process and eliminating associated costs. Often when undertaking a conversion from packing to seals these can be installed directly onto the existing packing sleeve regardless of sleeve condition. Saving the additional cost of a replacement sleeve or remedial work.

Figure 1: Single Split mechanical Seal

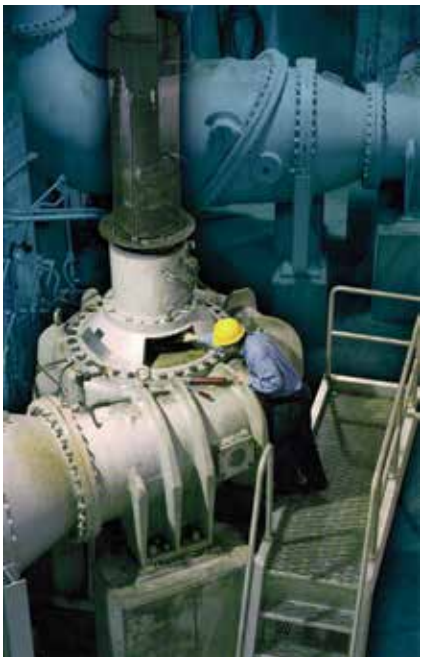

Figure 2: Large pumps – Ideally Sealed with Split Seals

Sealing Sludge Pumps with Split Seals

The ability of split seals to operate in pumpage containing solids is of critical importance to this industry, therefore split seals can also be offered with the material option of two hard faces, silicon carbide versus silicon carbide, which then allows use in abrasive applications. In additon many installations utilize a SpiralTrac environmental control bushing, which, can be installed as part of the sealing solution. The SpiralTrac device features a unique spiral groove design that actively evacuates particles away from the sealing area thereby eliminating the need for high-purity and filtrated water for flushing. The municipal market has experienced seal life greatly increased when using SpiralTrac environmental control devices in conjunction with a properly configured split seal. Pumping stations in sewage collection systems are normally designed to handle raw sewage that is fed from underground. Pumping stations are remotely operated and as such require reliable sealing solutions.

A large water and sewage services provider in North West England was faced with reliability issues on one of their pumping stations. The seals installed on these pumps were standard cartridge seals that suffered from poor seal life. Moreover, it generally took up to 5 working days to replace failed seals because of the additional works and lifting requirements. On two pumps, split seals were installed, in conjunction with a Spiraltrac Bushing to replace old standard cartridge seals. Installation of these seals was done in half a day, resulting in significant reliability improvments.

Visit us at **stand S21** at the Pump Centre Exhibition.

www.chesterton.com

Chemical Dosing for Enhancing Energy and Water Quality

The process for making energy from organic waste and for cleaning industrial effluent to be returned to the natural watercourse require chemical dosing as part of the process. It is vital that a package plant dosing system allows for accurate dosing of chemicals. This important function is explained by Philip Brown.

Chemical dosing is the delivery of a chemical substance into a process in order to affect the chemical composition of a fluid stream. It is most often used on sewage treatment, as part of phosphate removal and pH balance.

A package plant dosing skid is the most effective way to dispense chemicals, using peristaltic pumps and/or digital dosing pumps. Package plant dosing allows the customer to have a complete system consisting of tanks, pumps, control valves and control panels giving a complete dosing solution. In the case of water treatment works, there are certain environmental regulations in place from water authorities, so when sewage enters the works, the effluent has to be cleaned, filtered and processed in various ways.

The effluent will contain phosphate that is passed through filter beds, leaving what is in essence fertilised water that cannot be dumped into a water course; otherwise it will kill fish and other forms of aquatic life. Water quality is enforced by the Environment Agency and water authorities who don't meet the necessary standards maybe fined. Therefore to remove the phosphates and balance the pH level it is vital to dose certain chemicals.

A ferric based solution is dosed to remove phosphate. Chemicals like sodium hydroxide or lime are dosed in conjunction with a pH analyzer to balance pH – dosing rates will vary across the day due to the cycle of demand – for example in the morning when people use the toilet and bath or shower, or in the evening when they finish work. As a result, dosing pumps need to run quicker at these peak demand times and slower during the hours of sleep, producing a diurnal, cyclical flow.

Water authorities will work to a standard specification with approved framework suppliers for equipment, tanks, pipework, motors, electrical switchgear, cable and so on.

Companies such as U.K-based Verder have framework agreements with several water authorities, such as Scottish Water for example, but will also operate outside of these agreements where it can show a cost saving, quicker delivery and innovation. For example, Verder uses peristaltic pumps to handle lime that traditionally clogs up other types of pumps.

When a site encounters a problem which cannot be resolved by the supplier, a Verder pump specialist steps in to provide a working solution. This could be when a pump has failed or become blocked, or where dosing has been inaccurate.

Verder supplies complete chemical dosing systems, individual components and service solutions for assessment, design, build and installation – focussed closely on meeting client requirements. By using existing capital equipment on site, they can retrofit to and refurbish existing systems in situations where incumbent framework suppliers may only want to offer new systems. One of several recent examples involved re-using two existing storage tanks and a kiosk, after inspecting them, in order to replace the pipework and fit new dosing pumps.

Verder conducts site surveys, puts together the method and risk assessments, and performs all the groundwork, modelling everything in 3D computer aided design (CAD) software showing pipework, cabinets and pumps. Before the system is installed on-site, all these components are first tested at the company's service centre. For example, one recent application involved building a cabinet at the Verder premises before shipping it to Thames Water in Crawley, West Sussex. There it was secured, connected to pipework and had a kiosk dropped over it to house the contents.

Visit us at **stand 2** at the Pump Centre Exhibition.

www.verder.co.uk

Chemical dosing skids at the Verder head office ready to be delivered and installed


A dosing skid being installed onsite prior to being enclosed by a kiosk with a control system

Nov Mono Delivers Third Ezstrip™ Cake Pump to Major UK Food Supplier

A major supplier of prepared vegetables to the UK food industry has recently taken delivery of another EZstrip™ cake pump from NOV Mono. Measham-based AB Produce trialed an EZstrip™ cake pump before installing its first unit a year ago, and the latest pump is the third that the company has ordered.

AB Produce supplies a wide range of potatoes and prepared vegetable to customers in the food wholesale, retail, catering and processing sectors. The company had previously used a system of screw augers, steel collection bins, macerators and pumps to collect and process vegetable peelings before transferring them on to an on-site treatment plant. "However we were having problems with this," comments AB Produce spokesman Carl Woolrich. "The physical location of the system, only a little way off the floor, meant that there was very little head of waste forcing its way into the macerators. The system was basically relying on the original pumps below to draw the waste slurry down into the macerators and this was resulting in blockages."

"When we began looking for an alternative solution, we realized that the EZstrip™ cake pump offered some very attractive advantages. Mono™ could provide the pump with a modified inlet blending flange and auger which helps convey the vegetable waste product into the pump. This greatly increased the flow of slurry through the macerators and into the pump.

The first unit we tested performed extremely well and had a capacity of 4-5m³/h. It allowed us to replace the previous auger, bin and pump combination with a single, compact alternative. The Mono pumps operate very well indeed and we've been happy to order more to help eliminate the problems that we had previously."

The EZstrip™ cake pump has been designed specifically to provide outstanding performance whilst also simplifying and speeding up the maintenance process. It features a specially designed feed chamber which can be easily disconnected to provide access to the rotor and screw conveyor assembly. The rotor can then be separated from the conveyor, allowing removal of the rotor and stator while in-situ, with no need to disconnect any of the suction or delivery pipe work. This dramatically reduces the time required for maintenance work and ensures maximum availability.

The EZstrip™ cake pump is ideally suited to a wide range of duties, including the transfer of thickened sludge cake (with up to 40% dry solids content) plus sludge blending, dewatered sludge handling and lime slurry dosing. Each of the pumps supplied to AB Produce features a widethroat hopper and a modified inlet blending flange, to ensure efficient collection and pumping of the vegetable slurry at a rate of 4-5m³/h.

A major supplier of prepared vegetables to the UK food industry has recently taken delivery of its third EZstrip™ cake pump from Mono™

Visit us at **stand 40** at the Pump Centre Exhibition.

www.mono-pumps.com

Modular Chemical Dosing System a Different and Innovative Approach:

WES have been supplying specialist products and systems in water treatment to UK industry for over 25 years and have an enviable reputation based on applying an innovative approach to chemical dosing & specialist fabrication services. We supply a broad range of services from a range of standard products such as our DosingCube™, DS1000 & DS1500 through to bespoke full scale bulk chemical storage & dosing systems.

We also have our in-house team of fully trained and experienced servicing & installation engineers to back up our products and systems and we can accommodate servicing on third party installs.

A new service that we pioneered a few years ago is that of HIRE of chemical dosing & electro-chlorination systems - one which is paying dividends and deals with the squeeze on CAPEX.

Visit us at **stand 17** at the Pump Centre Exhibition.

Web: Systems & Projects: www.wes.ltd.uk
Web: Products: www.wesdp.com

MONO™ EXPERIENCE

ALL THE KNOWLEDGE YOU NEED

As the only UK manufacturer of progressing cavity pumps, our proven expertise and commitment to new technology is your guarantee of quality.

We'll work with you to deliver bespoke water and waste pump solutions that maximise efficiency and add value, today, tomorrow and through whole life.

We're proud of our reputation. And proud to be the company Britain trusts to pump, screen and grind its waste water.

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For more information, visit:
www.mono-pumps.com/en-uk

NOV Mono

One Company, Unlimited Solutions

Pump Centre Conference

Organised by the Pump Centre

The Pump Centre Conference is the UK's leading conference and exhibition for those involved with pumps and pumping. The event is bigger than ever before with more exhibitors, a full conference programme, back to basics breakout sessions and New Product Zone.

The Future of Fit for Purpose Pumping

"Selecting the correct pumping equipment has always been vitally important – not only must you understand the basic concepts but you must be aware of the latest technical developments and innovation".

Presenters from the Environment Agency, Thames Water, Heathrow Airport plus many more have been signed up.

Visitors to "the Pump Centre Conference" will be able to:

- **Meet** over 80 of the UK's major manufacturers and suppliers.
- **Network** with industry experts and key players from across the supply chain.
- **See** the latest products and technology.
- **Improve** their technical knowledge at the engineering breakout sessions
- **Keep** abreast of "Collaboration" within the supply chain via the conference programme.
- **Discover** new solutions to their pumping issues.
- **Visit** the New Product Zone.

After the unprecedented success of last year's conference the Pump Centre Conference and Exhibition has signed a three year deal which will see it returning to the Telford International Centre (TIC) until May 2016.

For the next three years the Pump Centre will occupy the north wing of the venue which includes, Exhibition Hall 3, the Beckbury suite, the Pattingham Suite and the north entrance foyer area. The conference and exhibition will now have over 4000m^2 of dedicated floor space, which is significantly more than in previous years.

On-site parking is FREE for delegates and there are well over 1000 spaces available, the registration desk is accessed via entrance E2. Once registered delegates have the ability to "Access All Areas", they have the option to pick and choose from the technical conference, the breakout sessions and the exhibition.

The conference, exhibition and all the technical sessions are FREE to pre-registered delegates. Registered delegates also receive a FREE conference pack, proceedings and refreshments.*
(subject to availability)*

HOW TO REGISTER

Simply go to the Pump Centre website: www.pumpcentre.com and follow the link to our online registration site.
Or email: pumpcentre@esrtechnology.com and the link to the registration form will be emailed by return.

Conference Programme

"The Future of Fit for Purpose Pumping"

Session 1

09:45 hrs **Welcome and Introduction** *Mike Rush / John Howarth (Pump Centre)*

10:00 hrs **Lee Tunnel Pumps**
KSB have manufactured the pumps for Thames Water Lee Tunnel. The presentation will concentrate on the importance of the "Rag Tests", determining what needed to be tested and the methodology behind it. *KSB & Thames Water*

10:30 hrs **Bedford Pumping Station Refurbishment Project**
Explanation of how Environment Agency selects pumps and controls the pumping station to provide flood protection and reduce energy whilst still providing resilience. *Environment Agency*

11:00 hrs Comfort Break (20 mins)

Session 2

11:20 hrs **Intelligent Pumping - To Reduce Overall System Costs and Increase Reliability – A Joint Approach with London Heathrow Airport**
Working with LHR's Water Team to maximise pumping system efficiency, energy and reliability at Heathrow, a pumping station in Terminal 4's cargo holding area was identified. Xylem supplied pumps and pump controllers to dramatically reduce the cost of ownership of this station and greatly increase the overall reliability. *Xylem & Heathrow Airport Limited*

11:50 hrs **Fixed Asset Monitoring**
A presentation highlighting the advantages of live real time monitoring of asset performance and efficiency through innovative technology. *Deritend*

12:15 - 14:00 hrs Lunch Available (Hall 3)

Session 3

13:45 hrs **Why & Where do you put the intelligence in a modern pumping solution?**
In a modern pumping station the operator increasingly requires low cost solutions for optimising the package operation. This paper discusses the benefits of PLC's versus 3rd party controllers versus Inbuilt VSD features with case studies and examples for small to medium sized stations. *ABB*

14:15 hrs **Amp 6 Totex - Are You Fit For Purpose?**
Has the legacy of previous Amp Cycles prepared you for AMP 6?
We look at examples of sewage pumping station asset life both past and present and explore pumping station design and maintenance, best practice and what it takes to deliver sustainable sewage pumping stations that are fit for purpose long into the future. *Hidrostal*

14:45 hrs **Taking a Whole Life Approach to Operation and Maintenance**
This paper discusses how understanding small changes in machine behaviour can be used to actively predict maintenance regimes according to specific needs of each machine whilst addressing challenges faced in getting budget approval for proactive maintenance work. *WeirGroup*

Presentations Close at approx 15:15 hrs

Exhibition Open until 16:00 hrs

(Provisional programme – speakers to be confirmed and timings subject to change).

& Exhibition 2014

Wednesday, 30th April 2014 The International Centre, Telford

Conference 2014 - Breakout Sessions

Provisional Breakout Session Titles

Choosing the right motor for the application. How to navigate through the modern choices available
With the release of commercially competitive IE4 Synchronous Reluctance (SR) motors, permanent magnet options, induction motors IE2/IE3/IE4 this presentation guides the purchaser through the key points to consider both for operational and optimising the overall "wire to water" efficiency.

Benefits of using VSD for Pump Control
AC drives dedicated to improving flow control in Water & Wastewater applications. Combining core functionality with features that are specifically designed for flow control applications, such as single and Multi-pump solutions.

Drive Systems for Pump Applications
Energy saving Pump systems using high efficiency motors & VSD control complete with examples of calculations on payback, CO_2 reduction & ECA payments.

Pump characteristics: what they don't necessarily teach you at university – an introduction to pressure surge analysis
Potentially dangerous scenarios may arise when pumps trip or valves suddenly slam shut. Pipeline integrity may be at risk. This breakout looks at some of the causes, consequences and amelioration of pressure surge events in pumped systems.

How Advanced Rotating Equipment Sealing Technologies Help Improve Operational Efficiency
As many Water works and Sewage Treatment Works struggle to maintain profitability, plant management is continuously looking for ways to increasing their internal efficiencies. The biggest impact in overall cost reduction will be to focus on the operating costs of production equipment. For rotating equipment the primary variables are equipment component reliability. Increasing equipment reliability lowers component usage which directly leads to reduced acquisition costs. Advanced sealing technologies exist today that can improve sealing reliability at plants tremendously. Maintainability is greatly improved with today's split sealing technology leading to further reduction in maintenance costs.

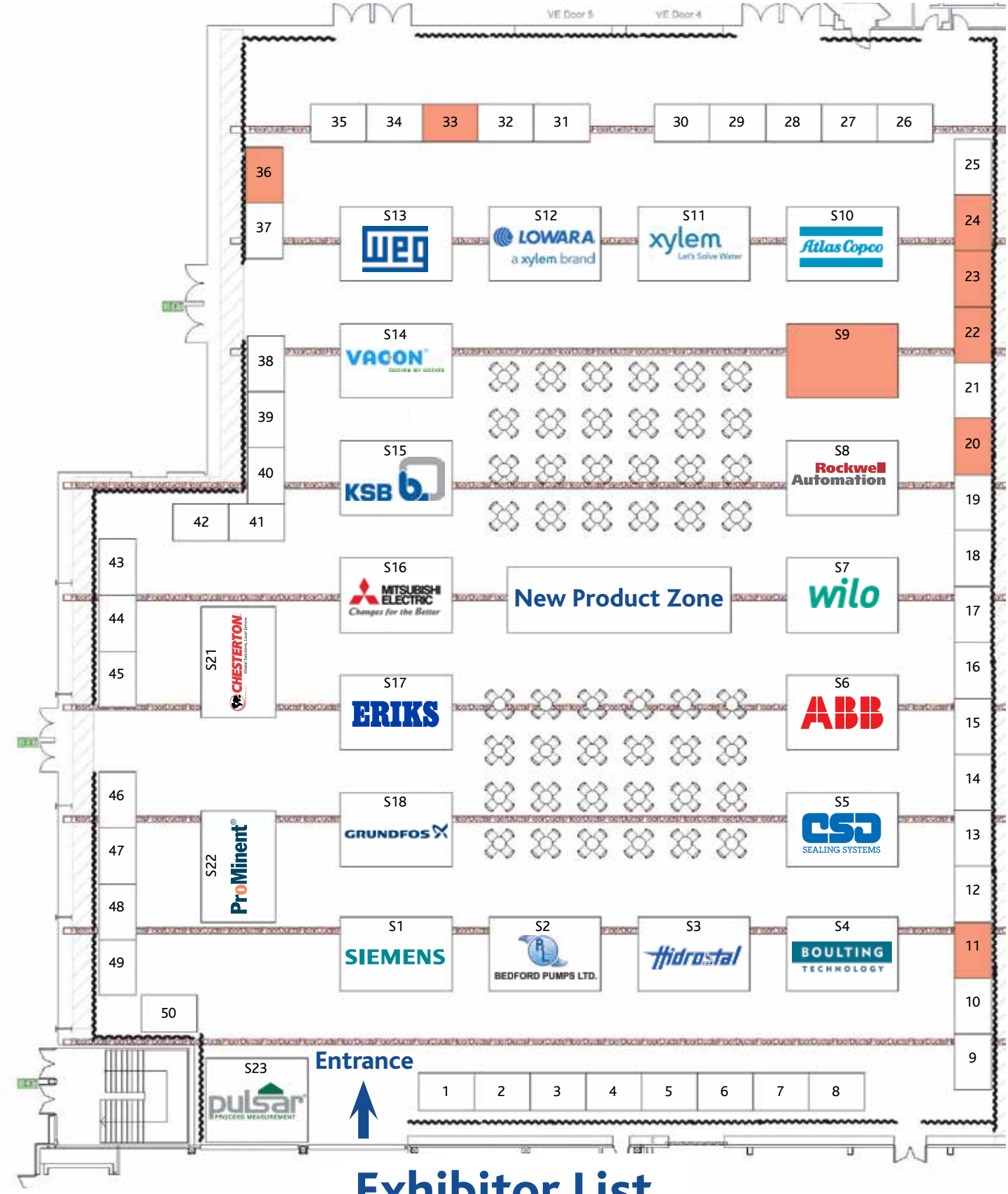
Resolving problems in sewage pumping stations
The presentation looks at typical problems found in pumping stations, why they often go unnoticed and the long term costs of an inefficient pumping system.

Condition Based Maintenance – what is it?
Consider your plant, over the past year or so how many incidents can you identify where machine failure has resulted in unexpected costs to the company in terms of lost production, spare parts and additional labour hours? These failures may not have been on primary drives but on ancillary plant. All breakdowns cost the company money; all this money is subtracted from the bottom line profit of the company.

Positive Displacement – Pump Specifications
Most process pump specifications are written for rotodynamic pumps. Unfortunately, positive displacement pumps work in a different way to rotodynamic pumps and exhibit significantly different characteristics to the connected system. Consequently, positive displacement pumps must be specified in a slightly different way ..... with some additional process design considerations.

Use of damped non-return valves for surge mitigation
A case history about a pumping station design project with significant static head where good modelling and fine tuning of a damped non return valve reduced the effects of surge to acceptable levels removing the need for surge vessels.

(Provisional programme – others sessions to be confirmed and subject to change).



Exhibitor List

Siemens	S1	Mitsubishi	S16	Sulzer	9	Still Available	24	SPP Pumps	39
Bedford Pumps	S2	Eriks	S17	Pruftechnik	10	Filoform	25	Mono Pumps	40
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Boulting Group	S4	New Product Zone	S19/S20	Lutz-Jesco	12	EMS	27	Cema	42
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Atlas Copco	S10	Graphalloy	3	Ovivo	18	Still Available	33	Sera Dosing	48
Xylem Lowara	S11	BHR Group	4	Busch	19	W Hackett Chains	34	Flowcheck	49
Xylem	S12	Eagleburgmann	5	Still Available	20	W Hackett Chains	35	Gilkes	50
Weg	S13	Watson Marlow	6	Portasilo	21	Still Available	36	IMechE	Stand Position TBC
Vacon	S14	Deritend	7	Still Available	22	Netzsch Pumps	37	WWT	Stand Position TBC
KSB	S15	Aems	8	Still Available	23	IFM	38		

Pump Project of the Year (PPOTY)

The Pump Centre "PUMP PROJECT OF THE YEAR" will be launched at this year's conference. The aim is to help promote one pump related project every year and highlight the excellent work carried by the project team. To find out more details about how to nominate your project and pick up a nomination form - please visit the PUMP PROJECT OF THE YEAR exhibition stand in the centre of Hall 3.

The basic concept is as follows:

1. The PPOTY will be held annually.
2. The PPOTY will be launched at the 2014 Conference.
   Rules: Project must include pumps and pumping.
   Project must involve a Pump Centre member company.
   Each entry must have nominated contact.
3. The PPOTY launch will consist of:
   - A featured area within the exhibition to explain the concept.
   - The PPOTY will be promoted at the conference dinner and during the technical conference.
   - Articles in the July & Sept 2014 issues of PumpAction.
4. The timeline for PPOTY:
   - Nomination forms completed by 31 Oct 2014.
   - Forms circulated to Council for vote.
   - Voting completed by 30 Nov 2014.
   - Selected Project announced December 2014.
5. The selected Project team will have the option to: Publish an article in Feb 2015 issue of PumpAction, produce a dedicated display area at 2015 Conference and give a technical presentation at 2015 Conference.

The Pump Centre Conference Dinner Good food, good entertainment and good friends!

If you want to network with your customers and your colleagues the Pump Centre conference dinner is the ideal event for you. Held on the evening of Tuesday 29th April 2014 prior to the conference and exhibition, the dinner is a great place for networking in a social environment.

The International Centre's head chef has developed a special menu for the Pump Centre which will feature a Wild Mushroom and Pancetta Tart starter followed by Roast Loin of Pork main course. At a food tasting earlier in the year both these dishes received an excellent rating from the Pump Centre team.

The Ironbridge Suite has been chosen again as the venue for the dinner because of its excellent acoustics and the flexibility of the possible room layout options. The conference dinner has become more popular year on year with over 400 dinner guests attending last year.

The Master of Ceremonies will be the very popular Yorkshire based comedian, Pete Emmett, who will be ably supported by Lee Lard, who is a Peter Kay Tribute. There will also be a few surprises throughout the evening to keep dinner guests entertained.

If you are interested in booking places at the conference dinner please contact Jim Eaves for all the details. New members especially welcome!

Email jim.eaves@esrtechnology.com

Tel: 07968 707753 or 01925 843421

Major Pump Lifting Chain Manufacturers in Merger to Create Chain Assembly Centre Of Excellence

In October 2014, William Hackett Chains successfully completed the acquisition of West Midlands based Bradney Chain & Engineering Co. Ltd. to help create the United Kingdom's largest chain products manufacturer. The acquisition will create the UK's first Centre of Excellence for Chain Assembly manufacturing which will be based out of Cradley Heath, in the West Midlands.

The on-going multi-million pound investment programme will enable William Hackett Chains Ltd. to focus on product innovation at its sites in the West Midlands, an area which provides a vital source of knowledge and skilled labour for the manufacture and assembly of chain based products and assemblies.

Managing Director of William Hackett Chains, Mr Tim Burgess commented: "Our strategic growth programme is based upon ensuring that we are able to continue to offer industry leading solutions into the Utility, Lifting, Marine, Offshore Oil, Mining and Agricultural markets around the world. Reinforcing our investment in the West Midlands enables us to focus our product development, innovation and manufacturing expertise in one area, ensuring we can continue to lead the way in the provision of high quality product to the markets in which we serve. Hacketts and Bradney's have been manufacturing Chains in the United Kingdom since the late 1800's. Through the acquisition of Bradney's we are reinforcing the UK's position as one of the leading suppliers of chain products in the world, combining the two companies skill sets to allow us to serve broader international markets. This acquisition and our investment programme enable us to offer greater scale, knowledge and expertise to our key markets."

William Hackett Chains manufacture and supply Pump Lifting Chains in Grade 50 316L, 316 Stainless Steel and Grade 40 Galvanized Steel, manufacturing up to 10t capacity and with the ability to manufacture individual assemblies to meet specific customer requirements, to many of the major pump manufacturers and also indirectly supplying many UK & Ireland Utility companies through our comprehensive distributor network.

William Hackett Chains Limited has been manufacturing and distributing chain and chain products since 1892 and is the UK's leading provider of solutions to:

- The Construction and Utility markets providing the industry's premier chain sling system, hoisting and stainless steel products.
- The Oil & Gas industries specialising in lifting solutions to the offshore and subsea industry.
- The Agricultural industry, where Hackett Harrows have a worldwide reputation for excellence, product design and construction, using the latest technology together with years of manufacturing knowledge that has helped make Hackett the No. 1 chain harrow in the world.

William Hackett Chains is renowned for its ethos of integrity and dependability, which is built on its world-class service in design, assembly, certification, compliance and distribution capabilities.

Visit us at **stands 34 and 35** at the Pump Centre Exhibition.

www.williamhackett.co.uk

Bedford Pumps and Hidrostal - Fish Friendly Pumping Experts for over 50 years

Bedford Pumps Ltd and Hidrostal Ltd (both part of the international Hidrostal group of companies) are delighted to announce that together they can offer a solution for any Eel and fish friendly pumping application, providing reassurance to organisations concerned about compliance with the EA Eel regulations of 2007.

Legislation was brought into effect to tackle the rapid decline in global populations of the European Eel - a migratory species which, in order to breed, must return to the breeding grounds in the Sargasso Sea – a distance of approximately 6500 km. Obstructions which impede their journey, such as pumping stations, may be a contributing factor to their fall in numbers. As a result, Eel and fish friendly solutions are a requirement at the majority of pumping station and water extraction points where Eel populations have been identified.

Hidrostal's heritage is fish pumping. Its founder, Martin Stähle, invented the Original Fish Handling Pump in 1958 as a means of unloading trawlers in Peru without causing damage to fish. A patent for the product was granted in 1960, and since that time, Hidrostal has cultivated an impeccable reputation in the fish processing industry, with over 50 years of continuous product development and application knowledge. This continuous development has led to the application of Hidrostal F-Type pumps in fish farming where thousands of fish (Smolts and Trout) are pumped per hour, with no mortalities or loss of scale.

Bedford Pumps are experts in developing engineered solutions to pumping problems. With over 25 years of experience in the water and wastewater industries, they have been part of the Hidrostal Group since 2002. Utilising existing Hidrostal technology, Bedford Pumps has developed a range of pumps for land drainage and flood defence applications which have been stringently tested and proven to preserve the life of fish and Eels.

Bedford Pumps product differs from the original Hidrostal pump as it is designed to pump large volumes of water which may contain a small quantity of native or migrating Eels and fish, instead of pumping large quantities of fish in a small volume of water.

The standard SAF Range of Submersible Fish Friendly pumps from Bedford Pumps covers from 400 to 8,000 l/s at heads up to 7m. Larger capacity pumps can also be designed to meet specific requirements. Hidrostal's range of volute- type pumps covers volumes of 5 to 2850 l/s at heads up to 12m.

Bedford Pumps and Hidrostal's pumps are ideally suited for Land Drainage, Flood Defence and Fish Farm applications. Visit **stands S2 and S3** at the Pump Centre Conference & Exhibition on 30th April 2014 to find out more.

www.bedfordpumps.co.uk
www.hidrostal.co.uk

Hidrostal's Fish Friendly pump

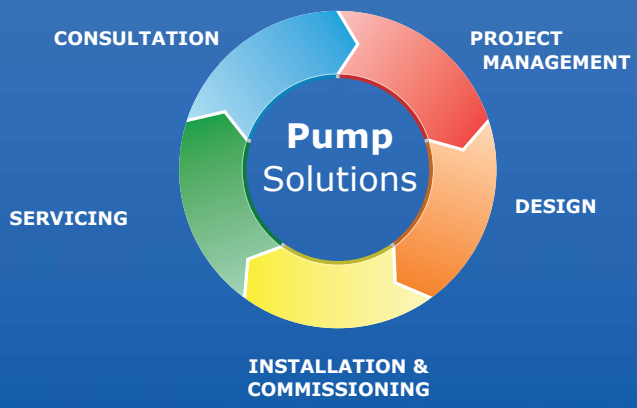
Verder Pumping Solutions

Chemical Dosing

Anaerobic digestion & Food waste

Bespoke turnkey package systems

Verder provides pumping solutions to many of the leading utility companies, waste management organisations, manufacturing and chemical processing plants.



+44 (0) 1924 221 001

info@verder.co.uk

www.verder.co.uk

VERDER
passion for pumps

Whole Life Costs and Pumping Technology – Peristaltics Increasingly Out On Top

Whole life costs are playing an ever-more important role in pump selection by the water and wastewater industry. Interestingly, energy use is no longer always the benchmark for efficiency and cost comparisons, now reduced maintenance and chemical cost savings are high on the agenda.

For engineers and plant managers in the water industry, pump selection has long been a complex and time-consuming task, usually involving the collection and analysis of significant volumes of information with a myriad number of parameters to take into account. Accurate assessment of head and flow, identification of the most suitable generic type or types of pump based on fluid properties and process requirements are needed for the preliminary selection, coupled with pump efficiency, long-term energy and service costs.

For many purchasers the complexity of assessing such a wide range of variables has often meant that the focus has been on the most immediately identifiable and transparent area of energy costs. However, with the advent of more sophisticated assessment tools which can cope with the input of a wide range of complex variables to generate more accurate analysis of Whole Life Costs for pumping technology, purchasers are increasingly aware that using energy consumption as the main determinant can significantly skew selection of the most appropriate, cost-effective pump.

Accurate analysis looks at all the components that make up the total cost of pump ownership in the context of how the pump operates as part of the overall system – including both the internal components of the pump itself and external ancillary equipment – as a result, conventional approaches to pump selection are changing significantly.

This is particularly relevant in the context of peristaltic pumping technology – reflected in its increasingly wide uptake across the water and wastewater industry globally. The traditional approach of viewing whole life costing primarily in terms of energy efficiencies is now increasingly being replaced with a far more comprehensive analysis - which includes other factors like maintenance, reliability, replacement parts of associated equipment and so on. In recent years the water and wastewater companies have become more aware of the significant benefits peristaltic pumping technology offers over conventional solutions in a wide range of pumping applications and treatments.

To state the obvious, low energy costs are irrelevant if pump components fail in the face of day-to-day operational requirements, when set against the plant operator's need for day-in, day-out, delivery with minimal downtime, high reliability and low, straightforward maintenance needs.

Peristaltic pump technology undoubtedly lowers the total cost of ownership – both in terms of direct costs, including pump/motor assembly, all ancillary equipment and installation costs, and indirect costs, including spare parts and maintenance.

Moreover, additional savings which now need to be taken into account are the chemical costs themselves. The key advantage compared to traditional solenoid or stepper motor-driven diaphragm metering pumps is that peristaltic pumps offer linear flow performance regardless of typical fluctuations in the suction or discharge pressure conditions.

Dry running, self priming

Take into account the fact that peristaltic pumps can run dry indefinitely, are true 'dry' self-priming to 9.5 metres (30 feet), reversible and have 100% volumetric efficiency. The need for wet priming is eliminated, as is the additional cost for dry run protection.

No separate non-return valves

The complete occlusion of the tube or hose in a peristaltic pump is, in effect, a valve, and therefore no separate stop valves or loading valves (and expensive control circuitry) are required.

No seals or glands

As the fluid is completely contained within the tube, there are no seals or glands to wear, leak or fail. Contrast that with hours or days spent on dealing with planned maintenance and unplanned pump failures.

Increasing accuracy to provide further savings

To look at one specific chemical metering application, for example, in sodium hypochlorite dosing, the benefits are immediately clear. Peristaltic pumps are impervious to vapour locking, which commonly occurs as this type of chemical dosing is prone to gassing-off.

Add in the significant differences in metering accuracy – solenoid pumps only have a +/- 5% accuracy rate, compared to highly accurate peristaltic pumps with +/- 0.5%.

New technology brings greater advantages

In pumps launched in the last 18 months, when the peristaltic tubing exceeds its operational life, the pump signals an operator that it is time to change the sealed pumphead.

TFT displays provide operators with access to all required performance details including a "barrel bar" feature – a function that calculates drawdown based on the pump's metering accuracy and sounds an alarm when a source barrel is getting low. Some users credit this barrel bar feature with delivering a 15-20 percent reduction in chemical costs.

So where are peristaltic pumps now being used in water and wastewater treatment processing? To sum up, typical applications include metering and transferring a wide range of harsh or aggressive materials, including sodium hypochlorite, sodium bisulphite, ferric chloride, lime slurry, hydrofluorosilisic acid, carbon slurry, sodium hydroxide, potassium permanganate, aqueous ammonia, alum and a range of polymers.

The ability to demonstrate that this flexible and inherently simple technology represents the genuine lowest whole life cost option, means that peristaltic pumps are increasingly being chosen over conventional solutions.

Visit us at **stand 6** at the Pump Centre Exhibition.

www.watson-marlow.com

Innovation from seepex reduces Totex

seepex SCT pumps feed centrifuge

What is Innovation?

Innovation is the implementation of better solutions for new requirements or using better services, technology or ideas to solve problems. Innovation often involves using suppliers' experience and/or new technology, with the goals of improving the performance and efficiency of existing equipment, as well as enabling development of new processes. In many industries the customers' requirements are cost savings. The focus of the new AMP 6 period for water companies is now TOTEX, so innovation for them has to provide both capital and operating cost reductions.

Not all product handling issues require new technology, however. Some problems just require new 'thinking'. This has been proven by seepex application engineers on waste water sites recently. Existing pumps or systems were modified to reduce operating costs associated with high wear rates – an example of engineering expertise and innovative thinking at its' best.

seepex has replaced lobe pumps at a sewage treatment site where space was limited. The existing lobe pumps had a high maintenance cost associated with pumping high temperature sludge and lobe replacement. The brief was to install a pump in the same operating space occupied by the lobe pumps - a challenge that was taken up by seepex application engineers and solved with an innovative take on progressive cavity pump configuration.

A pump from the BN range was installed vertically in an enclosed 'can'. The sludge at 8% ds (dry solids) feeds into the base of the can and is then sucked into the stator of the pump, and discharged through pipework modification to the existing point. This solution enabled the original plinth and footprint to be maintained, reducing installation cost. The motor size was halved, lowering the running costs of the seepex pump. Additionally spare parts are less than the original lobe pump and this, coupled with increased reliability of the progressive cavity pump, offer the customer a double saving on maintenance costs.

Significant cost savings are, also, to be made by using innovative technology - Smart Conveying Technology (SCT). This is a seepex patented development in response to demands for reduced maintenance time. The unique design provides engineers with access to the rotor and stator for inspection and, if necessary, replacement without the need to dismantle pipelines. The stator is split axially into 2 halves, with 4 retaining segments holding them in a compression fit. These segments, also, act as re-tensioning devices that, when tightened, restore pump efficiency. This results in extended pump life, reduced maintenance time and reduced operating costs for seepex customers.

A central sludge processing using progressive cavity pumps to feed dewatering centrifuges asked seepex to look at their pump systems as part of continuous cost saving initiatives.

After discussion with site engineers and examination of the system, seepex proposed a trial with a pump of a smaller size, still operating within WIMES, fitted with seepex Smart Conveying Technology (SCT). During the trial, stator life was extended by adjustment of the retaining segments and the pump ran for 30% longer before stator replacement was necessary. Fewer, lower cost spares resulted in a 70% reduction in operating costs – and this excludes operating costs associated with the 85% reduction in maintenance time.

The trial was so successful that all centrifuge feed pumps have now been replaced by seepex SCT pumps, with projected annual savings of over £70,000 per year. Future systems can be supplied with cost effective SCT pumps, thus continually reducing capital costs.

A different problem on a sewage treatment plant in Ireland was, also, solved by Smart Conveying Technology (SCT). The plant was experiencing excessive downtime with ragging; seepex suggested that they convert their existing progressive cavity pumps to SCT, to allow blockages to be removed without removing the whole stator. After the conversion, site engineers noticed that the historical ragging issues experienced before pump conversion had been reduced significantly. Recordings of flow rates suggested that these pumps, running at about 20m^3/hr, were better at passing rags than a conventional PC pump design. Since conversion to SCT, there have been fewer ragging problems and those that do occur can be resolved by simply taking the top half of the stator off without dismantling any pipework. The customer is so happy with the reduction in downtime that they are looking to convert all suitable pumps to SCT design.

seepex innovation has made many improvements to the progressive cavity pump over the past 40 years. Block pump design gives ease of maintenance and compact installation footprints, 6L stator geometry reduces the axial load on the pump and extends life, whilst tri-cam stator geometry increases pump capacity for the same size rotor and motor combination. Advanced hopper and auger design on sludge cake pumps have all improved pump performance, increasing the capabilities of seepex pumps for handling higher ds% product over longer distances.

This combination of problem solving mentality and innovation in design makes TOTEX a key area for seepex and has been enabled by the customer focused approach and expertise of seepex engineers, development and application teams.

Visit us at **stand 28** at the Pump Centre Exhibition.

www.seepex.com

seepex vertically mounted pump

Wastewater collection process made more reliable with clamp-on flow technology

Reliable collection of sewage produced by everyday domestic and industrial activities – as well as by runoff from rainwater – is no simple task, but extremely important. If wastewater is allowed to overflow at any point within a sewer network, the spillage poses a significant threat to human health and to the surrounding land. For this reason, sewer networks responsible for carrying wastewater to treatment plants must be stringently monitored to ensure that they are operating as expected. As one water company in the United Kingdom recently confirmed, installing an accurate and reliable method of flow measurement within sewage pumping stations can play a major role in improving operational efficiency, more quickly identifying maintenance concerns, and ultimately protecting the population and the environment.

Wastewater collection proves challenging

Welsh Water is the sixth largest regulated water and sewerage company in England and Wales, responsible for removing, treating and properly disposing of the wastewater produced by 1.2 million households and more than 110,000 businesses. Welsh Water collects wastewater through a 19,000 km (11,806 mi) sewer network and treats it at 832 wastewater treatment works located next to rivers and along the coast of Wales.

Wastewater collection via sewerage systems has proven challenging for Welsh Water due to the country's mountainous topography. Many customers are situated within valleys, necessitating the placement of sewage pumping stations (SPSs) throughout the network. The SPSs, which vary considerably in size and pumping capacity, receive raw sewage from underground pipelines and continually lift it to higher elevations until it reaches the designated treatment works.

Until recently, the majority of the 1,861 SPSs belonging to Welsh Water had no system in place to measure flow. Those that did had been fitted with full-bore electromagnetic flowmeters, many of which were no longer functioning properly due to age, condition and other factors. In order to determine whether inflow was exceeding capacity within any of their pumping stations, the company relied on rough flow data derived by calculating the rate of change in sump levels. If a markedly high sump level was observed, an operator was required to travel to the site to investigate whether the pumps were performing correctly or if there had actually been a spill. This method was not operationally efficient and posed a significant environmental risk, particularly in stormy conditions.

Benefits of clamp-on technology

To address this issue, a team from Welsh Water was tasked with finding a low-cost way to provide accurate and reliable flowmetering in retrofit SPS applications. Because Siemens had previously provided the company with numerous electromagnetic flowmeters for new installations as well as a number of clamp-on ultrasonic flowmeters for large pipes, they were one of several process instrumentation suppliers asked to propose a potential solution.

Welsh Water engaged their approved contractor, Celtic Process Control, to survey 80 SPSs identified as being high-risk to property or people in the event of a malfunction. These were then surveyed using a portable Sitrans FUP1010 clamp-on ultrasonic flowmeter from Siemens.

Parameters and diagnostics were recorded by the meter at each location, which made it possible for the technicians to determine at a later time which sites were suitable for permanent equipment. This also facilitated the subsequent installation process. The Sitrans FUP1010 proved capable of providing a true picture of the flow at locations where no previous metering existed.

Survey results confirmed that another member of the Siemens flow measurement family, the Sitrans FST020, would be appropriate for installation at a number of SPSs. This clamp-on flowmeter was recommended to Welsh Water for a number of reasons, including:

- **Cost savings**. The Sitrans FST020 offered the company basic yet high-performance measurement functions at a significantly lower cost than other flow solutions, especially when overall civil, mechanical and operating costs were taken into consideration. This was particularly important to Welsh Water given the large number of sites requiring metering.
- **Time savings.** Because the meter is non-intrusive, Welsh Water would not need to cut the pipe and installation could be completed in only a few hours, as compared to 2-5 days for electromagnetic meters.
- Improved accuracy. Calculating sump level rate of change typically resulted in an accuracy rate of 5-10% and was not feasible during periods of excessive inflow and storm overflow. In contrast, the Sitrans FST020 uses patented transit-time sensors to demonstrate a consistently high accuracy of 1-2%.
- **Ease of use.** The meter features straightforward product configuration and a user-friendly design for simplified operation and maintenance.

Ideal flow solutions

Recognizing that the Sitrans FST020 was an ideal fit, Welsh Water ultimately selected Siemens as the supplier of clamp-on instrumentation for their large-scale retrofit project. The meters were installed on the majority of the high-risk SPSs and are now accurately measuring sewage flow. They have made it possible to monitor each SPS remotely, eliminating the need to send operators out into the field to verify flows and allowing operational staff to be deployed more effectively. In addition, the Sitrans FST020 provides a comprehensive and trustworthy audit trail for the Environment Agency, the UK governmental body that oversees spillage incidents. The clamp-on technology also makes it easier to perform routine monitoring of pump efficiency, which helps staff to more quickly identify maintenance issues such as worn impellers, blockages and faulty non-return valves.

Sitrans FST020 clamp-on ultrasonic flowmeters have made it possible to monitor each sewage pumping station remotely, eliminating the need to send operators out into the field and allowing operational staff to be deployed more effectively.

Having observed the value of the Sitrans FUP1010 during the initial site survey, Welsh Water also decided to order 10 portable units for distribution across maintenance depots. They are now readily available to personnel whenever and wherever they may be needed for diagnostic and operational purposes. In addition, as part of the support package, Siemens delivered four onsite training sessions for more than 50 depot staff members to enhance their knowledge of portable meter use, which in turn has provided employees with a greater understanding of the process conditions being investigated.

"Our experience with Siemens has been outstanding every step of the way," said Carle Redwood, Senior Innovation Engineer with Welsh Water. *"From the very inception of the SPS retrofit project, Celtic Process Control and Siemens partnered with us to provide the best possible solutions, support and service, and with their help our operations are now becoming more efficient than ever."*

Visit us at **stand S1** at the Pump Centre Exhibition.

www.siemens.co.uk/water

Sewage pumping stations receive raw sewage from underground pipelines and continually lift it to higher elevations until it reaches the designated treatment works.

Delivering Fit for Purpose Sewage Pumping Stations

The best waste water pumps in the world will still fail if they are installed into poor systems. When it comes to pumping station design for waste water, you can seldom achieve a fit-for-purpose outcome if you do not consider everything that will influence the desired result. A good starting place is to work with a comprehensive team. Gather as much known and unknown data as possible in order to populate a project design document to enable a managed outcome.

Andy Wilson

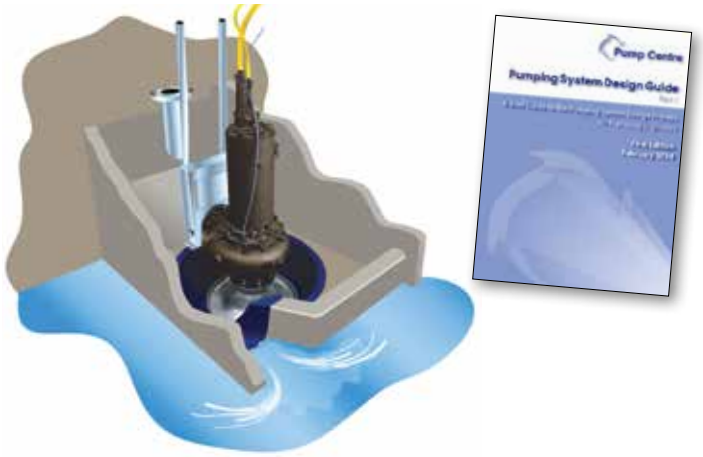
This design data can be shared with an OEM experienced in supplying waste water pumping stations.

Some packaged plant available from OEMs can go a long way towards offering a comprehensive solution in an economic and timely manner and you may find an off-the-shelf solution proven to operate with your design parameters. In addition, you can reduce risk by allocating a wider scope of supply to the OEM, thereby minimising the number of interfaces between the civil, mechanical and electrical engineering disciplines.

The OEM may have previously blended many of the required criteria into a workable solution, which carries the unwritten assurance of that company's desire to protect its reputation should it fail to deliver a fit-for-purpose outcome.

An OEM cannot assist you in achieving the desired all round, fit-for-purpose solution if they are merely supplying the pump without an understanding of the system information. Indeed, we would suggest that today's commodity approach to sewage pumping stations is the root of many of the problems encountered within them. The pump is simply one component in a sometimes complex system which requires consideration of a variety of different parameters.

These parameters are well defined in the Pump Centre's own "Pumping System Design Guide" which covers ten distinct topics to prompt and guide the designer. Importantly, it was written by an inclusive team comprising end users, pump



manufacturers and contractors. The topics include:

1. System Design
2. Type of Pumping Station
3. Pump Selection
4. Pump Station Layout
5. Control Philosophy
6. Station Pipework
7. Rising Main Installation
8. Installation
9. Pre-commissioning
10. Commissioning

Hidrostal has a solution-based approach to delivering pumps and pumping stations. It also has a history dating back to Prerostal packages that are still in operation on raw sewage applications some 20 - 40 years later - truly fit-for-purpose solutions for pumping raw sewage.

Visit us at **stand S3** at the Pump Centre Exhibition.

www.hidrostal.co.uk

Pump Centre

Training & Awareness Day Programme 2014

Title	Date	Full Price
Compressors & Compression (2 days)	4-5 Feb 14	£550 + VAT
Introduction to Motors and Drives	25 Feb 14	£350 + VAT
Positive Displacement Pumps	26 Feb 14	£350 + VAT
Why Mechanical Seals Fail	4 Mar 14	£350 + VAT
Waste Water Screening & Preliminary Treatment	5 Mar 14	£350 + VAT
Rolling Element Bearings	19 Mar 14	£350 + VAT
Pumps for Beginners and Intermediates (2 days)	19-20 Mar 14	£550 + VAT
Optimising Pumping Systems (2 days)	25-26 Mar 14	£550 + VAT
Centrifugal Pump Repair – Awareness day (Leighton Buzzard)	June 14 (TBC)	TBC
Pumps for Beginners and Intermediates (2 days)	17-18 Sept 14	£550 + VAT
Contract Law for Engineers (2 days)	24-25 Sept 14	£550 + VAT
Scottish Mini Conference (Glasgow)	Oct 14 (TBC)	TBC
Introduction to Valves	21 Oct 14	£350 + VAT
Improving Pump Maintenance	22 Oct 14	£350 + VAT
Why Mechanical Seals Fail	23 Oct 14	£350 + VAT
Pumping in the Water Industry (4½ days)	10-14 Nov 14	£995 + VAT

(Awareness Days are highlighted in red).

Pump Centre members receive 30% discount off training courses and 20% discount off Awareness Days

All training courses (unless indicated) will be held at:

Holiday Inn – Runcorn
Wood Lane
Beechwood
Runcorn
WA7 3HA
Tel: 0871 942 9070

The majority of our training courses can be run "In-House" at a venue selected by the Client. In-house courses become cost effective when clients have 8 or more members of staff to be trained. Please contact the Pump Centre for a quote.

To discuss your training requirements contact:

Jim Eaves: 07968 707753 or email jim.eaves@esrtechnology.com

To reserve your places contact:

Karen Bridgeman: 01925 843512 or email

karen.bridgeman@esrtechnology.com

For more training information visit www.pumpcentre.com

Hidrostal

Visit us on Stand S2 at Pump Centre for Advice on Eel and Fish Friendly Pumping

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New Freeflow Technology

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Proven technology over 50 years for up to 100% survival rate over 24 hours across 5 l/sec ELvers to 8000 l/sec Eel & Fish.

Prerostal Pumps

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For Dry Well Applications - featuring TEFC motors for qualification of Enhanced Capital Allowance (ECA)

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