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January 2017

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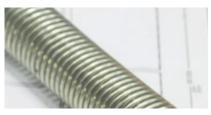
#### SECURITY FOR MOVABLE PARTS



Flexible metal hoses provide required flexiblity for the movable parts like feeding units of machinery where connections should enable these movements without causing trouble.



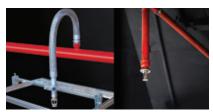
#### **SINGLE PIECE UP TO 1000m**



Flexible metal hoses could be produced as single piece in 1000m length. This allows the users to complete the assemblies without using any additional fittings or welding, helps to reduce labor costs.



#### FLEXIBLE IS THE KEY



The use of flexible hose against rigid piping is the key for reducing the time and the effort spent on completing assemblies in the tightest places like sprinkler connections. It's fast, easy and secure.



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Atatürk Sanayi Bölgesi Hadımköy Mahallesi Mustafa İnan Caddesi No: 44 Arnavutköy - İSTANBUL Tel: +90 212 771 01 45 (pbx) | Fax: +90 212 771 25 60

Caserta/Italy Tel: +39 0823 187 3988 rmolaro@ayvaz.com

Moscow/Russia : Viernheim/Germany : Tel: +74959951728 ayvazrus@ayvaz.com

Tel: +49 62046014399 germany@ayvaz.com

Kiev/Ukraine Tel: +380 44 390 57 57 info@ayvaz.com.ua

: Warsaw/Poland : Dubai/U.A.E Tel: +48-32-783-295-1 : Tel: +971 563550822 +971 501306871 tricorr@tricorr.eu mideast@ayvaz.com

Xiamen/China Tel: +86 592-7018050 shanghai@ayvazchina.com xiamen@ayvazchina.com

Kazakhstan Tel: +7 (701) 066 066 1 +90 (533) 760 34 66 celyas@ayvaz.com

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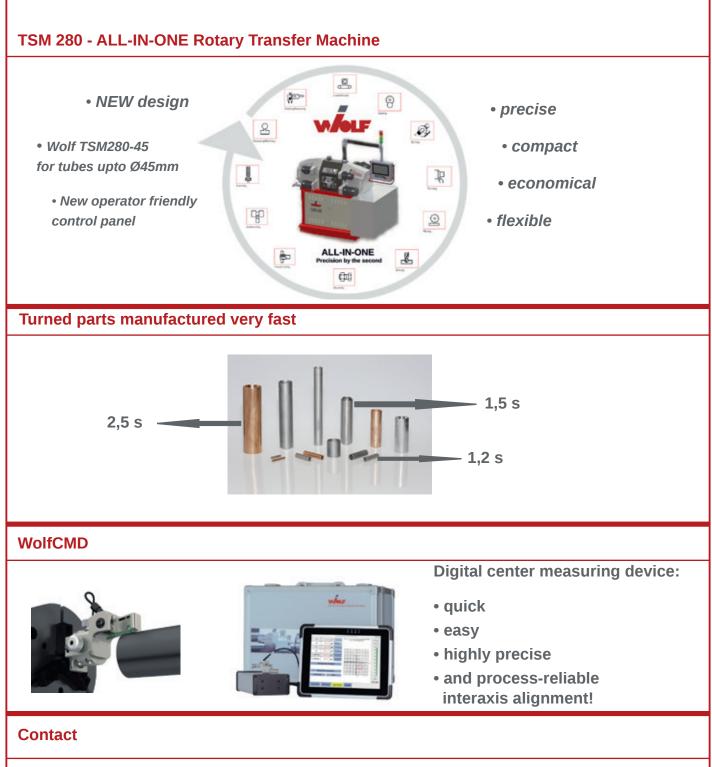
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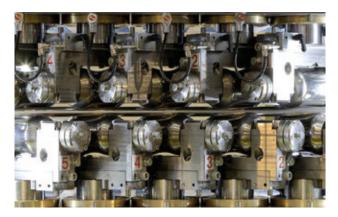


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#### **Editorial Office:**

Editor	Mr Rory McBride Email: rory@intras.co.uk
Editorial Assistant	Mr Christian Bradley Email: christian@intras.co.uk
Design & Production	Mrs Lisa Wright Email: lisa@intras.co.uk
Publisher	Ms Caroline Sullens
Founder	Mr John C Hogg

#### **Advertisement Material & Production:**

Ms Liz Hughes	Email: liz@intras.co.uk
Ms Andrea McIntosh	Email: andrea@intras.co.uk

#### **International Advertising Sales:**

Mr Steve Singh Email: steve@intras.co.uk • Tel: +44 1926 834688

Verkauf & Marketing (Deutschland, Österreich, Schweiz) Email: germansales@intras.co.uk • Tel: +44 1926 834687

Ms Giuliana Benedetto – Vendite & Marketing (Italia) Email: giuliana@intras.co.uk • Tel: +44 1926 834686

Ms Linda Li – 中国大陆, 台湾, 香港以及远东地区销售代表 Email: linda@intras.co.uk • Tel: +44 1926 834685

#### Subscriptions: www.read-tpi-com

Accounts Manager	Mrs Julie Case
and Subscriptions	Email: juliecase@intras.co.uk

#### Tube Products INTERNATIONAL is published by Intras Ltd, UK

Europe: 46 Holly Walk, Leamington Spa Warwickshire CV32 4HY, UK Tel: +44 1926 334137 Fax: +44 1926 314755 Email: tpi@intras.co.uk Website: www.intras.co.uk

#### USA: Intras USA

Danbury Corporate Center 107 Mill Plain Road Danbury, CT 06811, USA Tel: +1 203 794 0444 Email: doug@intras.co.uk

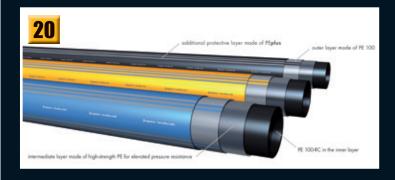
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**Tube Products INTERNATIONAL Magazine** 46 Holly Walk, Learnington Spa, Warwickshire CV32 4HY, UK Tel: +44 1926 334137 • Fax: +44 1926 314755 • Email: tpi@intras.co.uk

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# Gontents

## **January 2017**

- Business & Market News
- **26** Products & Developments
- 48 Boru 2017
- **51** Tube Russia 2017
- **52** Welding technology
- **Safety to the bottom of the sea** *Piping solutions for the oil and gas industries* By Markus Zimmermann, head of team energy at Schoeller Werk, Germany
- 59 Editorial Index
- **60** Advertisers Index





## TUDE Products INTERNATIONAL

The trade magazine for tube and pipe products



#### The January issue

Welcome to the latest Tube Products INTERNATIONAL magazine. In this first issue of 2017 we have a feature on welding technology and an extended article from Schoeller Werk, Germany, looking at piping solutions for the oil and gas industry.

As this new issue hits your desk I will be on my way to the UAE to attend the Steel Fab 2017 show in Sharjah and no doubt enjoy some welcome sunny weather away from winter in the UK. I have heard a lot of positive reviews of this event so it will be interesting to attend for the first time. Do come and say hello if you are visiting.

I hope to see a positive turn out to lend strength to the cautiously positive predictions for the oil and gas industry in 2017. It has been a tough couple of years for everyone in that sector, but recent reports are increasingly optimistic about a rise in the price of oil over the next two years. I am sure most people will believe that when they see it, but hopefully the worst of the cutbacks and the job losses are now behind us.

The main driving force behind these predictions is a big increase in demand for oil and gas from developing countries over the next decade. Many of these countries have a far stronger growth forecast than OECD regions and Eurasia.

The editorial deadline for the March issue is 13 January. It will have features on OCTG, gas and pipeline products, mechanical tubing used in automotive and aerospace, and a show feature looking at Made in Steel 2017. The advertising deadline is 23 January.

If you have any press releases, case studies or technical articles to send for inclusion in the magazine please feel free to contact me at rory@intras.co.uk

Enjoy the magazine.





## events calendar

#### **2017**



23-25 March BORU 2017 (Istanbul, Turkey) International Exhibition www.borufair.com



#### 17-19 May Made In Steel (Milan, Italy) International Exhibition www.madeinsteel.it



5-8 June Tube Russia (Moscow, Russia) International Exhibition www.metallurgy-tube-russia.com



28-30 June Guangzhou Tube Fair (Guangzhou, China) International Exhibition www.chinaexhibition.com



18-23 September EMO (Hanover, Germany) International Exhibition www.emo-hannover.de



19-21 September Tube Southeast Asia (Bangkok, Thailand) International Exhibition www.tube-southeastasia.com



3-5 October TuboTech (São Paulo, Brazil) International Exhibition www.tubotech-online.com



**6-9 November** FABTECH (Chicago, USA) International Exhibition www.fabtechexpo.com

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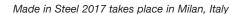
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## Made in Steel: exchanging ideas with the whole value chain

The steel industry is changing at high speed, working to emerge from a crisis that has lasted almost ten years, setting new targets and finding new means to meet them.

Made in Steel 2017 conference and exhibition, dedicated to steel producers, traders, manufacturers and users, will take place from 17 to 19 May in the headquarters of Fieramilano, Halls 22 and 24. Many of the leading companies in the steel industry have already confirmed their participation in this seventh edition of the Made in Steel trade show. Six months ahead of the opening, 70 per cent of the exhibition space had been sold. Compared to the 2013 edition, the exhibition area of Made in Steel 2015 was up by 16 per cent, with a 17 per cent increase in the number of visitors, totalling almost 13,000.

The title of the May 2017 conference is 'Stronger together'. "This refers to the importance of working in synergy and the need to review the system, looking at the future of the companies that work in the steel industry," said Emanuele Morandi, CEO of Made in Steel. "Therefore, I believe that Made in Steel is a strategic appointment for the international steel value chain."

Made in Steel will foster the exchange of information with focus meetings dedicated to the hot topics of the international steel industry. The threeday event will not only be an opportunity to do business, but will also feature conferences, events and seminars with a cast of experts and leaders from the international economic and steel scene.

Made in Steel Srl – Italy info@madeinsteel.it www.madeinsteel.it

## Oil and gas subsea umbilicals, risers and flowlines market report

Visiongain has assessed that capex on subsea umbilicals, risers and flowlines (SURF) will reach \$7.33bn for 2016.

Large deep-water subsea projects can take up to ten years from final investment decision (FID) to start-up date. Smaller tiebacks can be completed within two years.

It is therefore critical to have correct timelines and forecasting plans in place. Visiongain's report will allow companies to stay informed. The report will answer questions such as what are the prospects for the SURF industry? What does the value chain look like? How is the supply chain structured? How profitable is the SURF industry? Who are the key players in the SURF industry? What are the demand and supply dynamics underpinning the SURF sector? And how consolidated is the sector among the SURF industry players?

The report provides detailed profiles of seven companies operating within the

SURF market: Aker Solutions, EMAS AMC, FMC Technologies, Oceaneering, Saipem SpA, Subsea 7 and Technip.

It also reveals where and how companies are investing in SURF, showing capex and length forecasts for six regions with individualised analyses of 28 national markets. The analysis is underpinned by exclusive interviews with Subsea UK chief executive Neil Gordon.

Visiongain Ltd – UK www.visiongain.com

## ASMAG signs contract for two production lines in Italy

ASMAG GmbH, Austria, a specialist in machinery for the production of metals, has signed a contract with the Italian company Berna Ernesto SpA for the turnkey supply of two complete, fully automated production lines. The plants will produce hollow bars and hollow profiles in various brass alloys.

The agreement was signed in Gmunden, Austria, by Andrea Berna, CEO of Berna Ernesto, and Johann Vielhaber, CEO of ASMAG. It was the successful culmination of several technical meetings in which all requirements of Berna were evaluated to identify and outline the best technological and layout solutions.

The philosophy of Berna, orientated to guaranteed product quality and customer satisfaction, was the guiding principle that led the engineers to their project choices. The technological encounter, knowledge and share of experience were further enhanced by mutual visits of delegations to the respective premises, Lumezzane and Scharnstein.

The scope of supply includes draw bench, straightening lines for rounds and profiles, cut-to-length station, chamfering, straightness control unit and testing table, automatic bundling and packing, and installation and commissioning services.

Considering the qualitative targets established by the management of Berna, strong attention to material handling and extensive adoption of in-line instrumentation were foreseen by the Austrian engineers. This will ensure the physical and aesthetic properties of the finished brass bars.

ASMAG is a manufacturer of integrated lines for the production of cold drawn metals (ferrous and non-ferrous). Its

ASMAG stacking and bundling line

markets are mainly Europe, USA and Russia. Founded in 1984 by engineer Johann Vielhaber, it has grown since then at the factory in Scharnstein and with the acquisitions of Seuthe in 2010 and OCN in 2015. Following the purchase of the assets of OCN, a new ASMAG branch office was established in Tavagnacco, Italy, and the project with Berna is this office's first important result.

ASMAG GmbH – Austria sales@asmag.at www.asmag.at



## **BORU 2017 trade show in Turkey**

Due to the strong need for construction, infrastructure and energy projects, the market size has grown in both value and volume in Turkey. According to statistics published by Turkish Statistical Institute, the local tube and pipe market has been growing steadily.

4.2 million tons of steel tubes were produced in Turkey in 2015. 60 per cent of the production was sold in Turkey, with the rest exported to the USA, Iraq, UK, Romania, Egypt and other countries. In addition, 0.4 million tons of steel tubes were imported by Turkey.

Turkey is a large market that has a wide range of tube application demands. When tubes other than steel (iron, copper, nickel, aluminium, etc) are taken into consideration, the volume of all tubes becomes at least double that of steel tubes. Turkey is also an important supplier for Middle East and North African countries, among others.

The tenth edition of the BORU Istanbul Tube Fair will be held from 23 to 25 March 2017. The venue, Istanbul Expo Center, is next to International Istanbul Ataturk Airport, offering convenient access to the fair. The event provides a platform for both exhibitors and visitors to reach their target audience. Companies will have the opportunity to present new products and connect with industry experts.

Major product groups that will be exhibited at the fair are tubes, profiles, fittings, flanges and other accessories made of ferrous or non-ferrous metal for all applications; line pipes and fittings; tube manufacturing machinery; profile manufacturing machinery; tube processing equipment; dies, tools, lubricants and auxiliaries; and testing, measuring, software, logistics and other services.

Although the fair is focused on the metal tube industry, plastic tube manufacturing machinery will also be exhibited in this tenth edition. It will be an opportunity for plastic tube machinery suppliers to present their new technology to plastic tube manufacturers.

Two other fairs are concurrently organised with the Istanbul Tube Fair: TEL 2017 Istanbul Wire Fair, and RULO 2017 Istanbul Coil Fair. The three fairs are presented under the name 'Istanbul Metal Fairs Trio'.

Voli Fuar AS – Turkey info@voli.com.tr www.borufair.com

## FES supplies equipment in rapid turnaround for Atlanta project

FES International, a global producer of fluid transfer solutions, has completed a quick turnaround for the delivery of equipment to the Atlanta Field of

FES supplied nine DBSCs to the Atlanta Field of Santos Basin in Brazil



Santos Basin, Brazil, operated by Queiroz Galvão Exploração e Produção (QGEP). The multi-million dollar contract involved the supply of nine diverless bend stiffener connectors (DBSCs), which will be used on the post-salt oil field, located 185km off the coast of Rio de Janeiro.

The FES DBSC technology has proved a success for the firm, with more than 350 units supplied around the world and more on order.

Rob Anderson, managing director of FES International, said, "We are seeing an increasing shift towards faster turnaround requirements from clients. This contract had an extremely tight schedule and it was critical to the success of the job that we were able to meet the ambitious timescales for delivery.

"QGEP was drawn to our flexible approach from design stage to completion, and our solid track record meant that they could trust that their deadline would be met. We were able to complete the quick turnaround, which involved adapting our equipment to ensure it met the specific requirements for the project.

"Our relationship with the client was a major advantage in helping us to meet the deadline by working closely with us and getting the upfront preparation work completed quickly and thoroughly. Brazil is an exciting market with many future opportunities for us that we look forward to progressing."

FES (Flexible Engineered Solutions) provides fluid transfer systems and five other core product lines, and employs experts in design, including FEA analysis and modelling, draughting (on the latest 3D software), machining and manufacture, and assembly and testing, to manage every stage of a project commission.

#### FES International – UK fes@fesltd.co.uk www.fesinternational.com

## New recruits to support growth at Auma UK

Valve actuator manufacturer Auma UK has recruited three people to expand and strengthen its UK team.

Heading the internal sales team will be Sara Thompson, who has a wealth of experience in the actuator market. Reporting to UK head of sales Kerry Harris, Ms Thompson will be a key part of Auma's communications with staff, distributors, ACE service partners and customers throughout water and energy utilities and industry.

Commenting on the appointment, Ms Harris said, "We are delighted to be welcoming Sara to the team. Her background in our industry means she will be supporting our customers all over the UK right from day one."

Also joining the internal sales team is Callum Sully, who will be supporting Ms Thompson and working to develop relationships with Auma's customers and partners across the UK. John Callow joins the service team. Mr Callow has worked on Auma projects and installations for around 25 years, but has now joined the team full time. He will be focused on project management, as Auma's actuation control systems increasingly present customers undertaking major projects with new opportunities for sophisticated control.

Auma Actuators Ltd – UK mail@auma.co.uk www.auma.com

Sara Thompson and Callum Sully, new recruits for Auma UK



### Flowexpo 2017

Flowexpo 2017, the 20<sup>th</sup> international trade fair for valves, pipe fittings and fluid equipment, will take place from 19 to 21 May, at the Canton Fair Puzhou Complex, Guangzhou, China. The event, which will feature valves, pipe fittings, castings, forgings, fluid handling parts and water treatment systems, was founded in 1997.

**Guangzhou Flow Expo Co, Ltd** – China info@flowexpo.asia www.flowexpo.org

## **Indowater 2017**

Indonesia's largest international water and wastewater trade show, Indowater 2017, will be held from 12 to 14 July 2017 at Jakarta Convention Center, in conjunction with Indorenergy and Indowaste. The event takes place every year, alternating between Jakarta and Surabaya.

The trade show is organised by PT Napindo Media Ashatama in association with Merebo Messe Marketing in charge of the Europe, America and Australia Pavilion. The last Indowater Jakarta in 2015 attracted 458 exhibitors from 32 countries, and 9,752 trade visitors.

Merebo Messe Marketing – Germany contact@merebo.com www.indowater.merebo.com





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## **ENOC** announces Technip as main EPC contractor for refinery expansion

Emirates National Oil Company (ENOC) has revealed plans to expand the capacity of its ENOC Processing Company (EPCL) Jebel Ali facility by 50 per cent. The expansion project comprises three separate packages at an estimated value in excess of US\$1bn. The expected date for commercial production is Q4 of 2019.

The main package of the project will add a new condensate processing train to the existing facility, expanding its daily capacity to 210,000 barrels, from its current 140,000 barrels per day. Additional processing units will also be added, including a new LPG/ naphta hydrotreater, an isomerisation unit, kerosene hydrotreater, and a diesel hydrotreater. These units will ensure that the refinery's fuel products, which include gasoline, jet fuel and diesel, are capable of meeting expanding domestic fuel demand, as well as for export purposes.

Technip, which was contractor on the Jebel Ali refinery from 1997 to 1999, has been awarded a large contract, covering the engineering procurement and construction (EPC) for the design and construction of the processing unit. The group's operating centre in Rome, Italy, will manage the project. The front end engineering design was carried out by KBR, and the licensor technology was provided by UOP, Axens and KT.

Marco Villa, president of Technip's EMIA region, covering Europe, Middle East, India, Africa and Latin America, commented, "We are proud to reinforce the long-lasting relationship between Technip and ENOC for the expansion of the Jebel Ali refinery, which was successfully delivered by Technip in 1999 with outstanding safety, schedule and quality performances. This award confirms Technip's leading position in the refining sector and in the Middle East downstream business, as well as its ability to provide its clients with customised solutions combined with secure project delivery. We are firmly committed to repeat, and even more improve, our strong performance of the original Jebel Ali Refinery Project."

The subsequent two packages of the project will include the construction of storage tanks and a 31,000 ft<sup>2</sup> warehouse.

Emirates National Oil Company Group – UAE www.enoc.com

Technip – France www.technip.com

## Analysing the global market for plastic pipes

Periods of extreme drought and old pipelines in bad condition are not only a problem for Brazil's cities: water is becoming increasingly scarce, and this is a problem for consumers and desperate farmers. However, it is also a hope for new business opportunities for pipe manufacturers, because modern, efficient pipelines can at least mitigate the problem.

In the upcoming years, increasing investments in pipe networks are to be expected, not only for the potable water supply. The market research company Ceresana has analysed the global market for plastic pipes, and its analysts forecast demand for these to increase to almost 37 million tonnes until 2023.

Demand for pipes is especially determined by the development of building construction and civil engineering. Applications such as sewage disposal, potable water supply or cable protection are directly connected to the order situation of the construction industry. Plastic pipes continue to replace traditional pipes made of steel, stoneware or other materials. However, decreasing public expenditure, political insecurities and the lack of private investment have drastic effects on the construction industries in some countries. Support programmes for particular construction segments and the intensity of promotion of projects for irrigation systems or the expansion of the fibre-optic network differ from country to country.

Different kinds of plastics are favoured for the various application areas. For example, pipes made of polyvinyl chloride (PVC) are relatively cheap and are thus used extensively in the sewage, potable water and cable protection sectors.

Yet pipes based on polypropylene and polyethylene increasingly compete with PVC pipes in the potable water segment, and they already play a major role in the application areas of gas supply and industrial products. New and improved systems for protection against exhaust emission are constantly developed in the industrial pipes segment, eg new techniques for the construction of multiple-layer pipe systems and leakage monitoring. The oil and gas industry has applied increasing numbers of polyamide plastics (PA 12) instead of steel pipes for several years. This material only absorbs small amounts of water, has a high impact strength, and can be used in a broad temperature range. Possible application areas are, among others, gas pressure pipes.

The most important innovations in the plant drainage segment are sound insulation and noise protection systems. The material used is further developed to reduce resonance as much as possible, which results, for example, in mineral reinforced polyethylene with a high inherent weight.

**Ceresana** – Germany order@ceresana.com www.ceresana.com



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## Ant Hire secures £1mn contract with IWJS

Ant Hire, a UK supplier to the water industry, has been appointed by Industrial Water Jetting Systems (IWJS) as its water and drainage solutions provider in a contract worth £1mn over the next five years.

Under the contract Ant Hire will provide IWJS, an approved sub-contractor for



Yorkshire Water, with lateral pipe cutting robots, its PatchBox pipe repair kit, and other drain consumables to help the wastewater management company deliver planned and reactive works for its water utility clients.

The contract, with IWJS's Leeds depot, builds on Ant Hire's existing relationship

with its Manchester and Suffolk depots. With six strategic locations throughout the UK, IWJS delivers national drainage and wastewater management support to clients.

Antony Scott, director at Ant Hire, commented, "We are delighted to have secured this significant contract, which not only strengthens our existing relationship with IWJS but also allows us to showcase our commitment and dedication to providing innovative products and customerfocused solutions by working closely with one of the leading drainage contractors within Yorkshire Water."

IWJS contracts manager Ronnie McMillan said, "Ant Hire's innovative products and solutions are competitively priced, have widespread availability and are perfectly suited to our day-to-day needs. As well as Ant Hire's ability to cater to our requirements regardless of the geography or complexity of the project, the team's friendly and pragmatic approach, willingness to exceed expectations and first class service delivery are what set them apart from the competition. We look forward to further developing our business relationship with them and helping thousands of businesses across Yorkshire to access essential water services."

With over 20 years' experience, Ant Hire Solutions provides drainage repair and rehabilitation equipment to the UK's water and wastewater sector, with a comprehensive hire, sales and repair service that fully adheres to industry recognised standards. Since being founded in 1996. Ant Hire has invented a number of products to improve safety and efficiency in the water industry, including the Vertform manhole base system, the PatchBox pipe repair kit and Pressure Testing pipe service. The company has also been awarded the title International Dealer of the Year by IMS Robotics, its preferred robotics partner, for the past two years.

Ant Hire – UK www.anthire.co.uk

## Val-Matic appoints vice-president of sales and marketing

Val-Matic Valve & Manufacturing Corp has announced the appointment of Mark T Troyanowski as president of sales and marketing. Mr Troyanowski joined Val-Matic in 2016, and previously worked in various sales management roles at other manufacturing companies. Over his career, he has participated in several municipal industry organisations, including APWA, AWWA and WASDA. Mr Troyanowski earned a Bachelor of Science Degree in Finance and a Master Degree in Business Administration from Northern Illinois University and brings a wealth of industry experience to the position.

Val-Matic is a manufacturer of air valves, check valves, and quarter turn shutoff valves for water/wastewater, power, industrial, fire protection and HVAC applications.

The company has headquarters in Elmhurst, Illinois, USA, and additional manufacturing facilities in Addison, Illinois, for a total of over 177,000ft<sup>2</sup> of manufacturing and office space.

#### Val-Matic Valve & Mfg Corp – USA

valves@valmatic.com www.valmatic.com Mark T Troyanowski



## **Online valve finder tool**

GF Piping Systems has extended its online services, with the GF Valve Finder, to simplify the search for products that match applications. The company offers more than 15,000 different standard valve configurations to its customers, and finding the right one can take time. To simplify this process the company has introduced an online tool for its catalogue.



### Asahi/America and Bänninger in North American partnership

Thermoplastic valve and pipe manufacturer Asahi/America, Inc has announced its partnership with German manufacturer Bänninger.

Through this new partnership, Asahi/ America will have exclusive distribution rights in North America to Bänninger's PP-RCT piping systems for the commercial plumbing market.

Marketed under the trade name Asahitec<sup>™</sup>, Asahi/America will offer Bänninger's Climatec<sup>™</sup> system for hydronic heating applications, and the Watertec<sup>™</sup> system for potable water.

"I'm excited about our new partnership with Bänninger," said Asahi/America president and chief executive officer Daniel Anderson. "They share the same core values of supplying quality products and excellent customer service that we do. The relationship will help both companies expand their market reach and grow their customer base." Bänninger has been manufacturing thermoplastic pipe and fittings for the plumbing industry since 1970. Asahi/ America has supplied thermoplastic valves, pipe and fittings, and actuation to a variety of industrial markets since 1971. Both companies are ISO 9001:2008 certified, and the Asahitec<sup>™</sup> line is NSF 14-pw certified.

"We looked for a partner who is professional in solving installation problems, focused on distributors, and has expertise with high-quality products," said Bänninger's chief executive officer Henry Roske. "Asahi/America is a perfect fit for our 46 years' experience in manufacturing thermoplastic pipes and fittings. Bänninger is also proud to partner with Asahi/America, because of our similar philosophies and our potential to grow together."

Asahi/America, Inc – USA asahi@asahi-america.com www.asahi-america.com The GF Valve Finder helps customers to quickly find the right valves for their applications.

The tool guides the customer through the valve selection process, offering three selection criteria: type of valve, type of actuation and/or type of material.

By selecting at least one of the options GF Valve Finder will guide the customer directly to a page with matching valves. On this page the customer can use the extended search and further narrow down the results. When the matching valve is found, the customer is provided with comprehensive documentation, including dimensions, technical data, approvals, planning assistance, brochures and product videos. Direct product enquiries can be made with the help of a virtual shopping cart.

**GF Piping Systems Ltd** – Switzerland info.ps@georgfischer.com www.gfps.com



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## Bespoke pipe puller aids multi-duct installation in Ireland

During April 2016, Stockton Drilling Ltd (SDL) commenced work on a challenging crossing of the River Corrib in Galway, Ireland. The work was completed on a sub-contract basis for GMC Utilities, the principle contractor for SSE in Ireland.

The project involved the installation of a 390m-long HDPE pipe bundle beneath the river to facilitate the installation of a 110kV grid connection to the SSE wind park west of Galway city. To complete the work SDL utilised its 250-tonne horizontal directional drilling rig to install a bore of 710mm (28") diameter into which the HDPE pipe bundle was to be pulled. The HDPE pipe bundle consisted of three 200mm diameter and three 125mm diameter pipes. The installation took place at a site located close to the historic Menlo Castle.

As well as having a width of approximately 110m, the Corrib flows along a fault line where two rock types, granite and limestone, converge. The area is also a Special Area of Conservation (SAC). These factors, combined with works being required not to interfere with the ongoing activities of the National University of Ireland Galway and not to disturb the ruins of the medieval castle, resulted in the project presenting an array of logistical and technical challenges.

In order to overcome these challenges, the HDD profile was designed as a continuous curve from the entry point, entering at 13° to the horizontal and following a vertical radius of not less than 400m. To facilitate the reaming stages of the main bore, two pilot holes were drilled. Both were installed utilising a 170mm (6¾") diameter down-hole mud-motor, powering a 216mm (8½") diameter tri-cone drill bit to follow the predetermined profile trajectory to the pre-planned exit point.

The first pilot hole had a 125mm HDPE pipeline inserted; this was to be used as a drilling fluid return line during the main bore reaming operations. The second pilot bore was reamed in two stages to the required 710mm (28") diameter to facilitate the insertion of the HDPE pipeline bundle.

The drill rig launch site on the Galway project showing the pipe bundle successfully completed pull back





The exit side of the bore showing the pipe bundle about to be installed

In order to install the required pipe bundle effectively, given the pipe sizes involved there was a requirement for a pipe towing head that would pull in five pipes ( $3 \times 200$ mm and  $2 \times 125$ mm) at the same time. SDL approached Pipe Equipment Specialists Ltd (PESL) for assistance, as this is one of the company's specialist areas of operation.

PESL offers a variety of pipe pullers for various aspects of the pipeline and trenchless industries. The company's Multi Puller is a cone-shaped device that, within the outer shell, has the facility to install links to which individual pipe towing heads can be attached. However, the job was not going to turn out to be quite so simple.

Subsequent to the first meeting and the formulation of the design of the Multi Puller, SDL added that it wanted to ballast the pipes in the bundle during the pull-in operation in order to reduce the pulling loads, and to minimise stresses on both the drilling rig and pipes themselves as the installation proceeded. Further complicating the situation, the ballasting would not be required until the pipe string was about half way through the pull-in operation of the HDD process.

Steve Kent, managing director of PESL, came up with the idea of using the company's Test Ends which, when suitably modified, could be utilised in the place of standard towing heads. The Test Ends comprise a pipe end stop that can be inserted into a pipe

### business & market news

and expanded within the pipe to both grip the inner diameter and also form a seal. The Test End normally has a valve attachment that enables water or air to be passed into the pipe and pressurised up to 16 bar. This made them suitable for the purpose required for the HDD installation. The problem was how to get them into the Multi Puller and have them work effectively as pulling heads while still enabling them to be used to pass ballast water into the pipes.

The modifications to the Multi Puller and the Test Ends involved, within the nose section of the Multi Puller, connecting all the Test Ends to the towing plate such that they were rigidly held in place. The individual pipes were placed over the grippers of the Test Ends, which were then expanded to hold the pipes in place. As added security, to ensure that in gripping the pipes they did not expand or deform at the towing end, each pipe was fitted with a stainless steel collar to offer a platform against which the Test End could seal and grip.

The Test Ends were then connected together so that the contractor, when putting water into just one of the 125mm diameter pipes, could fill all the pipes to the same level at the same time. Using this design not only enabled the contractor to fill the pipes with ballast as and when required, but also meant that



Multi Puller and Test Ends

the full length of the pipe string did not have to be welded together and laid out before the final pull-in operation could take place.

Once the pull-in operation was underway, new lengths of the pipe string could be welded into place as required, with the final lengths being added just prior to the time when the ballast pumping was needed. Having connected together the pipes at the towing head, using just one of the smaller diameter pipes meant that all the pipes could be ballasted at the same time.

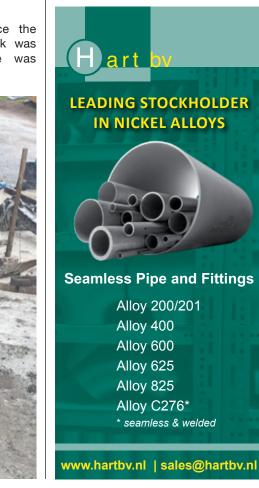
With this plan in place, once the main boring and reaming work was completed, the pipe bundle was

assembled and leak tested and the pullin operation commenced.

The operation was successfully completed without incident.

**Pipe Equipment Specialists Ltd** – UK enquiries@pipe-equipment.co.uk www.pipe-equipment.co.uk

Stockton Drilling Ltd – UK info@stocktondrilling.com www.stocktondrilling.com



Detail of the final reamer/towing head/pipe bundle assembly



## **Arc Energy announces acquisition**

UK-based Arc Energy Resources, a weld overlay cladding and fabrication specialist, has acquired precision machining company CLG Engineering.

Arc Energy Resources provides corrosion-resistant weld overlay cladding services to a variety of clients in industry sectors ranging from oil and gas to defence, power generation, petrochemical, water and nuclear. Its processes provide a practical combination of readily available base materials and corrosion-resistant alloys to protect any critical area. Its fabrication department holds ASME U and U2 stamps, and manufactures radiographicquality specialist equipment, including pressure vessels, spools, pig launchers, wellhead equipment and nuclear devices.

CLG Engineering provides CNC milling, CNC turning and assembly services to, among others, the oil and gas, automotive and rail industries. Certified to ISO 9001 and with over 40 years' engineering experience, its team can produce parts from 25mm to 1.25m in length, and up to 18" diameter, within tight tolerances.

The acquisition means that Arc Energy Resources' 80 employees are



supplemented by CLG Engineering's 14, to create a stronger team with a wider mix of skills. Both companies are supported by teams of experienced project managers, inspectors and welding engineers, with access to a wide range of auxiliary processes in-house, including heat treatment, NDT and CMM inspection.

Commenting on behalf of both companies, group managing director Andrew Robinson, said, "This is a fantastic opportunity for both companies. CLG Engineering's precision machining capability perfectly complements Arc Energy Resources' cladding and fabrication offering. The group structure enables us to offer a one-stop shop for all our clients' engineering requirements, from design and material supply through to welding, cladding, machining, NDT, pressure testing, surface finishing and project management."

He went on to say that the cultures of the two companies are highly compatible, from a focus on quality, attention to detail and customer service, to the way they treat their staff. "I have great plans for the future growth of the group, and am looking forward to supporting our clients on new and larger projects," said Mr Robinson.

Arc Energy Resources Ltd – UK sales@arcenergy.co.uk www.arcenergy.co.uk

### Growth at UK steel tube specialist

Hub Le Bas is aiming to re-establish itself as a leading UK precision steel tube supplier as it enters a new phase of expansion and capital investment, building on major client gains over recent months.

The company, whose roots go back over a century, has already regained more than 75 per cent of its client base since being acquired in December 2015 by global steel and engineering business Liberty House Group. It expects to complete this rapid recovery over the coming months. At present the company is welcoming almost 50 new clients per month and has increased its workforce numbers. Buoyed by the strength of the comeback under new management, Hub le Bas, which supplies industries as diverse as automotive, defence, construction and medical, is now planning to add two new sites to its existing five-strong UK network and to invest nearly £2mn in advanced laser cutting equipment to further boost quality and productivity.

Rob Sweetnam, managing director of Hub Le Bas, said, "We are experiencing a rapid growth in the demand for precision cut tube components and are taking the necessary steps to respond to customer needs. The use of fully programmed laser cutting equipment provides clients with improvements in accuracy and quality while also reducing downstream assembly costs."

The new laser cutting machines will be located in the company's London, Manchester and Leicester branches, supplementing existing capacity at the firm's Bilston site in the Midlands. Hub Le Bas has a portfolio of 8,000 product lines and maintains high stock levels to meet demand from clients of all sizes. Staff are equipped to deliver in-depth product and technical knowledge as well as high levels of customer service.

Hub Le Bas – UK

www.hublebas.co.uk

## Conex Bänninger recruits to build North East England region

Valves and pipe fittings manufacturer Conex Bänninger has shown its intent within both the commercial and domestic sectors in the north of England by appointing Zoe Mackay to the position of regional specification sales manager for the North East.

Stationed within the Yorkshire and Humberside counties, Ms Mackay has relevant experience on both the manufacturer and merchant side, having spent two years as a specification manager and subsequently four years as a commercial sales manager for a merchant chain. This will be invaluable to the company, as her main responsibility will be to develop business with both commercial and domestic HVAC contractors.

The company is looking to improve its market position, supply chain delivery and service to increase market share in the North East region.

Commenting on her appointment, Ms Mackay said, "The heritage of the Conex Bänninger brand speaks for itself in terms of product excellence, and I am excited to be delivering a wide range of solutions for both commercial and domestic applications due to our extensive product portfolio. With my market knowledge on both the manufacturer and distributor side,



Zoe Mackay

I look forward to growing the business and to further build on the strong foundations already in place."

**Conex Bänninger** – UK www.conexbanninger.com

## Line for large multi-layer PPR pipes

AMUT has supplied a line for the production of multi-layer pipes in PP with glass fibre (diameter up to 630mm) to a European producer dedicated to hot and cold water ducting for civil and industrial applications.

The glass fibre improves the elastic module of the pipe, reducing the thermal expansion. Pipe installation costs are lower than for traditional pipe because pipe support is reduced during installation.

The quality of pipes is generally enhanced. The line is composed of three single screw extruders, EA75 AMUT model, L/D 35:1, and one EA20 co-extruder for the coloured strips. The extruder for the inner layer is equipped with anti-abrasion treatment screw and barrel to process the glass fibre.

The line is equipped with a special head designed for processing large-sized pipes with different configurations: three-layer with spiral-helical distribution system. The head is thermo-regulated through a dedicated TCU, keeping an accurate temperature during the production process (TERAX system). Any sagging effect is avoided and uniformity of the thickness can be maintained.

AMUT Group – Italy info@amut.it www.amut.it

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### HandyTube receives NORSOK qualification from MRC Energy Piping

HandyTube has been successfully qualified by MRC Energy Piping for its 6Mo (UNS S31254) seamless coil and straight length tubing up to 3.8mm wall thickness according to NORSOK M650 Edition 4 for MDS R18. The gualification is an important milestone in HandyTube's commitment to being a valued supplier and a key resource to the oil and gas industry, providing custom solutions for critical applications.

NORSOK is a set of standards developed by the Norwegian petroleum industry to ensure adequate safety, added value and cost effectiveness for development and operations in the petroleum industry, and is intended to supersede oil company specifications and to serve as authorities' regulatory references. NORSOK M-650 verifies that a manufacturer has sufficient competence and experience producing the relevant material and the necessary manufacturing facilities and equipment to support the production of the product for the duration of the qualification period.

To meet the gualification requirements for NORSOK M-650 the purchasing company, MRC Energy Piping, is responsible for performing an audit of the manufacturer. The results of this audit demonstrate HandyTube possesses the knowledge, equipment, processes and procedures necessary to repeatedly produce the required finished products for use in critical applications.

Upon completion of the audit MRC Energy Piping and Handy Tube signed a Qualification Test Record (QTR) stating all qualification requirements have been met. Each QTR is specific to a particular alloy, production route, product form and product thickness.

HandyTube manufactures seamless, stainless steel coil and straight length tubing, and is able to produce seamless tubing upwards of 6,000 feet long, and in custom sizes to best suit the application.

HandyTube Corp - USA www.handytube.com

### **DVGW certificate for high-pressure** pipe system

The HexelOne<sup>®</sup> high-pressure pipe system has been certified by the DVGW for gas and drinking water applications.

The approved use of the plastic pipe system in high-pressure settings provides two benefits that previously only applied to low-pressure applications: the corrosion resistance of the pipes makes cathodic corrosion protection redundant, and the system allows the use of modern installation techniques that shorten construction time.

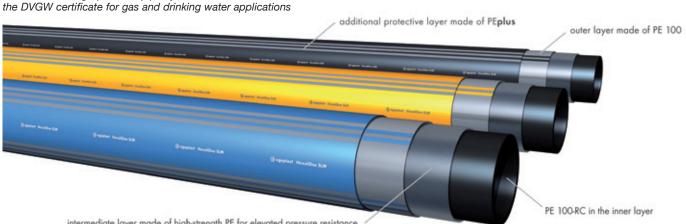
The HexelOne high-pressure pipe system has been awarded

The reinforcement opens new areas of use for egeplast's HexelOne, with permissible operating pressures of 30 bar for water and 16 bar for exceeding the range of gas, applications previously covered by PE pipes.

The stability achieved by the HexelOne pipe with its reinforcement layer of highstrength PE strapping is claimed to be twice as high as that provided by PE-100 full-wall pipes.

Owing to their protective layer and inner layer made of PE 100-RC, the pipes are suitable for trenchless installation. The DVGW certificate for drinking water covers dimensions from d 90mm to d 125mm. In addition, HexelOne gas pipes have been certified for up to d 160mm.

egeplast international GmbH -Germany info@egeplast.de www.egeplast.de



intermediate layer made of high-strength PE for elevated pressure resistance

## Tubacex signs joint venture with Awaji

Tubacex has reached an agreement to create a joint venture with the Japanese company Awaji Materia to manufacture special stainless steel components at its factory in Thailand. This operation, which follows a previously signed statement of intent, implies a capital increase of US\$3.3mn subscribed by Tubacex Group through the Italian firm IBF, which accounts for 60 per cent of the new company's stake. As compensation for the remaining 40 per cent, Awaji Materia will provide the assets for the stainless steel special fittings factory.

Awaji Materia, founded in 1944 and dedicated to the manufacture of stainless steel and carbon fittings, has a high level of market penetration in Southeast Asia, as well as in North America and Japan.

It is expected that the new company, Tubacex Awaji Thailand, will invoice €20-25mn in three years with the manufacture of stainless steel elbows, reductions, tees and caps. These are standard small diameter products that complement the fittings range that Tubacex has been offering through TTA (Spain) and IBF (Italy), allowing for industrial synergies with its tube plant located in India.

With this operation, Tubacex maintains its commitment to the Asian continent – one of the fastest growing markets – with its first venture within Southeast Asia in conjunction with a Japanese partner with experience in the fittings manufacturing sector.

Jesús Esmorís, CEO of Tubacex, commented, "The crisis in the sector has hit the fitting sector particularly hard, but we have reacted with a plan for the specialisation of our plants and a strategic acquisition in Thailand that will help us to reach our goals of diversification, better positioning in the value chain and proximity to the final user. "We currently have a full range of fittings, from the standard, smaller diameter product to more complex products and bigger diameters, which complements our portfolio and allows for the creation of industrial synergies with other plants of the group."

In addition to the manufacture of stainless steel and high-alloyed tubular products, Tubacex offers a wide range of services, from the design of tailored solutions to installation and maintenance operations. The company has production plants in Spain, Austria, China, Italy, USA, India and Thailand, and worldwide service centres and sales offices in 38 countries.

The main demand segments for the tubes manufactured by Tubacex are the oil and gas, petrochemical, chemical and power generation industries.

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Tubacex – Spain www.tubacex.com





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## TMK ships pipe to build 2018 World Cup stadiums

TMK has shipped a batch of seamless pipe for the construction of Mordovia Arena stadium in Saransk, Russia, which will host 2018 FIFA World Cup football matches. The contractor for the new stadium will receive 210 tonnes of 219mm and 426mm S440 grade steel seamless pipe. The company had previously supplied 1,600 tonnes of pipe for the metal structures of the sports arena.

Specifically for the use in stadium metal structures, Volzhsky Pipe Plant has launched production of seamless pipe made of high-strength S440 grade stainless steel. Saransk is not the only host city in Russia to use this product: TMK also supplied it to build the roof of Samara Arena stadium; Seversky Tube Works, which is also part of TMK, supplied galvanised pipe for the outer steel frame of Spartak Stadium (now Otkritie Arena) in Moscow, which was inaugurated in 2015; and the company's impact-resistant seamless pipe made of 09G2S grade steel was used in the retractable roof of Saint Petersburg Stadium (Zenit Arena).

TMK was also involved in a number of infrastructure projects to support the hosting of the 2018 World Cup. In particular, Volzhsky Pipe Plant supplied large-diameter helically submerged arcwelded pipe (SAWH) for the underwater relief and main sewer lines crossing the Volga River in the Central District of Volgograd.

The crossings were constructed as part of Volgograd Arena stadium's infrastructure. Large diameter longitudinal pipe produced by Volzhsky Pipe Plant was also used to relocate utility grids as part of the project.

During the last three years TMK has shipped over 7,000 tonnes of pipe to 2018 World Cup stadiums, with seamless pipe for high-strength steel frames accounting for 80 per cent of the supplies.

"We are fully aware of the importance of the FIFA World Cup, which Russia will host for the first time in 2018, for the international prestige of our country and the promotion of sports," said Alexander Shiryaev, TMK's CEO. "State-of-the-art arenas built to the highest standards and requirements will be opened to host this major event. The stadium projects feature a number of completely unique engineering solutions that require the use of robust, high-strength metal structures. For TMK, involvement in the 2018 World Cup stadium projects is a big honour and at the same time the recognition of our products for their premium quality."

TMK Group – Russia tmk@tmk-group.com www.tmk-group.com

## Saudi KAD awarded pipeline projects contract

Engineering, procurement and construction company Saudi KAD has been selected as Saudi Aramco's contractor for executing several strategic pipeline projects related to the Master Gas Program Phase II and the Fadhili Gas Program. When the project is completed in 2018, the Master Gas System capacity will increase to 12.5bn standard cubic feet per day.

The scope of the projects will entail the engineering, procurement, construction and commissioning of a pipeline network totalling 1,118km in length. These pipelines will significantly expand Saudi Aramco's capabilities for delivering sales gas to power plants and petrochemical facilities throughout the Kingdom of Saudi Arabia.

The pipeline sizes will vary, with the largest diameter reaching 56" and extending over a distance greater than 1,000km. The scope also includes

EPC work for valve stations, metering systems, launcher and receiver stations, fibre optic cables, and road and rail crossings.

Saudi KAD is already involved in Saudi Aramco's Onshore Maintain Potential Program. The four new contracts awarded under the Master Gas Program Phase II and the Fadhili Gas Program will strengthen the existing relationship between Saudi KAD and Saudi Aramco. All projects will proceed concurrently, necessitating the deployment of significant manpower and equipment resources, over large geographical regions.

Ahmad Al-Jabr, chairman of Saudi KAD, commented, "We are deeply honoured by the trust placed in Saudi KAD by Saudi Aramco's award of these strategic projects. It clearly demonstrates Saudi Aramco's commitment towards supporting and growing national contractors for the greater benefit of our national economy. Saudi KAD will reciprocate this trust through meeting every commitment on the awarded projects, and continuing to pursue our aggressive localisation agenda."

Saudi KAD has announced that all aspects of the projects will be executed in Saudi Arabia, as further evidence of its commitment towards local investment.

The engineering, procurement and construction will be performed totally in-Kingdom, positioning Saudi KAD as the first fully integrated Saudi EPC contractor. The company will also aim to achieve ambitious 'Saudisation' targets for its construction workforce, focusing on core skills such as welding, pipe fabrication and pipe fitting.

**Saudi KAD** – Saudi Arabia info@saudikad.com.sa http://saudikad.com.sa

### Meridian acquires PowderCoat Services

Meridian General Capital has completed the acquisition of PowderCoat Services (PCS), a production powder coater offering a diverse range of related services.

PCS is able to provide a new process called electrophoretic deposition (EDP), a liquid coating process that deposits cross-linked organic polyurethane to any metallic and select non-metallic surfaces using electrical current.

The company serves a wide spectrum of industries including automotive, home improvement, consumer products, sports equipment, musical instruments, electronics, cleaning and sanitising, and the military.

Ravi Rao, founder and chairman of Meridian, said, "With this acquisition Meridian intends to build a dynamic industrial services enterprise. PCS provides a solid platform that has been successful in this highly specialised niche – one that is critical to its customers and environmentally a sound replacement to paint processes.

"Additionally, the expertise of key management staff will assure us of meeting our ambitious growth plans in this industry segment.

"The company's emphasis on process innovation as evidenced in their investment in the new EPD process should help us expand into new geographic territories and also address additional markets." Mr Rao will serve as the executive chairman of PCS.

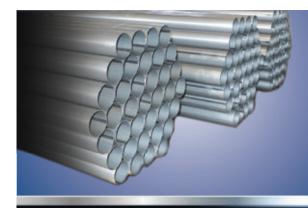
Powder coatings were originally developed as an environmentally sound method of painting commercial parts, and have become one of the most common finishes. Most of these coatings are various shades of black, though PCS carries many colours, and are available in various gloss levels and textures.

Each finish can be manipulated to fit specific needs, such as UV protection or resistance to oils.

PCS offers services including tube bending, fastener installation, light manufacturing, final assembly and supply chain management. The company provides personalised service and uses its own fleet of trucks and drivers.

Meridian General – USA bizdev@meridiangeneral.com www.meridiangeneral.com

**PowderCoat Services, Inc** – USA info@powdercoatservices.com www.powdercoatservices.com



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### Silva Mash EOOD – BULGARIA

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## Duke Energy modifies design and identifies preferred route for natural gas pipeline

In response to community feedback, Duke Energy, USA, has modified its plan for the Central Corridor Pipeline Extension Project. The company is now proposing to the Ohio Power Siting Board (OPSB) to construct a smaller natural gas pipeline that operates with less pressure. The proposed pipeline would have a 20" diameter and operate at approximately 400 psi; the original design called for a 30" pipe with an operating pressure of approximately 600 psi.

The newly proposed pipeline will still enable Duke Energy to retire ageing propane peaking plants. It will also moderately decrease reliance on natural gas from a single source in the southern part of the company's system that has reached its maximum capacity. Longer-term system needs will be addressed through other modernisation programmes to be implemented over the next decade.

"We have been listening to feedback from our customers, neighbours and

community leaders," said Jim Henning, president of Duke Energy Ohio and Kentucky. "The reduction in size and pressure of the proposed natural gas pipeline is a direct result of this feedback. This new pipeline is critical for us to continue safely meeting the natural gas needs of nearly two million people in this region, both today and for generations to come."

As part of the filing with the OPSB, the company submitted two proposed pipeline routes for consideration. The preferred route identified in the application will be the eastern route and would terminate in Fairfax. The company was also required to submit an alternate route. The OPSB will decide the final route and may also suggest modifications.

The proposed natural gas pipeline will be of similar size and pressure as other pipelines that Duke Energy operates to deliver natural gas to its customers. The natural gas that travels through these pipelines, including the proposed one, will only be used locally to benefit the company's 525,000 residential and business customers in the region.

"Duke Energy has a long history of providing safe and reliable natural gas to homes and businesses," said Mr Henning.

"Retiring ageing infrastructure and replacing older pipelines with new materials engineered with state-ofthe-art safety features and monitoring abilities is the right thing to do for our communities."

The company will construct and operate the 12- to 14-mile natural gas pipeline following industry-best engineering and safety practices and in full compliance with state and federal regulations. It currently operates more than 14,000 miles of natural gas pipelines and service lines in its Ohio and Kentucky service territory.

**Duke Energy** – USA www.duke-energy.com

## TMK GIPI receives 52km line pipe order from Daleel

TMK Gulf International Pipe Industry (TMK GIPI), part of global pipe manufacturer TMK, has been awarded the contract to supply API 5L X52 (sour service) line pipe with 3LPE coating for Daleel Petroleum LLC. The total load will be around 4.5 kt.

The 3LPE coating system is a multilayer coating structure composed of three coating materials of fusion bonded epoxy (FBE), copolymer adhesive and PE or PP top coats for steel pipe anti-corrosion. TMK GIPI has years of experience and expertise in 3LPE pipes and anti-corrosion coating materials.

TMK GIPI claims to be the only manufacturer of 6" to 24" diameter high pressure ERW steel pipes in Oman,

and commenced delivery of the order in October. The pipes supplied by GIPI are 18m in length. This extended length, rather than a standard length of 12m, reduces the end user's construction costs in welding, NDT and other associated costs, as well improving the speed of project execution.

The benefits of using a local manufacturer include just-in-time delivery, less handling and fewer related logistical challenges, and the ability to immediately replace damaged products.

TMK GIPI's CEO, Vladimir Shcherbatykh, commented, "We are extremely honoured to win another contract from Daleel. Our company's motto is to provide quality products and services and the fact that we have bagged a repeat order from Daleel is testament to our commitment. TMK GIPI is well on its way to be a market leader in the Sultanate as well as the region in providing line pipes and casing pipes for the oil and gas industry as per customised standards and requirements."

TMK is a global manufacturer and supplier of steel pipe for oil and gas industry, operating more than 30 production sites in the USA, Russia, Canada, Romania, Oman and Kazakhstan, and two R&D centres in Russia and the USA.

**TMK Group** – Russia tmk@tmk-group.com www.tmk-group.com

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## products & developments

ko's new hollow bar M-Steel 280 is a low carbon, micro alloyed stee

## Ovako launches new hollow bar and enhanced service and distribution operation

At the Alihankinta Subcontracting Fair in Tampere, Finland, Ovako launched its new hollow bar M-Steel® 280, developed to offer component manufacturers design and machinability advantages. The company also promoted its increased service package and distribution operation in Finland, Ovako Metals Oy Ab. Both enhanced offerings are intended to provide customers with advantages, both in terms of material consistency and availability, with a range of customised services.

Developing the new M-Steel 280, a low carbon, micro alloyed steel 20MnV6 M, as hollow bar makes it suitable for more demanding applications by combining high strength with machinability. Because the material is based on M-Steel technology, it is also claimed to facilitate higher cutting speeds and superior tool life.

"M-Steel technology is unique as it enhances the machining process by forming a protective film on the cutting tool. This promotes increased cutting speeds, while extending tool life, reducing tool changes and enhancing productivity," explained Göran Nyström, executive vice president of group marketing and technology at Ovako.

"New hollow bar M-Steel 280 not only reduces machining time; it also means customers can increase their productivity without the need for capital investment."

An advantage of M-Steel 280 hollow bar, close to finished component sizes, is that its use can eliminate a complete machining process where a central bore is required. This helps cut down on production time, reduce component costs and increase profitability. Ovako Metals Oy Ab highlighted the latest facilities that have been added to its distribution centre in Tampere. The centre now has the capability to provide customers with a complete first stage in the production chain.

"Our extensive experience as a distributor for companies in the Finnish market, including Ovako, covers a comprehensive range of materials including low alloy carbon steels, engineering steels, carbon steel thin plates, stainless steels, brass and copper," said Heikki Nyholm, managing director Ovako Metals Oy Ab. "We provide stockholding, material purchasing, warehousing, cut to length, logistics as well as technical advice and full customer support."

Ovako AB – Sweden info@ovako.com www.ovako.com

### products & developments

## Pre-insulated piping system for chilled media

Thermoplastic fluid flow technology firm Asahi/America, Inc has introduced the Coolsafe<sup>™</sup> pre-insulated piping system for chilled media.

Coolsafe is a complete system consisting of a polyethylene inner layer, polyurethane insulation core and polyethylene outer layer. On-site installation labour is reduced because the pipe and fittings are pre-insulated at the factory.

Coolsafe installs easily using conventional butt or electrofusion welding methods. The PE-inner by PE-outer design allows the system to be simultaneously butt welded, saving installation time and providing a safer installation.

The system's components are moulded and insulated to strict tolerances to ensure easy installation and long-term insulation of chilled media. Coolsafe provides thermal conductivity better than 0.026 W/m-K (0.015 Btu-ft/h-ft $^2$ -F).

Coolsafe is available in sizes from 32 to 250mm (1" to 10") and is in stock now at Asahi/America.

The pre-insulated piping system includes a complete range of fittings and is supported by Asahi/

America's welding equipment fleet. The company's Type-21 ball valves and Type-57 butterfly valves can be incorporated into the Coolsafe system to control flow.

Applications for the Coolsafe piping system include commercial refrigeration, brewery and winery chilling, secondary cooling of food production, cold storage facilities, and central plant HVAC systems.

Asahi/America specialises in providing solutions for fluid handling systems,



plete range of fittings and Coolsafe pre-insulated piping system

individualised to meet customers' needs.

The company manufactures corrosionresistant thermoplastic fluid handling products including valves, actuators, pipe and fittings. It also maintains an extensive custom fabrication department, and provides on-site consultation, supervision and training, where required.

Asahi/America, Inc – USA asahi@asahi-america.com www.asahi-america.com

## Transformation from manufacturer to full-service supplier

Following its vision and strategy, the Tubacex Group states that it is experiencing a transformation that allows it to establish a close cooperative relationship with its customers, with the goal of developing and providing comprehensive solutions to their specific needs.

In recent years, a training and adaptation process has taken place that consists of reinforcement and increased use of technology in the sales area; strong development of R&D abilities; inorganic growth to complete the product portfolio; and development of new products and processes for highdemand applications.

The innovation strategy has been adapted to offer new products and comprehensive solutions resulting from internal R&D activities. This has led to the inclusion of two new key concepts: alliances with partners or suppliers of technology and complementary products; and development of new added-value services, based on the needs of the customer.

In order to develop innovative solutions, it is necessary to collaborate with the customer in all of the phases of the lifecycle, from its design to the operation of the service.

Innovation management at Tubacex is done under 'open innovation' principles, which allows for the integration of capacity and know-how from a network of companies, including customers, suppliers, research centres and partners in general.

Most of the innovation projects that are currently under development at Tubacex

were born from alliances with other companies.

Tubacex has proprietary capacity for the design of components and even subsystems in collaboration with external engineering firms. This design capacity is complemented by a deep knowledge of the materials and their manufacturing processes.

The company is offering certain customers a growing portfolio of added-value services, including finishing operations (cut to measure, bevelling); advanced surface treatments (shot peening, coatings); logistics (project delivery management, immediate delivery from the warehouse); and pre-manufacturing (curving, welding, grooving, finning).

Tubacex Group – Spain www.tubacex.com

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## **Pipe clamp production**

Hammerschmid specialises in the industrial production of pipe clamps in small and large series, including further processing, coating, pre-assembly and packing. Its products are used in domestic plumbing applications, industrial building, wastewater treatment plants, chemical industry, paper and steel industry, as well as in waste incineration plants and power plant construction.

The company's range includes pipe clamps, round and flat steel clips, pipe carriages with accessories, pipe suspensions, special constructions and secondary supports. Hammerschmid can manufacture these products according to customer specifications, drawings or samples, while taking into account various working standards.

Hammerschmid regularly includes new product groups in its delivery programme, in order to offer the broadest range of goods. By continuously enlarging and automating its production, the company is able to produce pipe supports in every material and with any surface coating required, in a fast and flexible manner.

Based on its internal high quality requirements the company endeavours to always obtain new quality certificates for its products, having been certified according to ISO 9001 for 20 years and according to EN 1090 class 2 since 2012. Rohrbefestigungen Hammerschmid GmbH – Austria office@hammerschmid.at www.hammerschmid.at



Pipe clamps from Hammerschmid



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## Components from tubes and dimensionally accurate processing solutions

PURES-tubes, Germany, aims to offer increasing services from one source for component suppliers in the fields of automotive, engineering and energy.

In the last five years, the company has received many enquiries for tubes made of materials such as 22MnB5, P235GH, P265GH, 16Mo3 and 13CroMo4-5, and accompanying components.

It has also had an increasing number of requests for processing operations with challenging levels of difficulty and high quality requirements. This has encouraged the company to further expand these segments (components as well as dimensionally accurate processing solutions), and to enter into cooperations throughout Europe with high quality suppliers.

PURES states that it can respond flexibly to customer requirements, and points out that large manufacturers often presuppose large volumes for order acceptance. Flexible response to smaller quantities of customer needs is therefore particularly important, because developers/engineers need minor amounts for prototypes or material so they can go into pilot production.

The components business segment has expanded to include components from

tube, including elbows, fittings, flanges, olets, turned/machining parts, bright steel/bars, and stamping parts.

PURES-tubes – Germany info@pures-tubes.com www.pures-tubes.com



## Extending equipment performance with 360° service

Alfa Laval is a provider of specialised products and engineering solutions based on key technologies of heat transfer, separation and fluid handling.

The company's genuine spare parts are designed and manufactured for durability, reliability, productivity, less environmental impact and long life.

Fast, easy access to a broad range of long-lasting high-quality parts can enable users to boost productivity and maximise uptime.

Alfa Laval and its authorised service partners aim to ensure maximum output of Alfa Laval hygienic equipment throughout its life cycle. Working with a committed network of global service partners secures equipment uptime and optimisation, plus the availability of parts and expertise.

The genuine spare parts are matched to the equipment and carefully manufactured to ensure reliable longterm performance.

The experts who service the equipment have the skills and experience to minimise service time, and the knowledge to spot problems before they occur.

Easy access to expert and specialist support is provided by people who respond quickly and can offer assistance in your local language. Alfa Laval has a logistics team whose sole focus is getting the right parts where you need them, in the right number and in as little time as possible.

Services and solutions are available to help adapt equipment, whether to new media and capacities or to changing regulations and business drivers.

The company strives to make new technology available retroactively, so that existing equipment can benefit from the latest R&D.

Alfa Laval – Sweden info@alfalaval.com www.alfalaval.com

## **Meeting increasing demand** for pipes by airfreight

Tube Developments' stock of 10,000 tonnes of seamless carbon steel pipe allows the company to deliver to the customer without delay.

It delivers by all traditional methods of transportation. However, the use of



airfreight is increasing, and is becoming the transport of choice for time-critical deliveries.

When the customer is unable to wait for a mill delivery, or an unplanned shutdown occurs, Tube Developments can

> have the pipes prepared, crated for airfreight and dispatched within 48 hours. Recent locations include Lagos, Bangkok and Singapore.

The company states that its success as a worldwide supplier of materials can be attributed to its attention to detail, extensive product knowledge and understanding of clients' requirements.

Tube Developments can prepare pipes for dispatch by airfreight within 48 hours

In order to remain a major supplier of carbon steel pipes and tubulars, the company continues to invest in new technology and personnel development.

Tube Developments has supplied a number of projects over the last 12 months, including supplying carbon steel process pipes for the Alrar Inlet Project to the appointed contractors.

Alrar is an oil and gas field operated by Sonatrach in Algeria.

The project involved an extension to the plant, which was necessary in order to maintain production and extend the life of the field.

Tube Developments Ltd -UK info@tubedev.com www.tubedev.com



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Mar IN Minut

Ministry of Commerce of the People's Republic of China Department of Foreign Trade

The Department of Foreign Trade & Economic Cooperation of Guangdong Province

INT'L TUBE & PIPE

## **Press fittings for desalination plants**

Eurotubi is promoting its AISI 316L stainless steel press fittings as a choice for systems downstream from desalinators, both for those dedicated to industry and for those for making saltwater potable. The qualities of the Eurotubi Pressfitting system, such as the assembly speed, are combined with the hygienic qualities of AISI 316L stainless steel and high resistance to corrosion.

There are many civil and industrial applications where it is essential to take saltwater from the sea and transform

it into potable or desalinated water. Despite continuous technological progress, the plants, and especially their energy requirements, mean that water desalination is still a costly process. Most large water desalination plants are located in countries such as the Arab Emirates where there is a scarcity of water but a large amount of monetary resources.

Eurotubi states that its AISI 316L Pressfitting system can help contain the high costs of desalination plants. The junction process requires around 50 per cent less time compared to welding, resulting in faster system installation, and the press fittings can be set without permission to use open flames or qualification licences. On average, water desalination plants require thousands of metres of pipes. Because of their thin walls, AISI 316L steel press fittings and pipes weigh less than other systems that are made with the same material.

Eurotubi Europa Srl – Italy info@eurotubieuropa.it www.eurotubieuropa.it

## **GF Piping Systems and the Ponte Vecchio**

Multi/Joint 3000 Plus flange adaptors and ELGEF Plus electrofusion couplers from GF Piping Systems have been used to help deal with a giant sinkhole that appeared near the Ponte Vecchio in Florence, Italy.

In May 2016, alongside the quay in downtown Florence, a large part of the embankment collapsed and came crashing down a number of metres. A leaking cast iron water pipe washed away a large amount of soil, causing a giant hole with a swirling water mass, which swallowed numerous parked cars.

Within 24 hours the worst of the mess was cleaned up and the water supply for that part of town was restored with a bypass, but it would take at least six months for all the damage to be repaired and the embankment restored.

The water company in Florence, Publiacqua SpA, requires new suppliers of materials to go through a screening process before they can supply anything. GF's Multi/Joint 3000 Plus system had already been approved for use in the company's network.

One of GF Piping Systems' business partners, SDM Srl, is located in Calenzano, near Florence.

The company supplies cast iron and PE fittings and accessories to various gas and water companies. The owner, Massimo Santini, also owns a transport company with trucks that can carry 12.5m-long pipes.

SDM was contacted almost immediately after the embankment came down. The company got in touch with GF Piping Systems and other suppliers and was quickly able to deliver the required materials for the bypass in PE. Two Multi/Joint 3000 Plus DN600 flange adaptors were immediately supplied from stock to Publiacqua. GF Italy supplied two additional DN600 flange adaptors and eight ELGEF electrofusion couplings from the GF Piping Systems distribution centre in Italy.

**GF Piping Systems Ltd** – Switzerland info.ps@georgfischer.com www.gfps.com

GF supplied eight ELGEF electrofusion couplings





## **Differential pressure transmitter**

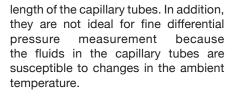
Yokogawa Electric Corporation has announced the release for sale in Europe of the EJXC40A digital remote sensor, a newly developed DPharp EJX<sup>®</sup> series differential pressure transmitter.

Equipped with two pressure sensors, connected with an electric cable, the EJXC40A offers performance in the measurement of liquid levels in large tanks and large differential pressure with high-pressure fluids. The new addition to the DPharp EJX series will meet a wide range of customer needs.

Differential pressure/pressure transmitters are used in the oil, petrochemical and chemical industries in applications such as oil and gas wells. By measuring the difference in pressure at two points in a tank or pipe, the transmitters can calculate the level, flow rate, and density of liquids, gases and steam. In applications where a tank liquid or gas or a pipe fluid cannot be introduced into the pressure-receiving unit (diaphragm) of a transmitter, diaphragm-sealed differential pressure transmitters are used.

A transmitter of this type is connected to two separate pressure-receiving units by a capillary tube that is filled with silicone oil or some other fluid.

Although such transmitters are capable of precisely measuring high-pressure fluids with a high resolution, they are not suitable for use with large tanks because of limitations in the allowable



The EJXC40A consists of two separate pressure sensors that are connected to each other by an electric cable. Based on the difference in pressures measured by each sensor, the EJXC40A determines the liquid level, flow rate, and pressure of liquids, gases and steam.

The electric cable connecting the two pressure sensors can be up to 45m in length, enabling the measurement of liquid levels with very large tanks and tall distillation columns.

Since the two pressure sensors are connected only by an electric cable, their measurements are not influenced by changes in the ambient temperature. There is no need to correct for changes in temperature when performing fine differential pressure measurements with gas tanks and other applications. This ensures stable measurements.

The two pressure sensors can be set to measure different pressure ranges, allowing the EJXC40A digital remote sensor to measure high differential pressures of up to 70 MPa – something that is difficult to achieve with a singlesensor unit.

Yokogawa Europe BV – Netherlands info@nl.yokogawa.com www.yokogawa.com/eu

Yokogawa' s EJXC40A features two pressure sensors connected by an electric cable

## **LC series lift check valves**

SSP, a manufacturer of instrumentation tube fittings, valves and tubing, has introduced the LC series Lift Check Valves.

The new valves are designed without elastomers and springs, making them suited to applications with pulsating flow, high and low temperatures, and pressures up to 6,000 psig (413 bar). The valves are used in wide variety of industries, including chemical and chemical processing, hydroelectric and conventional power generation, midstream oil and gas, and industrial engines.

The temperature range is -73 to  $482^{\circ}$ C (-100 to  $900^{\circ}$ F), and the flow coefficient (Cv) is up to 1.1.

End connections are Duolok (fractional/ metric), Unilok, Griplok, NPT, FNPT or tube socket weld, and end connection sizes range from  $\frac{1}{8}$ " to  $\frac{3}{4}$ " (6 to 12mm Duolok tube fittings).

The LC series are all stainless steel construction and feature a metal-tometal seal, no O-rings or springs, and a forged body. The compact, one-piece body reduces potential leak points.

#### SSP Corp – USA

customer.inquiries@mysspusa.com www.my-ssp-usa.com





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## **Fully insulated and protected installations**

Properly designed and insulated HVAC installations serve as one of the foundations of sustainable and energy-efficient building. Designed for demanding conditions, Paroc Hvac Section AluCoat T meets a number of requirements for a properly working installation, as well as ensuring quick and easy fitting.

Paroc Hvac Section AluCoat T is a non-combustible stone wool pipe section clad with an additional layer of reinforced aluminium foil facing and tape in the longitudinal seam, intended for thermal and condensation insulation of heating, hot and cold water, steam and air-conditioning ducts and flues. With low thermal conductivity, the product helps builders and engineers to minimise energy loss and enhance efficiency in installations.

Apart from high thermal insulation properties, the pipe section clad with a layer of aluminium foil effectively protects all metal surfaces of pipes against water condensation. In addition, Paroc Hvac Section AluCoat T is classified with A2L-s1,d0 reaction to fire class corresponding with the "noncombustible material" classification, meeting requirements set out for technical insulations of installations.

Paroc Hvac Section AluCoat T is characterised by high mechanical strength. Stone wool pipe sections clad with a reinforced aluminium layer do not settle over time. The product is claimed to maintain its thickness and performance parameters for the lifetime of the installation.

Standard thickness is 20-100mm, with other thicknesses to order. The inner diameter range is 12 to 612mm, and pipe section length is 1,200mm.

Paroc manufactures energy-efficient insulation solutions for new and renovated buildings, marine and offshore, acoustics and other industrial applications. The company has production plants in Finland, Sweden, Lithuania, Poland and Russia, and sales offices in 14 European countries.

Paroc Group Oy – Finland www.paroc.com

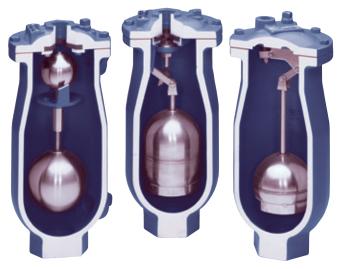
#### Wastewater air valves

Val-Matic's full line of wastewater air valves perform two important functions in a piping system: they maintain system design efficiency and provide system protection.

Exhausting and admitting air keeps the system from restricted flow, reducing pumping costs, and reduces the potential for destructive surges and water hammer that can collapse a pipeline.

Val-Matic's wastewater air valves have guaranteed 316 stainless steel floats and internal trim, fusion bonded epoxy coating to minimise the build-up of sewage, and a non-clog design with a 2" clean out connection to facilitate the passage of solids, for reduced maintenance.

Val-Matic Valve & Mfg Corp – USA valves@valmatic.com www.valmatic.com



A cutaway view of some of Val-Matic's wastewater air valves

#### **Premium quality stainless steel products**

Ferrari Stainless and Alloys prides itself on being a supplier of premium quality stainless steel and aluminium products, serving engineering, marine and civil projects.

With ex-stock material being delivered to customers at least three times weekly, a new addition to the delivery team ensures reliability. The purchase of a new delivery vehicle underpins the company's dedication to service and reliability – investing in a solid commitment to its customers.

Ferrari Stainless and Alloys offers a complete range in all grades: sheet, plate, round bar, flat bar, angles, squares, hexagons, tube (super mirror polished), pipe, fittings, flanges, studding and fasteners. The premium grade of stainless steel for use in highly corrosive environments is 1.4404 (316): the product that the company mostly stocks and upon which it has gained its reputation.

Ferrari Stainless & Alloys Ltd is accredited to BSEN ISO 9001: 2000.

Ferrari Stainless and Alloys – UK info@ferraristainless.com www.ferraristainless.com

## Spin-on filters for increased cleanliness in hydraulic systems

Eaton's line of spin-on filters protect pumps, valves, compressors and hydraulic systems from contamination as per ISO 2941, ISO 3723 and ISO 2942, and are designed to provide high cleanliness levels for hydraulic systems. They provide trouble-free operation for power generation, oil and gas, construction, forestry, mining and material handling markets.

The spin-on filters feature cartridges that are engineered to fit into many leading filter systems. The product line includes an extensive range of sizes, ratings and materials for hydraulic, lubrication and other fluid applications. The filters feature high dirt-holding capacity to ensure consistent filter efficiency and long service life, even at high pressures.

Compatible with a variety of mediums such as oils, fuels, emulsions, glycol water and synthetic fluids, the spin-on filters provide benefits that include cartridge pressure values in 12, 25 and 35 bar; flow rates up to 180 l/min; and a wide range of operating temperatures from -25°C to +110°C.

Eaton's filtration division can help companies improve product quality, increase manufacturing efficiency, protect employees and equipment, and help achieve sustainability goals.

Eaton (Filtration Division) – Germany www.eaton.com



## Jingning Junwen Steel Co., Ltd



Stainless Steel Seamless Pipe / Tube			
Type:	Austenitic stainless steel seamless pipe		
Process Method:	Cold Drawn / Cold Rolled		
Surface Finish:	Bright Annealed / Pickling / 180# 240# 320# 400# 600#		
	Manual Polished / Mechanical Polished		
Grade:	TP304, TP304L, TP316 / 316L Dual Grade.		
Standard:	ASTM (ASME) SA / A312 / A213 / A269 and DIN, GB, JIS		
Size:	OD <sup>3</sup> / <sub>16</sub> "-1 <sup>1</sup> / <sub>2</sub> " (6mm-38mm), WT 0.028"-0.118" (0.7mm-3mm)		
Tolerance:	Outer Diameter: ±0.08mm (0.00315"), Wall Thickness: ±10%		
Certification:	ISO9001:2000, GB/T19001-2000		



Stainless Steel Cold Drawn Seamless Tubing in Coils & Pipe Coils				
(Made of Cold-Drawn Pipe Billet Instead of Plank-Welding)				
Type:	Austenitic stainless steel seamless pipe			
Process Method:	Cold Drawn / Cold Rolled			
Surface Finish:	Bright Annealed			
Grade:	TP304, TP304L, TP316 / 316L Dual Grade			
Standard:	ASTM (ASME) SA / A312 / A213 / A269 and DIN, GB, JIS			
Size:	OD <sup>3</sup> / <sub>16</sub> "-1" (4.76mm-25.4mm), WT 0.028"-0.083" (0.7mm-2.11mm)			
Tolerance:	Outer Diameter: ±0.08mm (0.00315"), Wall Thickness: ±10%			
Length:	100ft-2,000ft, or according to customers' requests			
Certification:	ISO9001:2000,GB/T19001-2000			

Our products are widely used in petrol, chemical, pharmacy, foodstuff, machinery, aerospace, military, hardware, boiler gas, hot-water heating parts, shipping, power and other industries, heat-exchangers and cold treatments for chemical industry, and gas transmission pipelines. We can offer stainless steel pipes according to our customers' requirements.

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### Methane capture system to reduce emissions during pipeline replacement

Southern California Gas Co (SoCalGas) has successfully tested a system to capture natural gas emptied from a recently abandoned natural gas pipeline during work in the city of Atascadero, USA, saving the gas for later use and eliminating noise and emissions that occur in the traditional venting process.

In total, approximately 108,000 cubic feet of natural gas was captured – equivalent to the average daily usage of around 523 homes in the USA.

Crews decommissioned a 2.5-mile section of pipeline that had been replaced by a new pipeline in a new location.

The work required the pipe to be completely emptied of approximately 150,000 cubic feet of natural gas. Instead of following the standard process of venting the gas, SoCalGas compressed most of it, and then pumped it into three large tanks so it could be put back into SoCalGas's system and used by customers.

"We're extremely excited that our engineers are experimenting with this groundbreaking innovation," said Rick Phillips, senior director of SoCalGas's pipeline safety enhancement plan.

"Capturing the methane we would traditionally vent to atmosphere not only reduces noise or smells neighbours might notice, but also minimises impacts to the environment. We will continue testing this new innovation in hopes of expanding its use for whenever its application may be suitable."

Across the USA, emissions from natural gas distribution systems like SoCalGas's

represent less than one per cent of greenhouse gas emissions.

The methane capture technique was tested as part of SoCalGas's pipeline safety enhancement plan (PSEP), a multi-billion-dollar programme that identifies various high pressure pipeline sections throughout SoCalGas's system and schedules them to be pressuretested or replaced. PSEP also includes provisions to upgrade, replace or retrofit hundreds of mainline valves in the system with technology that allows them to be opened or closed remotely by system operators from a central control location, or that automatically shuts off the flow of natural gas in the event of a large drop in pressure.

Southern California Gas Co – USA www.socalgas.com

## Fast, flexible production of coupling stations

hs-Umformtechnik produces coupling stations at its location in Grünsfeld-Paimar, Germany. The stations are used to supply injection moulding machines with plastic granules in centralised pneumatic pipe conveyor systems.

From the silo or dryer, the granules are directed to the relevant production lines via the flexibly extensible multi-branch devices. The distributor elements consist of branch pipes, pipe bends and pipe elements. These are connected to DVK-6 pipe couplings so that they are pressureand vacuum-proof, and are fastened to and exactly aligned with the robust stainless steel frame construction using pipe clamps.

With conventional stainless steel branch pipes and bends, granules with a high glass fibre content can quickly cause wear and tear. The flexible design allows the distributor elements to be upgraded with highly wear-resistant components.

Coupling stations from hs-Umformtechnik

For such applications, individual elements such as stainless steel bends, branch pipes and pieces of piping made of special glass or HVA non-rust stainless steel, specially developed by hs-Umformtechnik, can be installed.

The latter is claimed to provide 20 times the service life. The flexible design also makes the subsequent replacement of standard parts easier.

The coupling stations are delivered fully assembled, and material distributors by hs-Umformtechnik are ready for use immediately on delivery. With an in-house CAD department, hs-Umformtechnik can offer not only coupling stations using the modular system, but also individual solutions for all applications, pipe dimensions and space requirements.

hs-Umformtechnik GmbH – Germany kontakt@hs-umformtechnik.de www.hs-umformtechnik.de

#### products & developments

### **Chemical- and fluid-resistant** solenoid valves

The 221G range of stainless steel solenoid valves from Parker Hannifin offer resistance to corrosion and aggressive chemicals and, with ATEX certification, are suited to use in explosive environments.

With a durable high-grade 316L stainless steel construction and fluoroelastomer (FKM) sealing to provide fluid and chemical resistance, the 221G series combines long life and reduced maintenance requirements in harsh operating environments.

Typical applications include those found in oil and gas, petrochemical, food processing and pharmaceutical installations, and other applications where aggressive liquids, chemicals and gases are present.

Due to their high flow rates of up to 170 litres/min, the valves provide an opportunity to reduce the overall size of customer installations. 221G series valves are based on technology that has evolved over 40 years and is used in a sister range offered in brass.

The modular design of the valves allows assembly to a large range of coils including many with ATEX, IP67 and UL/VDE approvals. This makes them suitable for use in applications where cleaning agents are present, such as in car wash installations, industrial washing machines or food processing. The 221G series in stainless steel is available in a two-way, normally closed format, with port sizes ranging from 3/8" to 1".

Valéry Blanchet, marketing product manager for Parker's fluid control division Europe, said, "This new stainless steel version makes the 221G series exceptionally durable for applications



Parker Hannifin's 221G series solenoid valves in stainless steel offer high flow rates

where aggressive cleaning agents are present, and particularly for rigorous 'wash-down' environments. They also provide a long life and reliable solution in ATEX environments."

Parker Hannifin Mfg - Switzerland www.parker.com

### **Slickline grade for extreme** oil and gas environments

Sandvik, a developer and producer of stainless steels, special alloys, titanium and other high-performance materials, is launching its new slickline grade Sanicro<sup>™</sup> 56Mo, a nickel-chromiummolybdenum alloy suitable for service in corrosive oil and gas environments.

Sanicro 56Mo was developed as an alternative to more costly grades, but is claimed to have equal abilities. It is able to withstand a wide range of aggressive conditions in downhole settings, making it suitable for service in the toughest oil and gas wells.

"For many years, the industry has faced formidable challenges when tackling very sour and corrosive oil and gas conditions," said Nigel Haworth, global business unit head, oil and gas, Sandvik.

"Sanicro 56Mo will not only provide one of the highest mechanical strengths in the industry, but it is also more cost-efficient than equivalent products. This is especially important given the current economic climate in the oil and gas sector."

Sandvik's next-generation hiahperformance materials are designed to meet the operational demands presented by the pressure in extreme water depths below 10,000 feet, and at temperatures above 400°F.

"Sanicro 56Mo contains high levels of nickel, molybdenum and chromium, making it highly resistant to even the sourest of wells, at temperatures up to 475°F, or 250°C," explained Patrik Kjellström, application specialist, energy wire, Sandvik.

#### Sandvik Materials Technology – Sweden

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## New fireproof coupling

Teekay's pipe couplings offer a simple way to join two pipes and gain space, weight and time savings over methods such as flanging, grooving, threading or welding.

The company's fireproof coupling features a patented internal fire sleeve that cannot be lost, damaged or removed. At SMM 2016 in Hamburg, Teekay launched the second-generation Axilock Fire Proof coupling.

The enhanced coupling replaces the original internal fire sleeve with layers of technologically advanced fireproof material. It also gives a more positive lock off on torque.

Current test conditions require the coupling to be subjected to temperatures in excess of 800°. The company's



tests have shown that the new coupling is capable of withstanding temperatures well beyond this limit, with the lock parts both up and down. There are no noxious fumes, no smoke and no leakage.



Having survived a rigorous flame test designed to simulate a hydrocarbon fire, the Teekay Axilock-FP coupling remains leak free at a pressure of 32 bar – in this instance, twice the working pressure.

The expected changes to IACS P2 regulations stipulate "thermal insulation materials applied on couplings should be non-combustible". The Axilock Fire Proof coupling meets those regulations before they are required and does so

with room to spare for the future.

Director Ian Webb, who invented the company's original fireproof coupling, commented on the new "The development, key requirement of any fireproof solution is to protect the pipe joint from the rigours of its environment in a 'worst case' scenario, and we are very pleased to show that the Axilock Fire Proof does exactly that. When the internal rubber is inspected after the fire test, the patented multi-seal gasket looks like new."

Sales manager Chris Webb is eager to bring the new Axilock Fire Proof coupling to the market: "Having supplied the first generation Fire Proof couplings to the Queen Elizabeth Air Craft Carriers, the largest vessels in the Royal Navy, I am confident that our new model will prove extremely popular with our marine and offshore customers."

A project engineer from Babcock International echoed Teekay's positivity: "Having been introduced to the secondgeneration AxilockFP coupling from Teekay, it was very interesting to see how the technology of the internal fire sleeve has been developed. It was good to understand that the focus on the quality and value of the product's predecessor has been maintained, alongside other features such as the small overall footprint and the multi-seal gasket."

Teekay Couplings Ltd – UK www.teekaycouplings.com

## Fast and efficient tube and pipe inspection

Manufacturers of tubes and pipes are increasingly utilising borescopes in their visual inspection processes, according to Dr Douglas S Kindred, president and chief scientist of Gradient Lens Corporation, manufacturer of Hawkeye<sup>®</sup> precision borescopes. "Fast, reliable, cost-effective visual inspection inside even long, narrow or bent tubes and pipes is easy using a Hawkeye," commented Dr Kindred.

Gradient Lens manufactures more than 80 models of patented Hawkeye Rigid,

Flexible and Video Borescopes. With diameters ranging from 0.5 to 8mm, and lengths from 2" to 20 ft, Hawkeyes are suitable for internal inspection of seam welds, orbital welds, and internal surface finish.

Made in the USA, Gradient Lens's patented endoGRINS<sup>®</sup> gradient-index lens technology is built into its line of Hawkeye Rigid borescopes.

The latest borescopes display highquality inspection images on portable or desktop video monitors, and laptop or desktop computers. The images can also be saved, documented and e-mailed.

The newest addition to the Hawkeye line – the Hawkeye V2 Video Borescope – represents the next generation of fully portable, articulating video borescopes manufactured by Gradient Lens.

**Gradient Lens Corp** – USA info@gradientlens.com www.gradientlens.com

## Flagship fusion machine with Tier 4 engine from McElroy

McElroy has launched a new machine in its flagship TracStar<sup>®</sup> series that offers advanced emissions reduction and automation technologies, allowing users to meet tough regulations in air quality and data logging.

The new TracStar 900 Series 2 Automatic features a Cummins US EPA Tier 4/EU Stage IIIB engine that burns ultra-low sulphur diesel, making it cleaner burning, quieter running and more efficient.

Fusion functions are controlled automatically with The Coach<sup>®</sup> pendant, which also has the ability to upload joint reports to the McElroy DataLogger<sup>®</sup> Vault<sup>™</sup> for safe storage, analysis and validation of pipeline integrity. "We have equipped the Auto machine with an advanced diesel engine from an outstanding global supplier so that our customers will be ready for emissions regulations in all markets, including strict requirements in Europe, and have ready access to top-tier engine service and support," said McElroy director of product development Jason A Lawrence, PE.

"It's also increasingly important to have the ability to upload joint data to show that pipelines were fused properly, which offers greater accountability as well as a competitive edge. This machine does that."

Engineers made it easy to access the engine for maintenance on the TracStar 900 Series 2 Automatic by redesigning the cowling and rearranging the components. The machine fuses 340 to 900mm (12" IPS to 36" OD) thermoplastic pipe in accordance with many of the international fusion standards, and includes all of the ongoing features of the TracStar machines.

The all-terrain vehicle features rugged rubber crawler tracks and is selfpropelled via wireless remote control. It is also self-contained, with an on-board generator for powering the heater.

Hydraulic power assists the operator with all everyday fusion functions, including the operation of the jaws, pipe lifts, heater and facer. Low-, medium- and high-force machines are available.

McElroy – USA fusion@mcelroy.com www.mcelroy.com



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# Gas testing of Simultra retrievable bridge plug

Peak Well Systems, a specialist in the design and development of advanced downhole tools for well intervention, has been commissioned by an international oil company to undertake gas testing of both the  $4\frac{1}{2}$ " and  $5\frac{1}{2}$ " Simultra retrievable bridge plug at a 10,000 psi and  $175^{\circ}$ C specification.

The customer has a requirement for a high-performance retrievable plug for its HTHP high rate wells, and Simultra is the only retrievable bridge plug to meet its specifications.

Peak's Simultra range incorporates MetaPlex technology – a hybrid metal-elastomer seal that delivers both performance and improved recovery reliability. The range has been specifically designed by Peak to address the growing demand for high-performance retrievable bridge plugs with reliable recovery every time, whilst being capable of providing high temperature, high pressure and gas tight (14310-V0 grade) zonal isolation in even the most extreme sour conditions.

Testing of the 51/2" Simultra retrievable bridge plug to the required customer specification took place at Peak's gas pressure testing facility in Aberdeen, UK.

Upon the successful completion of additional customer-witnessed tests for the  $4\frac{1}{2}$ " and  $5\frac{1}{2}$ " Simultra plugs, attention will turn to securing field tests.

Robin McGowan, chief technology officer at Peak Well Systems, said, "We are very pleased with the progress being made in our development programme for the Simultra range. We now have V0 certification for our  $4\frac{1}{2}$ " and  $5\frac{1}{2}$ " plugs across all standard tubing weights.

"The interest already shown by leading oil operators in Simultra technology is a testament to the growing market demand for a higher performance plug with superior retrievability and running clearance to help reduce costs and increase efficiencies in the most challenging gas wells."

Peak Well Systems – Australia info@peakwellsystems.com www.peakwellsystems.com



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## The new Rotoweld 3.0

Tecnar has introduced the new Rotoweld 3.0. For more than 20 years, Rotoweld pipe welding work cells have been the worldwide reference in the pipe spool prefabrication industry. Specifically developed for industrial pipe pre-fabrication, small pressure vessel manufacturing or other similar 1G welding, Rotoweld integrates machine vision, adaptive control and robotics technology in a completely dedicated package that produces high quality GMAW full penetration 1G girth welds, at five times the rate of manual SMAW.

The Rotoweld 3.0 is the result of re-engineering of all aspects of the machine, including mechanical design, servo-controls, computer and software, taking advantage of all the latest technologies. The most visible change is the robotised manipulator that provides increased flexibility for torch positioning in various machine configurations.

The core of the Rotoweld technology is its unique, patented, vision-based penetration control loop. It allows any operator, with little to no welding experience, to perform high quality, full penetration girth welds with just a few hours of training. Operating like the welder's eyes and hands, the control loop continuously analyses the image of the root weld pool. Image processing algorithms use the image to adjust welding parameters such as travel speed, wire feed rate, arc voltage or weaving width, constantly adapting the process to varying conditions (gap, alignment, root face and temperature).

The Rotoweld 3.0 is designed in a modular architecture, allowing customers to select different configurations, such as SAW or FCAW, better suiting operators' needs. In particular, a new low-cost base model was developed that delivers the same high quality welds on the full pipe size range of the previous version but at lower productivity rates. The base model is built with a single rotator and work bay, compared to the standard two work bays and two rotators setup.

**Tecnar** – Canada sales@tecnar.com www.tecnar.com

## **Purging large diameter pipes for welding**

Waiting for pipes to be purged ready for welding can take hours, depending on the diameter of the pipe being welded and the method chosen for purging.

Huntingdon Fusion Techniques (HFT) designs and manufactures a range of QuickPurge<sup>®</sup> inflatable pipe purging systems that reduce waiting times. The company was recently tasked with a special project in the USA, where pipes with 90° elbows up to 54" Ø were required to be purged.

Georgia Gascoyne, CEO at HFT, said, "We manufactured QuickPurge systems with longer sleeves so that they could easily be pulled around the sharp bends in the pipework. The welders were previously spending half a day purging the pipe, which was costing a considerable amount in time and gas costs. With the help of QuickPurge the pipe was purged down to 100 ppm ready for welding in just 55 minutes. The dramatic savings in time and argon paid for the system in just one weld."

QuickPurge has an additional gas input line, which means extra purge gas can be introduced for applications such as this, achieving a faster purge down to the lowest oxygen levels, which is suitable for larger diameter pipes where quality welds are required.

The design of the QuickPurge system means that zero-colour welds can be achieved, and there will be no loss of corrosion resistance caused by oxidation.



Using IntaCal<sup>®</sup> combined with the integrated PurgeGate<sup>®</sup> device makes it possible to safely inflate the dams with argon gas, for purging the space between the dams where the weld joint is located. With PurgeGate, burst dams are prevented in the event of undue pressure increase or accidental flow increase of the purging gas.

All systems are manufactured as standard with a hose for connecting a Weld Purge Monitor<sup>®</sup>, which can read oxygen levels down to as low as 10 ppm, depending on the model. Materials used in the manufacture of QuickPurge are resistant to the higher weld temperatures present, and they do not outgas, preventing weld contamination.

For pre-heated chrome steel and high strength stainless steel pipe joints, HFT designs and manufactures the HotPurge<sup>™</sup> range for a higher and longer temperature exposure.

Huntingdon Fusion Techniques – UK hft@huntingdonfusion.com www.huntingdonfusion.com

## Technical manual for water network design and use

Molecor has published the Technical Manual Of Network Design And Use for TOM<sup>®</sup> PVC Oriented Pipes.

The manual collects exclusive technology applied to its production, and the properties of the pipes; range, features, benefits, applications, fitness for use and sustainability; and offers a wide range of practical cases in mechanical and hydraulic calculations, in order to help users in the design of water pressure networks. The new technology allows manufacturing of pipes with nominal diameter of 500, 630 and 800mm up to 25 bars pressure.

Molecor claims that TOM PVC-O Pipe is the best solution for the conveyance of water under pressure due to advantages such as resistance to impact, high hydraulic capacity, better performance to water hammer, high chemical resistance, complete water tightness, head loss and easy installation. The pipes are manufactured in a wide range of nominal pressures (12.5, 16, 20 and 25 bars), and diameters from 90 to 800mm. The technical manual can be downloaded via the company's website.

Molecor Tecnologia SL – Spain info@molecor.com www.molecor.com

## Condition monitoring starter kit from Parker Kittiwake UK

Parker Kittiwake, a manufacturer of condition monitoring and fluid analysis technology, has launched the Condition Monitoring Starter Kit, which combines the Parker Kittiwake DigiCell combined kit, the Holroyd MHC-Bearing Checker, and a PC tablet with a pre-loaded condition monitoring routine and log book to help guide the user in using the products.

Created with the aim of introducing condition monitoring to those owners and operators less familiar with it, the Condition Monitoring Starter Kit combines tools that protect vulnerable equipment and prevent failure. It utilises modern condition monitoring technology to simplify everyday maintenance observations and provide advance warning of possible maintenance requirements. Using deskilled, intuitive technology, the starter kit empowers crew members with data that enables them to take corrective action and safeguard against potentially catastrophic damage in the worst case, and allows them to prioritise everyday maintenance to maximise operational efficiency.

The Parker Kittiwake DigiCell is an analysis tool that gives engineers a rapid indication of the levels of water in oil as well as an indication of the lubricant's residual base number (BN). It is a popular method for on-board testing, providing fast, accurate results in real time, enabling easy monitoring of vital trends.

The Holroyd MHC-Bearing Checker is a hand-held instrument that provides engineers with a quick and easy-tooperate analysis of bearing condition using unique Holroyd acoustic



emissions monitoring technology. By monitoring the high frequency acoustic emissions signals naturally generated by deterioration in rotating machinery, the Holroyd MHC-Bearing Checker is able to identify developing machinery faults and provide engineers with condition-related information in the easiest possible form. The bearing checker provides data that can trend even the simplest pump or motor to show its degradation over time.

Parker Kittiwake – UK www.parker.com







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#### products & developments

### Portable pipe bevelling solution from Exact Tools in Finland

Exact Tools has launched a new portable pipe bevelling machine to bevel steel, stainless steel and aluminium pipe materials. The PipeBevel 220E will bevel pipe material from 25 to 220mm in diameter with a maximum wall thickness of 10mm.

Currently available in a 220-240V version, the PipeBevel 220E will produce bevel angles of 30°, 37.5° or 45°. The fast, accurate, lightweight and easy-to-use equipment is suitable for site bevelling applications. The company will later launch the same bevelling machine in a 360E version.

Exact Tools Oy – Finland exact@exacttools.com www.exacttools.com



#### **Benefits of tube processing system**

As part of its ongoing programme of replacing machines deemed to have reached a natural end of life, Worcester, Bosch Group, has introduced its first BLM 4-Runner tube processing system. The new machine is designed to deliver cycle time savings of between 25 and 30 per cent compared to the machine it replaced, as well as delivering environmental benefits to the company.

As a manufacturer of domestic heating and hot water appliances, one of Worcester's key targets is energy efficiency, as demanded by its customers. The company has a corporate policy of ensuring that any machine tool purchases reflect this energy/environmental remit.

Previously, tube processing at Worcester had been carried out by hydraulicpowered machinery. The switch to the BLM 4-Runner, with its all-electric, servo-controlled operation, provided a step forward in environmental terms, with the added advantages of improved quality and consistency and reduced cycle times.

"It is part of our long-term vision to replace all of our old hydraulic BLM Planet machines with modern allelectric, servo-driven tube processing systems," said Chris Packer, group leader – manufacturing. "The 4-Runner's servo control is important for a number of reasons, such as improved accuracy of bends, consistency and cycle times, but of equal, if not greater, importance was the fact that they are far more energy efficient compared to hydraulic machines, and this was key to our purchasing decision."

The BLM 4-Runner is a modularbased machine that can be configured to include de-coiling, straightening, end-forming, bending, cutting off and unloading. The machine at Worcester is fully configured in this way, delivering finished components from coiled copper tube up to 22mm in diameter.

The bending capability of the 4-Runner allows left- and right-hand bends to be formed, as well as fixed and variable radii bends in single and 3D planes. The machine is also capable of completing compression and draw bending techniques. For end-forming, the BLM 4-Runner features a multistation end-forming unit with either four or six ram-type forming stations or four ram stations and one rotary station. A variety of cutting devices can also be specified; depending on the material being processed, these include internal or external orbital swarfless cutters, or conventional saw blades.

A key benefit of the BLM 4-Runner's all-electric system is its consistency of bend. With servo-driven positioning every bend is the same. "The variations that we find on our hydraulic benders have been totally eliminated since the switch to the 4-Runner," said Rob Crane, production engineer.

Commenting on the environmental gains of switching from hydraulic to allelectric, production leader Adam Timms said, "The total lack of hydraulic oil makes it much easier to maintain the quality of the working environment. The cleaner working environment also makes it much easier to maintain our Five S, total productive maintenance (TPM) and planned maintenance initiatives (PMI)."

#### BLM Group UK Ltd - UK

sales@blmgroup.uk.com www.blmgroup.com

#### **In-line profile and shape measurement**

As a pioneer of online measurement committed to research and development activities, Zumbach Electronic has grown into a global manufacturer of online measuring and control systems. A top priority at Zumbach remains customer relationships through local presence combined with proven high quality products, services, personal consulting and support.

Zumbach's Profilemaster® systems are developed from a core set of proprietary mega pixel camera/laser modules and software technologies. The application of these technologies has been adapted to serve the specific measurement, monitoring and flaw detection needs of extruded plastic and rubber tubes, hoses, profiles, wire and cable and wood plastic composites.

The system provides 100 per cent inspection, reduces start-up time, increases the accuracy of the end product, improves process control, reduces scrap, saves raw material and post processing costs and increases product quality. It also integrates seamlessly with PC-based systems already in the network.

Depending on the Profilemaster<sup>®</sup> model, up to eight laser/camera modules measure the cross section of the moving profile on-line and continuously. A powerful PC-based processor combines straight lines and radii extracted from the images of the single cameras to yield the momentary cross-section of the profile.

All relevant dimensions such as width, height, angle and radius or other geometric quantities are computed to characterise the full cross-sectional picture. The nominal values for the profile can be directly imported from the CAD design files, which allows easy and problem-free configuration of the device.

The program has three working modes:

Operation – for measurements during production. All operational steps have

been simplified. The desired functions for the measurement of a product, eg conditions for Start/End and records, are only entered once and stored in the memory together with the measured data.

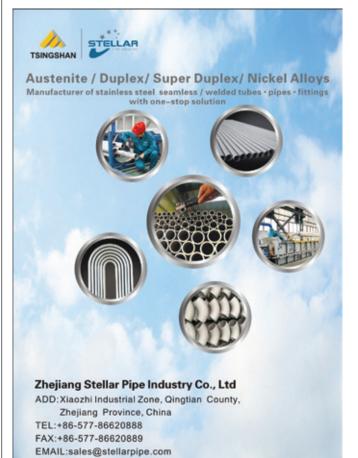
Entering product data – enter the measurement requirement and define how the measured data should be processed. The flexible functions in the software program can be configured to allow products to be measured exactly as the customer requires.

Service and system configuration – the functions in the program can be selected according to the operator's requirements during the initial installation of the system. The default values used for pre-processing can also be changed to suit each product.

#### Zumbach Electronic AG – Switzerland sales@zumbach.ch www.zumbach.com



The Profilemaster<sup>®</sup> system



47

www.stellarpipe.com.cn



Established in 2005, Istanbul BORU Fair is an influential industry trading platform that connects suppliers in the Middle East and North Africa with decision-makers from around the world who represent a wide range of industries.

The fair will feature an array of product zones to address ever-increasing industry demand in the region. The aim is to assist suppliers, distributors and exporters to reach their target customers as well as to cultivate new business relationships in a single location. The fair provides an excellent platform for both exhibitors and visitors to reach their target audience. Companies will have the opportunity to present their new products to the industry and connect with industry experts.

The BORU Tube Istanbul Fair is an important event for tube and pipe producers and machinery manufacturers and is held every two years. The tenth edition of the event will be held from 23 to 25 March 2017.

The show location in Istanbul, Turkey, offers an ideal central destination for visitors from the many neighbouring countries to conduct trade with Turkey, Western Europe and the Middle East.



Venue	Istanbul Expo Center, Yesilköy, Istanbul
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Organisers	Voli Fuar Hizmetleri AŞ
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Opening times	23 to 25 March: 10.00am to 6.00pm

# International trade fair 23-25 March 2017



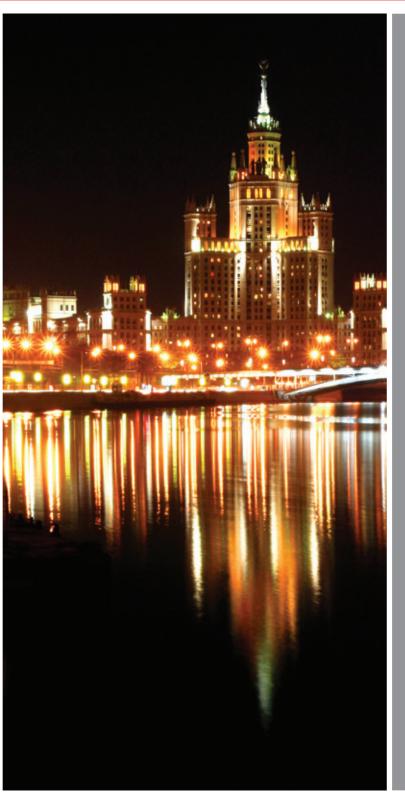
#### www.borufair.com





Venue	ZAO EXPOCENTR, Exhibition Centre, Krasnaya Presnya, Moscow, Russia centr@expocentr.ru   www.expocentr.ru
Organisers	Messe Düsseldorf GmbH   Tel: +49 211 4560 01   Fax: +49 211 4560 668
	www.messe-duesseldorf.de
Opening times	5 to 7 June: 7:10am – 6:00pm   8 June: 10:00am – 4:00pm

#### International tube and pipe trade fair in Russia 5-8 June 2017



Despite a difficult economic environment over the past few years, the tube industry is now looking to the future with optimism thanks to the constantly improving investment climate in Russia.

Investment activities are up, the construction sector is picking up speed again, and consumption remains a strong pillar of this upswing.

The trade fair is one of the most important trading and contact platforms in Russia and for the neighbouring states. The organisers are aware of the optimism prevailing in the industry and can now already see a positive trend in exhibitor registrations.

Messe Düsseldorf GmbH, Messe Düsseldorf Moscow OOO and its Russian partner Metal-Expo have secured official participations from Germany, Italy, Austria and China. The trade fair is supported by the leading international industry associations AMAFOND – Italian Association for Foundry Machines and Products, ITA, VDMA – German Engineering Association, EUnited Metallurgy – The European Metallurgical Equipment Association, CEMAFON – The European Foundry Equipment Suppliers Association, and CECOF – The European Committee of Industrial Furnace and Heating Equipment Associations, as well as by the important partner MC-CCPIT – Metallurgical Council of China Council for the Promotion of International Trade.

#### www.metallurgy-tube-russia.com

# Welding technology

### **Industrial welding package**

Weldability-Sif, a UK-based 'onestop source' for welding products, has launched the SifWeld MTS 400 electronically controlled MIG/MAG/MMA industrial welding package featuring IGBT inverter technology.

With clear digital displays, low-spatter, polarity reversal (for FCAW) and integral four-roll wire feed system able to accommodate up to 15kg of wire spools, the unit is designed for use in heavy-duty fabrication applications such as structural steel and marine/ shipyard tasks.

The SifWeld MTS 400 can be used to weld mild steel, low-alloy, stainless and aluminium in solid and flux-cored MIG applications. It can also be used for DC MMA welding (DC+/DC-) and scratch-start TIG welding. Its control system allows infinitely variable control of welding voltage, wire feed speed,



crater current and burn-back. The power source also benefits from 4T/2T torchlatching and gas line purging. It offers a high duty-cycle for applications requiring long runs, and features adjustable burnback control.

The separate, removable four-roll wire feed unit offers four gear driven rollers and a counter-balanced wire tension system for precision wire feeding.

The wire feed unit houses the wire feed speed and voltage controls as well as the wire-inching feature, to provide complete control of feed rate when used remotely via the interconnecting cables. The ergonomic design of the SifWeld MTS 400 incorporates an integrated MIG torch holder for easy storage, and a wire spool cover to protect wire from the elements.

A robust trolley accommodates a fullsize gas cylinder and includes a wire feed unit mounting bracket, which allows the feed unit to rotate a full 360° while ensuring that the interconnecting cable is secured via the attachment bracket. The trolley also features a storage compartment for common spare parts.

The SifWeld MTS 400 features MIG, MMA and Smart-TIG functionality, comes with a 400V 3ph 32A input supply and supplies 400A DC output at 100 per cent duty cycle.

Weldability-Sif – UK sales@weldability-sif.com www.weldability-sif.com

#### Welding technology

### Weld backing tape for weld purging

It is important when welding metals such as stainless steel, titanium and zirconium that the welding zone is purged of oxygen even as low as ten parts per million (ppm) before, during and immediately after welding, in order to achieve a clean, oxide-free, zerocolour weld.

During a recent trip to South America, weld purging experts from Huntingdon Fusion Techniques (HFT) were supporting their exclusive distributor and local customers when a discovery was made concerning the use of the company's Argweld<sup>®</sup> Backing Tape<sup>™</sup>. A customer showed how the use of his former ceramic backing tiles and the tiny space available for the weld root formation prevented adequate argon flow and caused the welding arc to blow back at the welder.

Luke Keane, distributor support for HFT, explained, "Ceramic backing tiles are designed for submerged arc welding where oxidation is prevented by powder as opposed to argon, so the customers were using the wrong product for GTAW/TIG welding. A demonstration of Argweld Backing Tape followed, which allowed the argon to flow freely, eliminating the blow back of the arc that was happening previously and enabling the welders to produce a perfect root weld." Huntingdon Fusion Techniques Weld Backing Tape<sup>TM</sup> comprises a 75mm (3") wide aluminium adhesive tape backing strip, in the centre of which is a 25mm (1") wide band of woven glass fibre matting.

Once the tape is positioned with the glass fibre matting under the centre of the weld joint, the welders can start their arc.

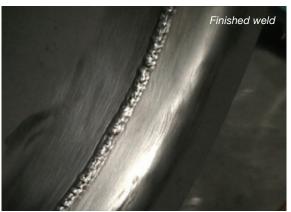
The welding torch argon flow has plenty of space to move between the pores of the matting, which allows the welding arc to stabilise and start forming the weld root.

Measured by a Weld Purge Monitor<sup>®</sup>, all contaminating oxygen below 100 parts per million (ppm) is removed and the stainless steel weld root is completed successfully, with the molten metal being cast onto the fibre glass with excellent side wall fusion and under-bead profile.

The customer was said to be enthusiastic about the clean, metallurgically sound, non-oxidised weld, and placed a large order for Weld Backing Tape for immediate delivery.

Huntingdon Fusion Techniques – UK hft@huntingdonfusion.com www.huntingdonfusion.com





#### New welding machine for HDPE pipe

Delta 1000 Trailer is a self-aligning fusion machine suitable for welding thermoplastic pipes for the transport of water, gas and other fluids under pressure, up to Ø 1,000mm (36" IPS/DIPS). The machine can fuse pipes according to the ISO 21307 High Pressure standard, enhancing productivity and allowing a claimed 60 per cent time saving.

The machine body is mounted on a four-wheeled chassis, with two steering wheels and a safety brake, and is easily removable for working in tight spaces. Steel hydraulic clamping with fast-lock-ing inserts allows placing and removal of inserts in seconds. A self-detaching

device helps remove the heating plate during the welding procedure.

An on-board hydraulic electric facer is equipped with a safety microswitch to prevent accidental starts, and a thermal circuit breaker protects the motor.

The PTFE-coated hydraulic heating plate is supplied with a high-temperatureproof bag, to prevent the heating element from being scratched.

The Easy Life control panel, with a large graphic display and GPS traceability, is removable from the machine body to enable welding from outside the ditch. This allows the operator to program and pilot the welding cycle in an easy, fast and intuitive way. A data-logging system is included, to store full welding data, downloadable through a USB port straight into PDF files. The Easy Life system has the capability store up to 4,000 joint reports.

The Delta 1000 Trailer allows easy welding of fittings such as elbows, tees, Y-branches and stub flanges. Accessories available on request include clamp inserts from Ø 335 to 900mm, a trolley, a tool for flange necks, a kit for in-ditch use, and a hoist.

Ritmo SpA – Italy www.ritmo.it

### Automated orbital welding carriage

The Gullco Pipe KAT® is an automated orbital welding carriage designed for

pipe welding applications. Suitable for field pipeline manufacturing and power



plant construction, the Pipe KAT is a fully integrated welding system that includes a remote control pendant to allow adjustment of critical application parameters during the welding process, including oscillation width, speed, dwells, wire feed speed and voltage adjustment.

The carriage operates on a track band made of durable aluminium extrusion by engaging the track with self-aligning wheels and a rack and pinion drive. This wheel assembly uses a lever to engage the track, making it quick and simple to install the carriage.

Gullco International Ltd – Canada sales@gullco.com www.gullco.com

### Workshop welding machine

The Alfa 400 Easy Life workshop welding machine is designed to fabricate fittings by joining pipe segments with the help of special jaws.

It can also weld special and moulded fittings such as elbows, tees and flange necks, with the use of different jaws.

The machine can handle elbows from 90 to 400mm (4" to 16" IPS), and tees,

crosses and wyes from 90 to 315mm (4" to 12" IPS).

It is composed of a machine body with two carriages, one of which is driven by a hydraulic system; and a control panel that features the Easy Life system, which allows a complete welding cycle to be carried out in a simple, intuitive and repeatable way, reducing operator involvement to a minimum.



The built-in memory allows the machine to store 4,000 welding cycles (including the set diameters and SDR).

The welding data can be transferred to a PC through a serial port (a USB adaptor connector is available) and data management software, and a printer can be connected to the serial port to obtain a welding report at the end of each welding cycle.

The heating plate features a new, automatically operated horizontal sliding system that enables fast sidesliding of the plate during the exchange period.

The milling cutter, for levelling the ends of pipes and/or fittings, slides on recirculating ball slideways, with an electronic device for a soft start.

The machine, which is available in 230V and 400V versions, also features an upper cylinder, to be positioned on the jaws, for welding extra-thick pipes or for when it is necessary to use high pressures.

Ritmo SpA – Italy info@ritmo.it www.ritmo.it



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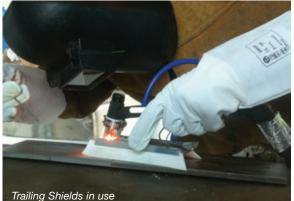


### **Extended inert gas coverage** during titanium and stainless steel welding

To avoid metallurgical defects, to remove oxidation and discolouration, and to save expensive cleaning costs on titanium and stainless steel tubes, pipes and sheet metal welding, Argweld® Trailing Shields® are available.

Manufactured by Huntingdon Fusion Techniques (HFT), Trailing Shields provide additional inert gas coverage during welding to avoid metallurgical defects, prevent oxidation and give bright, oxide-free, zero-colour welds.

The reusable shields are suitable for any diameter of tube, pipe, tank or vessel from 1" upwards, and for flat sheet



metal. They are lightweight and easily attach to standard manual or automatic TIG/GTAW and plasma/PAW welding torches.

Luke Keane, distributor support for HFT, said, "Once they are connected to the welding torch, our Trailing Shields are easily connected to the argon gas supply.

"The gas is diffused out evenly, without turbulence, through the multi layers of stainless steel mesh built into the body of each shield.

"At each side, removable silicone

rubber side shields provide a barrier to prevent the argon escaping sideways so that it remains over the weld metal. These silicone shields are a consumable and are replaceable as they become worn.

"From the beginning, the weld has extra argon to that amount coming through the gas cup. Then, as the welding torch is moved forward, the weld remains A selection of Argweld Trailing Shields

under an argon gas shield until the metal has cooled below its oxidation temperature."

For manual welding, the welder will find no difficulty in dragging the lightweight tool along the surface being welded.

A further benefit is that it carries the welding torch at 90° to the weld.

When Trailing Shields are fitted to torches on automatic welding machines it is possible to raise the welding speed and exploit the benefits of automatic welding.

Each Trailing Shield is delivered with a variable diameter connector so that it can fit any size of TIG/GTAW/PAW welding torch for manual or mechanised welding.

Huntingdon Fusion Techniques - UK hft@huntingdonfusion.com www.huntingdonfusion.com

## **Ultra-deep offshore project**

Oil and gas pipe measurement specialist Optical Metrology Services (OMS) has completed a series of pipe measurement surveys for the Kaombo Ultra-Deep Offshore Project.

The scope of work involved end dimensioning, numbering and colour banding of deep-sea, fatigue-critical flowline pipe, steel catenary risers (SCR) and long seam welded line pipe.

Kaombo Ultra-Deep Offshore Project involves the development of six of the 12 fields discovered at Block 32, around 260km offshore Luanda in Angola. The project is located in an 800km<sup>2</sup> site in the central and southeast part of the block. The water depth at this location ranges from 1,400m to 1,900m. The project involves the drilling of 59 subsea wells, which will be connected via 300km of subsea pipelines to two floating production, storage and offloading (FPSO) vessels.

Associated gas from the fields will be transferred to the Angola Liquefied Natural Gas (LNG) plant in Soyo. Production is scheduled to start in 2017, with production capacity expected to be 230,000 barrels a day. OMS was contracted to perform onshore pipe end dimensioning of more than 10,000

pipe ends. The work was carried out in three separate mobilisations. Five OMS engineers were deployed for ten weeks at the Bredero Shaw pipe yard in Batam Island, Indonesia, to measure more than 9,000 pipe ends.

In addition, two OMS engineers were deployed for two weeks at the Socotherm pipe facility in Sicily, Italy, where an additional 750 pipe ends were measured. The pipe sizes measured were a mix of 10", 12", 14" and 16" in diameter.

Optical Metrology Services Ltd - UK www.omsmeasure.com

## Safety to the bottom of the sea

#### Piping solutions for the oil and gas industries

By Markus Zimmermann, head of team energy at Schoeller Werk, Germany

A ll over the world, extraction of oil and gas on the high seas demands innovative and complex piping solutions using high quality materials. It is no longer unusual for oil companies to be drilling for oil at more than 10,000m below the surface of the sea. In order to ensure long-term profitability, any source needs to be exploitable for at least 25 years. Germany's Schoeller Werk makes its own contribution to the necessary quality and planning assurance with its heavy duty control-line and chemical-injection pipes for the offshore industry. Their technical design is such that they can withstand not only the extreme pressure conditions that prevail in deep seas, but also extremely high temperatures and aggressive liquid media.

Worldwide, there are more than 2,000 offshore drilling rigs and many more individual wells with oil and gas being extracted on a continuous basis. The technical equipment for these installations sets extreme demands on the handpicked suppliers from the stainless steel industry. Germany's Schoeller Werk took up the offshore challenge 35 years ago and for many years has been among the kingpins of the industry. At its base in the Eifel, the company not only manufactures tubes for the automotive, the chemical and the medical industry; as well as being active in power station and heat exchanger construction, it creates technologically remarkable solutions for use on drilling rigs.

## Example: oil and gas extraction in Norway

For one company alone, TCO Norway, service provider for Norway's state-owned Statoil enterprise, Schoeller Werk has supplied over 500,000m of piping since winning their custom in spring 2014. At the core of this partnership is a plug-drawn annular pipe made of high quality nickel-based alloys nos. 825 and 625. In addition there are austenitic pipes made of class 316 Ti stainless steel. The pipes being delivered impressed Statoil so much, they have defined them as standard for their own specifications.

Apart from a variety of materials, it is necessary to manufacture the various diameters and wall thickness – plug-drawn Schoeller pipes cover all the possibilities. The pipe design and the corresponding quality testing make it possible for the finished solution to withstand internal pressure of up to 2,500 bars without difficulty. Moreover, the high quality materials, in conjunction with improved surface quality deriving from the drawing process, are able to resist the effects of salt water and other aggressive media.

#### The plugs make things smooth

Among the features of the plug-drawn pipes are their geometrically precise curvature and high weld quality. In principle, the basic material is not a factor in this and it is possible to manufacture individual pipes of up to 2,000m in length. An internal mandrel (plug) acts to smooth the inside of the longitudinal weld. In conjunction with an external mandrel, the initial cross-section of the tube can thus be reduced by up to 50 per cent.

All in all, this is a longitudinally welded solution that gives the impression of being a seamless pipe. A look at the microstructure of the material reveals that the welded seam can hardly even be detected after the pipe has been drawn. Properties such as these have been key plus points for Schoeller Werk's offshore customers.



An oil and gas extraction pipeline with control line and clamp



Schoeller Werk pipe products are used at depths of up to 15,000m, where they withstand extreme pressures and temperatures



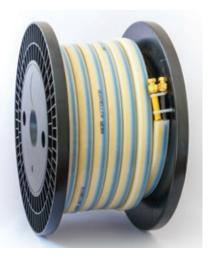
Careful testing of control and injection pipes

The offshore industry uses such pipes as hydraulic control lines for safety valves as well as for pumping chemicals into an oil reservoir. In this way, they support the entire extraction process. The injection pipes make it possible for rig operators to use chemicals in targeted fashion to liquefy the oil and thus improve its flow properties.

During the complex manufacturing process, the pipes undergo various tests in order to ensure the special quality of the products before they are installed. Strips of metal are welded with a longitudinal seam using the tungsten inert gas (TIG) welding process and rolled into tubes. Apart from the obligatory eddy current testing, the tubes subsequently undergo an air under water (AUW or 'bubble') test. The tubes are submerged in water and filled with air to a pressure of up to 210 bars. A visual inspection is made along the entire length of the tubes to check that they are airtight.

So that Schoeller Werk can supply its customers with the required lengths of 15,000m and more, individual pipes are orbitally welded together and an X-ray is made to check





Injection pipes allow chemicals to be used in the extraction process in targeted fashion to liquefy the oil

that the orbital weld is airtight and free of any pores. Before delivery to customers, Schoeller Werk also subjects the control and injection pipes to a hydraulic test. This involves filling the finished coils with hydraulic fluid and subjecting them to pressures of up to 2,500 bars to simulate the extreme conditions sometimes experienced in offshore work.

## Service offering supplements manufacturing skill

Apart from pure manufacture of pipes, Schoeller Werk offers its customers from the offshore industry a comprehensive service package that includes, for example, encapsulation of pipes with plastic sheathing in so-called flat packs. This means that bundles of pipes can be attached to the extraction tubes and protected from buckling and squashing.

Other services include flushing and filling of pipes. Here, the insides of the pipes are flushed with hydraulic fluid until the fluid reaches the specified ISO or SAE purity classification. The fluid filtered in this way can remain in the pipes if the customer requires, meaning that users obtain a product that is ready to use. It is also possible to equip the pipe bundles with electrical wiring or stainless steel support cables. Thanks to the smooth internal surface, plug-drawn pipes are also suitable for use as ducting for optical fibre cables transmitting signals using light.

#### Offshore – a global market

In its work with the offshore industry, Schoeller Werk has joined an international market. Apart from Norway and Great Britain around the North Sea in Europe, Russia, Saudi Arabia, UAE, Africa, Asia, Australia and South America all count among the key target regions for use of the Schoeller controlline and chemical-injection pipes.

Photo credit: Schoeller Werk

Schoeller Werk GmbH & Co KG – Germany info@schoellerwerk.de www.schoellerwerk.de

#### editorial index

Alfa Laval	Molecor Tecnologia SL43
AMUT Group19	Optical Metrology Services Ltd56
Ant Hire14	Ovako AB26
Arc Energy Resources Ltd18	Parker Hannifin Mfg39
Asahi/America, Inc15, 27	Parker Kittiwake44
ASMAG GmbH9	Paroc Group Oy36
Auma Actuators Ltd11	Peak Well Systems42
BLM Group UK Ltd46	Pipe Equipment Specialists Ltd16
Ceresana12	PowderCoat Services, Inc23
Conex Bänninger19	PURES-tubes
Duke Energy24	Ritmo SpA53, 54
Eaton (Filtration Division)37	Rohrbefestigungen Hammerschmid GmbH29
egeplast international GmbH20	Sandvik Materials Technology
Emirates National Oil Company Group12	Saudi KAD22
Eurotubi Europa Srl	Southern California Gas Co
Ferrari Stainless and Alloys	SSP Corp34
FES International10	Stockton Drilling Ltd16
GF Piping Systems Ltd15, 33	Technip12
Gradient Lens Corp40	Tecnar42
Guangzhou Flow Expo Co, Ltd11	Teekay Couplings Ltd40
Gullco International Ltd54	TMK Group22, 24
HandyTube Corp20	Tubacex Group21, 27
hs-Umformtechnik GmbH38	Tube Developments Ltd
Hub Le Bas18	Val-Matic Valve & Mfg Corp14, 36
Huntingdon Fusion Techniques 43, 53, 56	Visiongain Ltd9
Made in Steel Srl8	Voli Fuar AS10
McElroy41	Weldability-Sif52
Merebo Messe Marketing11	Yokogawa Europe BV34
Meridian General23	Zumbach Electronic AG47

#### advertisers index

AddisonMckee/Addition Manufacturing Technologies	Phoenix Piping Ltd
ASMAG – Anlagenplanung und Sondermaschinenbau GmbH 3	Harald Pihl AB Front cover
Haci Ayvaz End. Mam. San ve Tic AS Inside front cover	Qualitube Limited 15
Both Well Steel Fittings Co Ltd 44	Randolph Tool Co Inc 31
Brennan Industries IncBack cover	SAPA Precision Tubing Lichtervelde NV 41
British Metrics 21	Seuthe GmbH 3
Eaton Leonard/Addition Manufacturing Technologies	Silva Mash Ltd 23
Fine Tubes Ltd 13	SteelFab 2017 45
Guangzhou Julang Exhibition Design Co Ltd	TAG Pipe Equipment Specialists LtdInside back cover
Hart bv 17	Teekay Couplings Ltd19
Hempel Special Metals Ltd 1	Wolf Maschinenbau AG 2
hs-Umformtechnik GmbH 31	Xuyi Titan & Material Co Ltd 42
Jingning Junwen Steel Co Ltd 37	Zhejiang Stellar Pipe Industry Co Ltd 47
Krupalu Inc 11	Zwick Armaturen GmbH7
Made in Steel – Made in Steel 2017 29	



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#### Head Office

TAG PIPE EQUIPMENT SPECIALISTS LTD Unit 15 & 16 Grendon Industrial Estate, Grendon Underwood, Aylesbury, Buckinghamshire, HP18 0QX England Tel: +44 (0)1869 324 144 E-mail: sales@tag-pipe.com

#### **Overseas Branches**



USA Branch TAG PIPE EQUIPMENT SPECIALISTS INC 527 Michigan Street, South Houston Houston, Texas 77587, USA Tel: +1 713 747 8502 E-mail: sales-usa@tag-pipe.com



Europe Branch TAG PIPE EQUIPMENT SPECIALISTS BVBA Mosten 13, 9160 Lokeren Belgium Tel: +32 (0)9 395 2038 E-mail: sales-europe@tag-pipe.com



Middle East Branch TAG PIPE EQUIPMENT SPECIALISTS FZE Al Ittihad Street, P.O. Box 3763 Dubai, United Arab Emirates Tel: +971 (0)52 701 0930 E-mail: sales-me@tag-pipe.com



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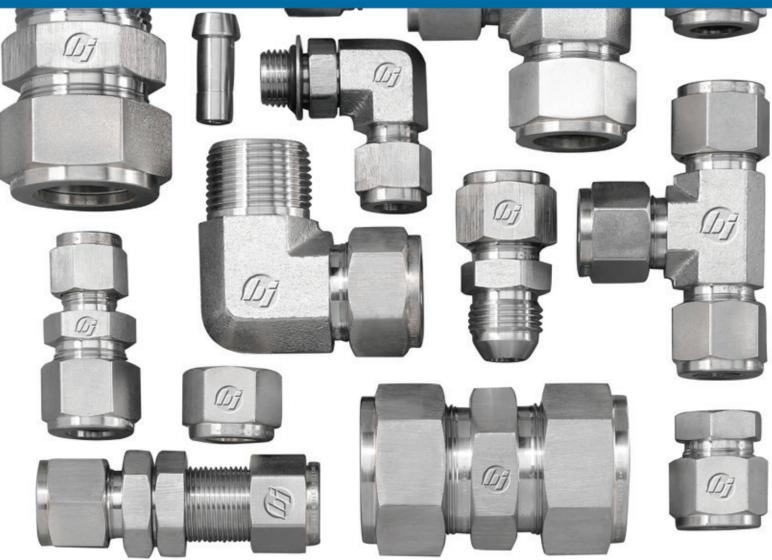




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