

TURNER EPS

Explosion protection solutions

for mechanical handling equipment
operating in Hazardous Areas

- Full compliance to ATEX Directive 94/9/EC
- 3G Advanced Infra-Red Gas Detection System
- Training for operators and maintenance engineers
- Parts and services
- 5 year warranty option on gas detection system



News & Products

4-13

Fumes & Dust

18-19

Condition Monitoring

20-23



Implementing a calibration system?



Our calibration and IT expertise helps you face calibration process improvement projects that are typically complex and consume a lot of time and resources. Only 20% to 30% of a calibration system upgrade is tools and technology, the rest is business culture and process. Therefore, the success of a new calibration system depends especially on the implementation of the system and the ability to define and adopt a new calibration process. We are the experts in both technology and implementation, so you can focus on the opportunities, while we support and guide you in the evolution of your calibration system and successful implementation of the calibration process change. Learn more at: beamex.com/CalibrationProcessImprovements

beamex
WORLD-CLASS CALIBRATION SOLUTIONS



www.beamex.com
info@beamex.com

In This Months Issue

TURNER EPS

Explosion protection solutions
 for mechanical handling equipment
 operating in Hazardous Areas

- Full compliance to ATEX Directive 94/9/EC
- 3G Advanced Infra-Red Gas Detection System
- Training for operators and maintenance engineers
- Parts and services
- 3 year warranty option on gas detection system



News & Products	4-13
Fumes & Dust	18-19
Condition Monitoring	20-23

Visit us at www.hazeng.com



Pages: 16 & 17
 Over 500 Flanges Protected with New
 Encapsulating Technology

Contacts

Publisher

Michael Dominguez

Editorial

editors/contributing: Jon Barret, Christer
 Idhammar

Advertising

Steve Aslett
 Paul Miles

Email

Info@hazeng.com

Website

www.hazeng.com

Phone

tel: +44(0)1634 731646
 Fax: +44(0)1634 731644

Address

MSL Media LTD, Cobalt House, Centre Court,
 Sir Thomas Longley Road, Rochester, Kent,
 ME2 4BQ



BCAS Official Media Partners



P:4-17 News & Products



P:18-19 Fumes & Dust



P:20-23 Condition Monitoring



P:24-25 Training



P:26-29 New Products



P:30-31 Buyers Guide

Explosion proof air conditioner (ATEX and EAC-EX) for zone 2 hazardous areas

All new explosion proof air conditioner (ATEX and EAC-EX) developed for both high ambient desert conditions and low ambient Nordic conditions.



These split units are developed for safe use in zone 2 gas/vapor explosive atmospheres.

The cooling ac units are certified according to the latest European ATEX Directive 2014/34/EU and hold the latest EAC-EX certification for the Eurasian (Russia) region.

The sets consist of explosion proof outdoor unit, indoor unit and remote control. They are available as heat pump with both heating and cooling function, in addition they can also be used for cooling only purposes as well.

Advantage of these split systems is that either the outdoor or indoor unit can be ATEX rated. If

the outside area is classified as a safe area, for example in the case of storage of chemicals and other hazardous materials, sets are available with explosion proof ATEX rated indoor unit and normal outdoor unit. In case of for example temporary living quarters on offshore platforms where the inside is classified as a safe area, sets are available with an ATEX rated outdoor unit and a normal indoor unit.

The units are pre-filled with environmental friendly R410A refrigerant, all feature of a normal air conditioner remain intact, making the units are easy to install by any local cooling installer.

Features:

- Explosion safety level: II 3G ; Ex ic nAC IIB T3 Gc
- 220-240VAC (wider voltage input range on request)
- 50/60Hz

Applications: Hazardous material storage, analyzer cabinets, petro chemical plants and oil and gas extraction sites.

Atexxo Manufacturing B.V. | Telephone : +31(0)186601299
Email : info@atexxo.com | Web : www.atexxo.com

Elfab announce its latest Buckling Pin Pressure Relief Range

Elfab's product offering now widened, with the introduction of its BPRV

With over 80 years' experience leading the industry in pressure management innovation, Elfab have expanded upon their range of technically superior rupture discs and explosion vents with the introduction of Buckling Pin Relief Valves (BPRVs). This latest partnership further enhances Elfab's pressure relief options for applications within safety critical process environments.

There are two non-reclosing primary pressure relief devices, rupture pins and rupture discs, both offering a range of advantages dependent on specific pressure relief applications and conditions. Having both technologies under its pressure intelligence brand better positions Elfab to service its global customer base in providing the most cost effective, safety critical pressure relief solution. The BPRV is a unique product that offers an accurate and reliable means of pressure relief calibration, whilst also enabling resetting without the need for the valve to be isolated from the process.

Each Buckling Pin is uniquely designed and manufactured under the highest quality standards to meet customer's individual applications. Unlike other forms of pressure relief devices, the critical component (the pin) is located externally and isolated from the process. At a set pressure the pin buckles instantaneously allowing the pressure to be released. With two simple states (straight or buckled), after functioning the pin is the only element that needs replacing, avoiding human error occurrences due to ease of installation while benefiting from low replacement costs.

BPRVs are almost maintenance free and not subject to annual replacement. Suitable for a range of applications and industry sectors such as Petrochemical, Oil & Gas, Food Processing, Energy and Pharmaceutical; buckling pins are long-term cost effective solutions for a vast range of pressure relief requirements.



Both new and existing customers can benefit from this latest development. Elfab will work with each customer uniquely to ensure the best pressure relief solution is available for the required application.

If you can put these contact details below:
Deborah Watson
Tel: +44 (0)191 293 1234
Fax: +44 (0)192 293 1200
Email: pr@elfab.com



Intertek

Valued Quality. Delivered.



Let Intertek
clear a pathTM
for your next
innovation

**Get to market with
greater speed and simplicity.**

When launching a new product for use in hazardous locations, two questions often come up: What certifications do I need, and how long will it take to get them? You can't afford to get lost in a maze of complexity. That's why more and more companies are choosing Intertek.

With laboratories around the world providing expert service and quality, manufacturers partner with Intertek for fast, efficient testing and certification, including ATEX, IECEx, and ETL, as well as professional competency training for operatives working in potentially explosive atmospheres via CompEx Certified courses.

From sensors and transmitters to flow control equipment and lighting, we keep it fast. And we keep it simple.

Visit www.intertek.com/hazloc, email info.uk@intertek.com, or call 01244 882590 today and discover how we remove the barriers and get you to market faster.



Intertek



J D NEUHAUS AT YOUR SERVICE

The specialised high-performance handling products manufactured by the J D Neuhaus company are engineered for extremes, and are suitable for operation within chemical, oil and gas and general industries involving hazardous working areas including those subject to potential explosion risks.



Their hoist and overhead crane mechanisms are strong, fast and silent, providing high levels of safety with ease of operation. They combine lube-free, low maintenance operation with 100% duty ratings and unlimited duty cycles. The products are insensitive to dust, humidity and temperatures ranging from -20°C to +70°C.

It is essential that the correct installation, operating and regular inspection servicing procedures are undertaken and maintained for these products to ensure long-term, trouble-free operation of all mechanical and power-operated components.

To ensure that users obtain the best value for money from their investment in handling products, the JDN company can provide offsite/onsite services including supervision, installation, training, inspection, maintenance and repair, together with the supply of spares, service kits and full refurbishment facilities. All work is undertaken under full JDN personnel supervision and is carried out in co-operation with external certification authorities where required.

Appropriate products and services available from the JDN service department include:

- Prior inspection for the planning of the building site
- Organisation of the building site and coordination with all participants
- Provision of assemblyman

- Commissioning
- Approval of the hoists/cranes on client terms
- Approval in cooperation with external certification authority (3rd party)

This is then followed-up where required with regular maintenance and annual inspections by JDN trained engineers/technicians covering:

- Annual maintenance under compliance with the legal requirements and the JDN maintenance plan
- Introduction into the JDN maintenance database to ensure clients are reminded of upcoming planned maintenance
- Maintenance contracts that provide precise cost control details

This is also then supported with full maintenance/repair/modification facilities including:

- Repair and modification in JDN' s own workshops
- Repair and modification at client facilities
- Conversion in co-operation with JDN R&D requirements
- Overload tests

A full spare parts provision incorporates support for the choice of spare parts, compilation of spare parts and service kits for retention in client warehouse and the shipping of the spare parts worldwide.

In addition, specific customer personnel training, all tailored to meet client needs is available either on-site, at customer facilities or one of the widely located JDN sales companies. J D Neuhaus are represented in more than 90 countries (including Germany, France, Great Britain, Singapore and USA), together with 70 other branches throughout the world.

After expiration of the theoretical operating life (at the latest after 10 years) all hoists are currently required to undergo a general overhaul. For J D Neuhaus hoists, this work can be undertaken within their service centre or by one of the JDN authorised service partners.

If there is a short term demand for hoists of any capacity then a full rental service, including delivery, is available and hoists can be customised to meet specific client requirements.

The J D Neuhaus air operated handling equipment, including hoists and cranes for operations within light, medium and heavy duty engineering, cover individual lift capacities from 250kg up to 100 metric tonnes. Even heavier lift requirements can also be achieved using multiple hoists and integrated synchronised lift and traverse controls for units operating in tandem or parallel configurations. Land based or offshore oil/gas platform mounting can be accommodated, including installations on sea-going vessels where ocean swell movements can be minimised by the use of rack & pinion drives incorporated into horizontal overhead beams and the mechanised trolley drives. Specialised hoists for underwater handling operations, or extreme low cryogenic conditions down to -45°C are also available, together with optional hydraulic drive mechanisms where compressed air power supplies are not readily available.

Further information is available on request to:

J D Neuhaus GmbH & Co. KG

58449

Witten-Heven

Germany

Tel: +49 2302 208-219

Fax: +49 2302 208-286

info@jdn-group.com

www.jdn-group.com



You wouldn't leave your hob on in an empty home!

Safety in the workplace is just as important as the safety precautions you take in your home.

Don't rely on luck, trust Fike.

We have been protecting people and critical assets from dangers faced in process industries for 30 years.

Contact us today on **01622 677081**
 Email: sales.uk@fike.com
 Discover more at www.fike.co.uk



BEKA
associates



indicators & displays...
conventional to **fieldbus**

www.beka.co.uk



sales@beka.co.uk Hitchin, SG5 2DA UK Tel +44 (0) 1462 438301

Hazards26

In association with the Mary Kay O'Connor Process Safety Center

24-26 May 2016, Edinburgh, UK

The most dangerous phrase in the industry? It can't happen here.

We continue to see process safety accidents caused by human error, a failure to learn from past incidents and a breakdown of process safety systems.

Hazards 26 will help you to improve process safety performance and manage risk more effectively.

This is an ideal event for anyone involved with operating systems and processes handling hazardous materials.

Find out more and register at www.icheme.org/hazards26

CM31_16



iChemE ADVANCING
CHEMICAL
ENGINEERING
WORLDWIDE

J D Neuhaus Shines Spotlight On Stainless Steel Air Hoist Concept At CeMAT 2016

Materials handling specialists J D Neuhaus (JDN) are set to present their concept study of a new stainless steel air hoist at the CeMAT 2016 international exhibition.



This is the world's leading trade fair for supply chain management and intralogistics, which takes place in Hannover, Germany on 31 May to 3 June. Exhibiting as part of the Cranes Pavilion in Hall 27 (Stand D68), the company will also be promoting its class-leading service capabilities, giving visitors the opportunity to learn about JDN's industry-proven project planning and maintenance expertise.

Manufactured under the company's mantra 'engineered for extremes', thousands of JDN pneumatic and hydraulic hoists and crane systems are in service worldwide, with many operating in harsh conditions such as those found on oil and gas platforms, or in mines or foundries. Underwater environments and extreme temperatures (as low as -45°C) are also familiar territories for JDN products, which are renowned for their operational reliability under even the most adverse conditions.

Of course, some indoor applications can be just as testing as external ones, particularly when it comes to equipment that needs to operate in extremely clean and hygienic environments. Indeed, growing demand in this area is what prompted JDN to undertake its conceptual study of a stainless steel air hoist, the results of which will be presented to visitors at CeMAT 2016.

There are clear target markets for stainless steel air hoists, such as the food and beverage sector, for example, as well applications in the chemical, pharmaceutical, medical and aerospace industries. Visitors to the stand at CeMAT 2016 will see that JDN's detailed study assesses the benefits of using compressed air as a method of operation in combination with stainless steel as the hoist's construction material. Resistance to corrosion and high levels of humidity will therefore be assured, while the products will also be

easy to clean and disinfect, even using high-pressure cleaning equipment.

Cleanroom-based users in the optical and semiconductor industries would also benefit from the use of a stainless steel air hoist. This is because expelled air is extracted, while a bellows is deployed to protect the chain.

The hoists could also be put to work in environments at risk of explosion. The fact that the hoist uses compressed air as the driving media means it is explosion-protected (ATEX), making it suitable for dangerous atmospheres and even where organically flammable chemicals are in use.

Stand visitors will also see JDN Service present its extensive capabilities in project planning for maintenance and overhaul work. Among the initiatives are special spare parts kits and general overhaul kits that have been purpose-designed by the JDN Service team to provide customers with a simplified process for ordering spares. Further aspects of the JDN Service Programme include training courses and hoist rental options. Rental is a popular choice if there is a short term demand for hoists of any capacity.

Further highlights of the JDN display at CeMAT 2016 will include examples of the company's standard air hoists, such as the best-selling Profi and Mini ranges. The Profi series is designed for heavy-duty industrial applications up to 100 tonnes load capacity. Offering 4 or 6 bar air pressure, various explosion protection classifications are available. Profi hoists feature sensitive, infinitely variable speed control for the precise positioning of loads, as well as easy operation, low maintenance requirements and sound absorption.

In contrast, the JDN Mini range widens the range of application in the light duty sector as a handy, flexible and universally deployable air hoist. The ideal tool for most light engineering workshops, the Mini series offers a selection of load capacities between 125 and 980 kg. Designed as a cost effective alternative to hoists that use other driving media, lifting heights of 3, 5 and 8m are available.

JDN's friendly team of experts will be on hand throughout CeMAT 2016 ready to discuss any specific applications, regardless of the complexities, and provide an overview of the optimum solutions available.

With over 200 employees across the group, J D Neuhaus GmbH & Co. manufactures pneumatically and hydraulically-operated hoists and crane systems up to 115 tonne capacity from its state-of-the-art facility in Witten, Germany. This globally unique specialisation means that J D Neuhaus has set the quality standard for the market, a move that has seen the company become the established global leader in its technology field with customers in more than 90 countries worldwide.

Resilience and reliability are the key product differentiators, thanks largely to their explosive protection rating which makes them ideal for use even in the most challenging of operating environments. Extreme applications include oil and gas exploration in arctic temperatures as low as -45°C, along with underwater tasks such as ship hull repairs, and plenty of others in demanding sectors like mining, the chemical industry, heavy plant construction and many areas of logistics.

The wide portfolio of services provided by J.D. Neuhaus includes equipment assembly, inspection, maintenance and general overhaul, along with the supply of customer training courses.

Over 80% of production from the Witten plant is exported, which is why the company has long-established subsidiary companies in France, Great Britain, Singapore and the USA, all of which have helped create a tight-knit global network in collaboration with international partners.

J D Neuhaus has history that can be traced back to 1745, and is now in its seventh generation of family ownership. Visitors to the Hebezeug-Museum (Hoist Museum) in Witten, are able to see for themselves the remarkable history of this progressive company.

Further information is available on request to:
J D Neuhaus GmbH & Co. KG, 58449, Witten-Heven, Germany
Telephone: +49 2302 208-219
Fax: +49 2302 208-286
e-mail: info@jdnngroup.com
www.jdnngroup.com

UK manufacturer HADAR Lighting is very excited to announce the launch of its newly designed website

The new website can be seen at www.hadar-lighting.com.

The site's homepage features bright colour theming with an uncluttered design and is now faster, easier to navigate and more user-friendly. It can also be viewed on smart phones and tablets.

The new site is divided into six main sections - Ex products, LED products, Applications, Where to Buy, Insights and About Us.

The move to a customer-centric layout is intended so that customers can easily navigate the site and locate the information they need. The Ex Products section provides full details of HADAR's Ex lighting range for Zone 1 & 21, Zone 2 & 22 with links to datasheets, while the LED Products section contains similar information for the entire range of industrial and commercial lighting on offer.

Ashington-based HADAR has added Applications as a special feature of the site to explain the particular advantages of LED lighting for different types of applications from petrochemical plants to ports, waste treatment to wood pulp and paper.

The Where to Buy section allows visitors to locate their nearest HADAR stockist around the world and the Insights section will present news about upcoming events, products and technology developments from HADAR.

While HADAR's Zone 1 LED floodlights have been in use around the world since 2010, LED lighting is still a relatively new technology to many customers and the site is intended to provide visitors with information about the specific features and the value that LED can bring to their particular



HAZARDOUS AREA, INDUSTRIAL AND COMMERCIAL LIGHTING

type of business, whether their priority is safety, maintenance and inventory reduction, energy efficiency or environmental concern.

HADAR Lighting hopes that visitors will enjoy its new site. If you have any questions, comments or suggestion please send them to enquiries@hadar-lighting.com.

Email: enquiries@hadar-lighting.com
Tel: +44(0)1670 813 275

Dialight Unveils World's Most Durable End-to-End LED Linear Fixtures

Fully Sealed Wiring Compartment, Single-Extrusion Aluminum Housing & Advanced Corrosion Protection Provide Maximum Resistance against Water, Dust & Salt Spray

Dialight (LSE: DIA.L), the global innovation leader in LED lighting technology, today announced the launch of its new End-to-End Linear series providing the most durable and salt-resistant LED lighting solution on the market to replace conventional HID and fluorescent fixtures in a wide range of industrial applications, from petrochemical and heavy industrial manufacturing to food production.

Featuring a fully gasketed enclosure made from an extruded 6063 aluminum housing, the End-to-End linear series, which allows wiring on each end of the fixture, offers the most ruggedized housing for long life durability against water, salt, dust and vibration. The IP66/67-rated fixture ensures resistance to dust and water ingress with the added assurance of

UL1598/A rating that guarantees excellent corrosion resistance in marine and offshore environments. Sealed, integrated wiring compartments on each end provide easy access for installation in low-profile applications and through-wiring capability supports multiple fixture installation on a universal 120-277V AC circuit.

"Virtually every conventional linear fixture has some weak link—an access cutout in the housing or a wiring port—that is an invitation for corrosion and decay. And, once it starts, there's no stopping it. The entire fixture begins to fall apart quickly," said Michael Sutsko, Dialight's Group Chief Executive. "We've solved that problem through our world-class material science development, a seamless extruded



design and our signature high-durability LEDs and power supply to give our customers the most reliable, long-lasting LED linear on the market."

The End-to-End linear series light fixtures are available in 2-foot or 4-foot lengths to suit a wide range of illumination and mounting requirements, each with a minimum CRI of 80 for superior color fidelity. Lumen output ranges from 3,500 to 7,500 and up to 125 lumens per watt for outstanding energy efficiency and low-cost operation.

To learn more about the Dialight's complete line of factory-sealed LED linear products for industrial applications, visit: www.dialight.com.

Fike UK Drives Plans for Significant Growth

Fike Corporation – one of the world’s leading providers of industry safety solutions – has announced the commercial amalgamation of its UK explosion, fire protection and Oil & Gas facilities as part of ambitious growth plans to double company turnover in the UK & Ireland over the next five years.



Having previously acted as separate entities, the company’s branches have now combined commercially to be able to provide total protection for applications as diverse as manufacturing process industries, public utilities, municipal buildings, hotels and schools, marine and oil rigs.

As part of the company’s growth strategy the Cwmbran site, which previously specialised in providing fire alarm and detection systems, has now doubled in size to incorporate the fire suppression solutions that were previously handled by an office in Guildford.

Expanding into a neighbouring facility during 2015, the site now houses all fire protection employees under one roof, including engineers, research and development teams’ right through to designers, sales and manufacturing. There has also been extensive upgrading of the fire training facilities that attract multi-national attendees to the many courses run there.

With several staff relocating from the company’s original Guildford office, the Cwmbran team now comprises over 100 staff. The Cwmbran site will continue to hold full responsibility for the development and manufacture of all fire safety equipment to be distributed to Fike Customers across the world.

As part of the growth plans Keith Avila will take on the role of UK Commercial Manager having previously acted as General Manager at the Kent based explosion protection division.

Keith said: “All UK divisions have played an influential role in building an unprecedented global reputation and as we grow our presence even further and drive sales of our highly reputable safety solutions, the time is right for Fike to merge these divisions.

“In doing so, this allows us to take a more holistic approach in carrying out our comprehensive expansion plans, and as such, continue to meet our business objective of cohesive service delivery.

“The move has also allowed us to increase our in-house capabilities as we strive to provide the most cost effective solutions – without compromise - for our clients.”

Founded in 1945, the family owned and operated Fike Corporation is headquartered in Blue Springs, Missouri, America. Fike UK opened its doors to the UK market in 1985 – marking a 30 year milestone last year – and following on from the global success of the company.

With 70 years’ experience manufacturing products ranging from rupture discs and explosion protection systems, right through to fire suppression and alarm systems and specialist Oilfield energetic devices, the company’s robust solutions are well known for their reliability and accuracy.

Fike’s explosion protection division – located in Maidstone, Kent – has already experienced rapid growth, doubling in size in 2013 to cater for the company’s growing orders from some of the UK and Ireland’s largest chemical, pharmaceutical and blue chip food companies.

Keith added: “We are at the forefront of the industry in supplying safety solutions which exist to try and eliminate the risk of potentially devastating disasters occurring and the time is now right to fuse all this growth and expertise into one key operational base.

“Safety is paramount, especially in the workplace and this is something that should never be underestimated. We will continue to grow at Fike in order to prevent potentially catastrophic disasters occurring, and always ensuring our customer’s workforce is protected.”

Fike is an industry expert in rupture disc technologies, explosion protection, fire alarm systems and fire suppression solutions. The company prides itself on meeting and in many cases exceeding industry standards to deliver technologically advanced, fast and flexible solutions.

Fike United Kingdom
Tel: +44 (0)1622 677081
Email: sales.uk@fike.com
www.fike.co.uk

Explosion protection solutions for mechanical handling equipment operating in Hazardous Areas



- Full compliance to ATEX Directive 94/9/EC
- 3G Advanced Infra-Red Gas Detection System
- Training for operators and maintenance engineers
- Parts and services
- 5 year warranty option on gas detection system

TURNER EPS

Providing explosion protection solutions for certified equipment operating in Hazardous Areas

Tel: +44 01782 657331
Email: sales@turner-eps.co.uk
Web: www.turner-eps.co.uk

BSRIA DELIGHTED TO SUPPORT LONDON BUILD 2016 EXPO

BSRIA is delighted to announce that it is supporting the London Build 2016 Expo on Wednesday 26th & Thursday 27th October 2016, at Kensington Olympia, London.

As the UK economy returns to high levels of economic growth, the UK construction industry is booming once again, with London and the South East of England at the forefront.

In the first six months of 2015 office construction has leapt by a 'staggering' 24 per cent in London. By the year 2031, London's population is expected to rocket to 10 million.

With an ever-growing population, high-rise buildings are being built across London and are transforming its skyline. Planning permission has been approved or is pending approval for approximately 250 high rise buildings across Central London and in total nearly 15,000 high rise apartments are currently being built, with another 70,000 in the pipeline.

BSRIA sees London Build 2016 as the ideal opportunity for the industry to get involved in London's booming construction industry and to access major developers, contractors and suppliers from across London and around the world. London Build 2016 is the only event of its kind to cover construction opportunities and projects across London.

Julia Evans, Chief Executive, BSRIA, said: "BSRIA is delighted to be working with Oliver Kinross to promote this expo. Attendance will ensure the industry is kept up to date with the latest industry developments, they can find out about the latest construction projects, network with industry peers, meet senior level executives from a large number of local and international companies, and ensure they stay at the top of their field.

The outlook is positive across all sectors of London's construction industry. From Crossrail to Battersea Power Station; from Earls Court to London Bridge Station; from 1 Bank Street to 5 Broadgate – the number of new and ongoing construction projects across London and the South East of England is vast and wide-ranging."



Topics covered:

- Light commercial construction.
- Retail construction.
- Healthcare construction.
- Environmental construction.
- Industrial construction.
- Commercial construction.
- Institutional construction.
- Heavy civil construction.

To register for North England Build 2016:
<http://www.londonbuildexpo.com>

Print lean & safety signs on-site

Reduce workplace accidents and increase productivity with well placed visual workplace signage. Brady's complete sign & label printer range offers the potential to print every visual workplace sign on-site when needed. Discover printers and get the 5S Plus Guide!

Increase productivity

Productivity increases of up to 40% have been connected to visual workplace implementations that follow the lean 5S methodology. 5S achieves productivity increases by reducing the workplace to its essence, through standardisation and by clearly communicating procedures, available tools and information in places where these have the most impact.

Reduce accidents

Brady has built on 5S, creating 5S PLUS to include more safety in the visual workplace. The reason

for this is that safety signage can also increase productivity, by reducing accidents, production interruptions and the number of co-workers in sick leave.

On-site printing power

Brady's complete range of on-site Sign & Label Printers is well equipped to help implement and support a 5S Plus workplace. Every printer meets a different set of customer requirements. They print in colour or monocolour, on various maximum label widths, with or without plotter to create any shape. Every printer in the range offers hassle-free printing, fast material changeovers and automatic label setup.



Able to create signs and labels on demand in a great number of shapes, colours and sizes, these printers enable you to create every lean and safety sign your facility needs to reduce accidents and increase productivity whenever the need arises!

Discover Printers & Download the 5S Plus Guide

BRADY Corporation
Wildmere Industrial Estate
Banbury, Oxon OX16 3JU, UK
Tel: +44 (0) 1295 228 288
csuk@bradycorp.com

Safety First

Safety is an integral part of managing a business and must always remain high on the agenda. Even in tough times, process safety standards must not be allowed to suffer. Hazards 26 will help organisations maintain that focus, offering essential technical insight into how to make their working environments safer and avoid repeating past mistakes.

Optional pre-conference workshops offer the chance to examine the following topics in more depth: SIL and human involvement; consequence modelling; barrier performance; incident investigation; and explosion science. There's also an opportunity to join a free discussion on the future of process safety.

Keynote speakers

An international line-up of invited keynote speakers will provide their own strategic insight from industry, the regulator and the legal world, including the Honourable Mr Justice Haddon-Cave who will deliver the Trevor Kletz memorial lecture. A giant of the legal world, Haddon-Cave will focus on the lessons learnt from his inquiry into the RAF Nimrod crash inquiry, the biggest single loss of life to British service personnel in one incident since the Falklands War. The cause was not enemy fire, but leaking fuel being ignited by an exposed hot pipe – a simple technical failure. In his report he described the case as “A story of incompetence, complacency, and cynicism. It was fatally undermined by a general malaise: a widespread assumption that the Nimrod was ‘safe anyway’ because it had successfully flown for 30 years”. The recommendations and observations in his report provide, in his own words, “A once in a generation opportunity to learn invaluable lessons” – lessons that are directly relevant to the process industries and that are sure to provoke interesting discussion around culture and leadership.

Trade exhibition

A trade exhibition will run alongside the conference, featuring a wide range of products and services to help improve process safety performance. Visit the conference website to see the companies that are exhibiting and to find out how your organisation can get involved.

Networking opportunities

There will be plenty of opportunity for peer and industry networking, with social events including a welcome drinks reception in the exhibition area and an informal evening with a Scottish theme.

Hazards 26 takes place on 24–26 May in Edinburgh, UK. For full event details and to book your place visit: www.icheme.org/hazards26



The most dangerous phrase in the industry? It can't happen here. We continue to see process safety accidents caused by human error, a failure to learn from past incidents and a breakdown of process safety systems. The consequences can be far-reaching – risking harm to people, to the environment, to an organisation's assets and reputation.

Hazards 26 conference will help organisations to improve process safety performance and manage risk more effectively. The conference will bring together the international process safety community to review best practice guidance and latest developments in process safety, as well as lessons learnt from past incidents. Taking place on

24–26 May in Edinburgh, UK, this is an ideal event for anyone involved with operating systems and processes handling hazardous substances across all industry sectors.

The technical programme

Hazards 26 offers a technical programme packed with top-quality presentations from leading industry practitioners, researchers and regulators, and designed around the functional areas that are fundamental to great performance in process safety – engineering and design, systems and procedures, knowledge and competence, human factors, assurance, culture, and environmental protection.

Are You Breathing Safely?

UKATA explains the importance of following HSG247 guidance – particularly concerning respirators

The UK Asbestos Training Association (UKATA) has highlighted the importance of government guidelines surrounding Asbestos: The licensed contractors' guide (HSG247) to ensure proper removal of asbestos. One area of particular concern is people often not being aware of rules on wearing respirators, and thus significantly increasing the risks of breathing in deadly asbestos dust.

"UKATA still hears a worrying number of cases where individuals tasked with the removal of asbestos have failed to take all the necessary steps to protect themselves in their line of work," said Craig Evans, General Manager of UKATA.

"Respiratory Protective Equipment (RPE) is a particular area of concern as all too often we are still seeing a laissez-faire attitude towards personal safety and poor awareness of where, when and how such life-saving equipment must be deployed."

Part of the reason for this may be that asbestos can take between fifteen to sixty years from first exposure for the serious harm it causes to become apparent. This can still lull people into a false sense of security when it comes to the dangers of asbestos. Indeed, this delayed response time is the reason it took so long for diseases like Mesothelioma to be traced back to asbestos exposure in the first place.

Although it is still relatively rare to hear of no protective equipment being worn, one real problem in the industry is equipment being used which is inappropriate to the situation. Often, instead of using

correct respirators, dust-masks are 'doubled-up'.

These masks are arguably more dangerous than no mask at all when it comes to working with asbestos, as they provide a false sense of security for the user.

Chapter five of the licenced contractors guide covers the use of PPE and RPE and makes clear that RPE "plays a crucial part in the control regime". The guide also makes clear that RPE is a last resort and not a substitute for the prevention of fibres being released in the first place. Powered respirators are much more effective, but situations where these would be deployed would usually involve licenced work undertaken by licenced contractors.

While work on any type of asbestos can be dangerous, work with asbestos cement products (for example) is usually classed as non-licensed work and can be carried out by non-licensed workers, so long as they have received the appropriate training and the material is sound, and can be handled without the asbestos breaking up. If the material is so badly damaged that there is a real risk of exposure to asbestos fibres, then a risk assessment would determine if a licenced contractor is required.

In any event, licenced and non-licensed employees alike must have been fit tested and training in this area is also vital, as without good contact between the wearer's skin and the face seal of the RPE, any protection it offers is seriously compromised. As it would be unlikely that one type of mask would fit all faces, fit testing is essential. In all of this training, regular refresher courses can make all the difference.



"PPE and RPE are just a few of the training areas covered by UKATA members" added Craig. "While HSG247 is aimed at licenced workers, many would benefit from familiarity with the guide if their work is likely to bring them into contact with asbestos. No matter if employees are undertaking licenced or non-licensed work; regular refresher training on RPE should be an annual event at least. Without adequate training there is no guarantee (nor can an employer assume) they know how to use it safely."

UKATA members provide training on asbestos safety, delivering the highest standard of asbestos training in the UK. For further information on UKATA, or to check out the very latest news and updates, visit www.ukata.org.uk

NEW RANGE MARECHAL EX METAL DECONTACTORTM 20A – DXA1

MARECHAL ELECTRIC launches a new waterproof plug and socket-outlet IP66 / IP67 with 'de' protection mode (ATEX).

They can be used in zones 1 & 2 (Gas) and zones 21 & 22 (Dust). They are certified according to IECEx standards.

Featuring the DECONTACTOR TM technology with integrated load-break switch, the user does not need to couple it with a switch. A red button on top of the socket-outlet facilitates the disconnecting operations even when the product is on.

The DECONTACTORTM and MARECHAL® DX ranges have, according to the model, compact and robust housings designed in metal. This choice in materials contributes to the sockets and plugs' excellent mechanical strength and its long life expectancy. It also provides a use at low temperatures up to -55 °C. The main industries using our DXA1 connectors are for example Food & Beverage industries, chemical industries, refineries, offshore platforms, oil and gas industries.

Standard & technical features:

- ExII2GDExdelIC,ExtbIIIC
- Intensity 20 A
- IP 66 / IP 67 water- and dust-tight
- Metal casings with IK10 shock resistance
- Integrated load-break switch
- Locking in on/off positions by keying axis
- From -55 °C to + 60 °C.



Find more information and other plugs and socket-outlets on marechal.com

Ensure your workforce and assets are fully protected so nothing is left to chance.



We offer cost effective total process protection:

- Isolation and suppression systems
- Conventional venting
- Flameless venting
- Product testing
- Rupture discs
- CFD modelling

The safety and continuity of your business is our concern. Place your full confidence in Fike's delivery of exceptionally reliable safety products that will exceed your expectations.

Don't rely on luck, trust Fike.

Contact us today on **01622 677081**
Email: sales.uk@fike.com
Discover more at www.fike.co.uk



Reduce accidents, increase productivity

Print lean & safety signs on-site

Brady offers durable visual workplace labels, including amongst others lean and 5S labels, floor marking, storage area labels, level indicators, gauge labels, equipment identification labels and logistics labelling. These labels can be printed on-site when needed with a Brady printer.

Discover the advantages of visual workplace signs with our complete range of sign & label printers.

[Download the free 5S Plus Guide](#)



www.bradyeurope.com/diy
T: +44 (0) 1295 228 288 F: +44 (0) 1295 228 219
E: csuk@bradycorp.com

BRADY UK
Wildmere Industrial Estate,
Banbury, Oxon OX16 3JU



Over 500 Flanges Protected with New Encapsulating Technology

Peelable and resealable system tackles severe weathering and galvanic corrosion at gas supplier site



Over the years, the repair and maintenance industry has employed many different techniques to combat the problem of flange corrosion. Conventional paints, mechanical covers and clamps, polymer tapes, hot-melt thermoplastics, polymer bags with VCIs all offer solutions to protect flanges from corrosion, but they are not without their drawbacks. These techniques can be costly and complicated to install, and can also fail to provide the level of corrosion resistance required to successfully protect flanges and pipework within harsh environments.

Indeed, due to the cost and time implications of deploying a specialist application team to reinstall a spray protection system on hundreds of flanges at a gas supplier in Oman, the owner sought an alternative solution that would bypass these expenses, as well as the lengthy downtime that would be incurred.

Above: Flanges damaged by corrosion

Corrosion-resistant system overcomes drawbacks of conventional methods

As Belzona 3411 (Encapsulating Membrane) facilitates a quick and simple installation and



Above: Surface prepared, Belzona 8411 applied and bolt caps installed

inspection method- which can be completed with minimal manpower by the company's own maintenance staff- the gas supplier decided to commission this system for the protection over 500 flanges on the site.

Following an inspection by Belzona representatives, this flexible and peelable coating was chosen as it will completely encapsulate the several hundred flanges no matter the size or shape, protecting them from moisture as well as crevice, galvanic and atmospheric corrosion. When used in conjunction with the corrosion inhibitor Belzona 8411, the brush and cold applied system will successfully fortify the flanges with long-term corrosion protection.



Above: Application of first coat of Belzona 3411

In terms of inspection, this solvent free coating can be easily cut and peeled back to allow access to fastenings and on completion of the maintenance work, it can simply be reinstated with the application of a further layer of material.

Fast and simple application technique

1. Firstly, the surfaces were cleaned with Belzona 9111 (Cleaner Degreaser) and the surfaces were thoroughly abraded with abrasive paper to remove any gloss. Once surface preparation was completed, the bond area was degreased again with Belzona 9111.
2. To seal the gap between the flange faces, a strip of Belzona 9431 (Instant Bridging Tape) was used. Masking tape was applied over



Left: Belzona 3411 successfully installed on over 500 flanges with different shapes and configurations



between 30 and 40 mils (750-1000µ). While the first layer of Belzona 3411 was still wet, strips of Belzona 9311 (Reinforcement Sheet) were embedded into the Belzona 3411 around the flange circumference and at both ends of the repair where it bonds to the pipe to add strength to the system.

- Once the first coat had cured after one hour, the second coat of Belzona 3411 was mixed and applied to the same thickness as the first coat (in grey colour) and was left to cure.

Peelable system facilitates easy inspection

Had the owner decided to use the previous spray applied system, this would have required a specialist application team to carry out the reinstatement. Not only would this have required significant financial expenditure to mobilise the installers, but this would have also incurred lengthy shutdowns and downtime, leading to further costs. The cold-applied Belzona flange protection system on the other hand, was able to protect the 520 flanges in just 45 days, a fraction of the time that would have been required had the flanges been protected with the sprayable system.

As Belzona 3411 enables simple inspection by just cutting the system at the flanged joint and peeling it back, this allows the company's own maintenance staff to carry out any future inspection work. Maintenance staff can also reseal the flange protection themselves by simply adding a further layer of Belzona 3411, successfully eliminating the need to deploy specialist applicators and saving the company valuable downtime as well as capital expenditure.

the two bond areas to protect these sections of pipe from accidental overspray of Belzona 8411.

- Belzona 8411 was then applied onto the flange, pipe and fastenings ensuring the film coverage was even and complete. Once the Belzona 8411 was touch dry after one hour, the masking tape was removed and plastic

caps were fitted over the nuts and bolts.

- A further strip of Belzona 9311 (Reinforcement Sheet) was applied to bridge the gap between the flange faces and two strips were applied to the bond area.
- Belzona 3411 was mixed and using a short bristled brush, the material was applied over the area to be protected at a thickness

Belzona Polymerics Limited
 belzona@belzona.co.uk
 www.belzona.com

Take a Deep Breath

By Tony Hopkins, Business Manager Products at Nederman



Breathing can be defined as the passage of air into and out of the lungs to supply the body with oxygen. A simple involuntary act the vast majority of us take for granted. However, in a workplace without adequate dust or fume control, that simple act could be contributing to short or even long term health problems.

Workers in bakeries, paint sprayers and those who inhale solder fumes in the electronics industry are susceptible to Occupational Asthma. Welders can suffer from Chronic Obstructive Pulmonary Disease, whilst Occupational Alveolitis can develop in employees in food processing industries. Those who work with asbestos, nickel or chromium risk Lung Cancer.

The Control of Substances Hazardous to Health (COSHH) regulations, part of the Health and Safety at Work Act, places a duty on employers and employees to ensure that exposure to hazardous substances is either prevented or adequately controlled.

Where this exposure is caused by the potential release of hazardous dust or fumes into the air, the release must be controlled. This is achieved most effectively and economically by the use of Local Exhaust Ventilation (LEV) which aims, by the use of

effective hooding, booths, etc, to capture the dust or fumes at source and protect not only the process operator but also his or her colleagues in the general factory environment who would also be at risk should the dust or fumes be allowed to escape. The Health and Safety Executive has published a guide to LEV, HSG258 'Controlling airborne contaminants at work', aimed not only at the suppliers of LEV systems but also the employers and their representatives whose duty it is to manage these systems and prevent exposure of their workforce to airborne hazardous substances.

Regulation 9 of the COSHH Regulations requires that thorough examination and testing of LEV systems is carried out at least once every 14 months, however in some instances the testing intervals are much shorter. For example, processes involving the abrasive blasting of metal castings require monthly testing, whilst dust or fume generating processes in the non-ferrous casting industry require testing every 6 months. Employers not adhering to the required test frequency, or often not having any testing done at all, are putting their company at risk of enforcement action from the HSE. Furthermore, it puts employees at risk from potentially underperforming LEV systems that are not providing an adequate level of control. Often a reduction in effectiveness of an LEV system can

be a simple maintenance issue. This can include the need for new filter media, new fan belts or even wear and tear in the ductwork that can cause leaks and reduce the amount of air available at the point of dust or fume generation. This can be highlighted in an LEV report and suitable action can be taken.

Working closely with the HSE, the British Occupational Hygiene Society (BOHS) has developed the course P601: Thorough examination and testing of Local Exhaust Ventilation systems. Successful completion of the course enables an engineer to competently evaluate the design and effectiveness of LEV systems and their component parts, undertake the statutory testing in line with established procedures and record the results in a suitable format.

Nederman has a dedicated team of engineers P601 qualified to inspect, test and maintain all types of LEV systems irrespective of its design or manufacture and they are regionally based throughout the UK to provide nationwide coverage.

Nederman is a world leader in industrial air filtration. They are specialists in solving problems relating to fumes, gas, dust, recycling, working conditions and an efficient production environment. Many Nederman solutions have been ground-breaking innovations within the metal fabrications industry, vehicle repair shops, plastic and composite processing, the chemical, food and woodworking industries and many more. Services cover everything from project planning to installation, commissioning, testing and maintenance.

Nederman Ltd, 91 Seedlee Road, Preston
PR5 8AE
Tel : 08452 743434
Email: info@nederman.co.uk
Web: www.nederman.co.uk

NEW EMEA HQ

IRISS Limited, the UK arm of the global leader in electrical maintenance safety devices and the manufacturer of the world's first and only industrial grade IR inspection windows, has moved to new offices in Essex.

With immediate effect, the company's address is:

4 Gowers Farm, Tumblers Green,
Braintree, Essex, CM77 8AZ
Tel: +44(0)1245 399713
Email: info-emea@iriss.com



The new office suite will act as the administrative hub for the IRISS operation in Europe, Middle East, Africa, India, Australia and New Zealand. It will support the ever-growing network of distributors that represent IRISS in these markets and also provide extensive stock holding of the most popular products in the standard IRISS range for customers in the UK and Ireland.

For more information on IRISS EMEA visit: www.iriss.com

You wouldn't run through a red light!

Safety in the workplace is just as important as the safety precautions you take on the roads.

Don't rely on luck, trust Fike.

We have been protecting people and critical assets from dangers faced in process industries for 30 years.

Contact us today on **01622 677081**
Email: sales.uk@fike.com
Discover more at www.fike.co.uk



New FilterBox the icon reborn

- Compact, modern, new and available now!
- Plug and play for eco-efficient air filtration
- Wide range of options for total versatility
- Integrated control functions & smart features



Nederman

Please contact us for a **free brochure**
www.nederman.co.uk 08452 74 34 34

Compact Field Mounting Indicator Has Large Digits

By adding compact field mounting instruments to their range of 4/20mA loop powered indicators, BEKA have solved the problem of displaying a process variable in a congested area where space is limited.

The new compact 'G' models have a robust, IP66 impact resistant GFR enclosure with an 8mm thick armoured glass window, but retain the easy to read displays from the larger models.

These new 'G' indicators offer a choice of four 34mm high digits, or five 29mm high digits plus a 31 segment bargraph. All have a wide operating temperature of -40°C to +70°C and include a square root extractor, sixteen segment lineariser and internal calibrator. For no additional charge, instruments are supplied calibrated to customer requirements with a novel slide-in scale card showing the units of measurement and tagging information.

Accessories include a backlight that may be loop or

separately powered, dual alarms with isolated solid state outputs, stainless steel legend plates and a pipe mounting kit.

Intrinsically safe models are available with ATEX and IECEx certification permitting installation in gas and dust hazardous areas. For applications in Zone 2 or 22, Ex nA and Ex tc approval permit installation without the need for Zener barriers or galvanic isolators significantly reducing installation cost. General purpose models are also available.

As with all BEKA products, these new indicators have a three year guarantee and for customers wishing to evaluate an indicator on-site, a free three month sale or return evaluation service is available.



For further information including datasheets, certificates and application guides please visit:
<http://www.beka.co.uk/compact>
or phone the BEKA sales office on:
01462 438301.

PCB Piezotronics launches two new differential output charge accelerometers for gas turbine bearing monitoring

PCB Piezotronics, a world leader in vibration, acoustic, pressure, force and torque sensors has launched two new hazardous area approved differential output charge accelerometers from IMI Sensors that are designed for use in high temperature applications.

IMI developed the new sensors for gas turbine monitoring, commissioning of nuclear power plants and machinery monitoring in high temperature environments.

Model EX615A42 is designed for use in environments up to 260°C and offers sensitivity of 100pC/g, a measurement range of ±200g peak and a frequency range of 5kHz ±5%. The sensor has a stainless steel housing and features a 3m armoured, low-noise PTFE cable terminating in pigtailed.

The second accelerometer – model EX619A11 – is

capable of operation up to 482°C with sensitivity of 50pC/g, measurement range of ±500g and frequency range of 3kHz ±5%. This sensor has a nickel housing with an integral 2.1m MI hardline cable terminating in a 2-pin MIL-C-5015 connector.

Additional characteristics of the new IMI Sensors high temperature charge output accelerometers include ATEX approval, high shock survivability, high resolution and large dynamic range option. PCB Piezotronics also offers several differential charge amplifiers to support the two new sensors that convert the high impedance output to a low



impedance voltage signal for transmission and data collection. When paired with charge accelerometers, these charge amplifiers convert the sensor output into a single-ended output (measurement output as a signal and ground).

PCB Piezotronics Ltd.,
Tel: +44 (0) 1462 429710
Email: ukinfo@pcb.com
Web site: <http://www.pcbpiezotronics.co.uk>

INVESTING IN INFRARED?

... it's value for money that matters most



Buying an infrared camera is a significant commitment. Even though prices have fallen dramatically over the past few years, it's still important to ensure the chosen model represents the best value for money and that it will serve you well in the long term. For some, cost will be the driving force, while for others, key hardware or software features are more important.

While dynamic development continues to extend the application potential of thermography, it also presents the purchaser with a lot of choices. The range now extends from pocket-sized models, to low cost point-and-shoot troubleshooting cameras and through the high end models with every function necessary for the professional thermographer. So how do you assess the best model for your needs? Here are some important pointers.

Buy the best your budget allows

Most thermal imaging cameras have fewer pixels than visible light cameras, so pay close attention to detection resolution. Higher resolution infrared cameras can



measure smaller targets from farther away and create sharper thermal images, both of which add up to more precise and reliable measurements.

Also be aware of the difference between detector and display resolution. Some manufacturers will boast about a high resolution LCD to mask their low resolution detector when it's the detector resolution that matters most.

For instance, LCD resolution may spec at 640 x 480, capable of displaying 307,200 pixels of image content. But if the IR detector pixel resolution is only 160 x 120, giving 19,200 measurement points, the greater display resolution accomplishes nothing as the quality of the thermal image and its measurement data are always determined by detector resolution.

Higher resolution thermal imaging not only provides more accurate quantitative results, it can also be very effective in showing findings in finer details to others. This can help speed the decision-making process for improvements and repairs.

Accurate and repeatable results

Consistency of measurement accuracy is a very important factor when determining the value of a camera. For best results, look for a model that meets or exceeds $\pm 2\%$ accuracy and ask your supplier for details of how they assure the manufacturing quality of the detector to guarantee this. That isn't the only criteria, however.

In order to produce correct and repeatable results, your camera should include in-built tools for entering both values for emissivity – the measure of efficiency in which a surface emits thermal energy – and also reflected temperature.

A model that gives you an easy way to input and adjust both of those parameters will produce the accurate temperature measurements you need in the field. Other helpful diagnostics to consider are multiple moveable spots and area boxes for isolating and annotating temperature measurements that can be saved as radiometric data and incorporated into reports.

Standard file formats

Many thermal imaging cameras store images in a proprietary format that can only be read and analysed by specialised software. Others have an optional JPEG storage capability that lacks temperature information. Clearly, the most useful is a format that offers standard JPEG with full temperature analysis embedded. This allows you to email IR images without losing vital information.

Radiometric JPEGs can also be imported from wi-fi compatible cameras to select mobile devices using apps that allow further image editing, analysis and sharing. Also look out for models that allow you to stream MPEG 4 video via USB to computers and monitors. This is especially useful for capturing dynamic thermal activity where heating and cooling occurs rapidly and for recording motorised equipment or processes in motion.

Some cameras feature composite video output for cabling to digital recorders while others include HDMI outputs. And new mobile applications have also been developed that allow streaming video over wi-fi. All these capabilities help you share findings more effectively and enhance your infrared inspections and reports.

Software, study the options

Today most thermal imaging cameras come with free software so you can perform basic image analysis and create simple reports. Advanced software for more in-depth and customisable reports is also available, allowing you to take full advantage of your camera's capability and features. Investigate these tailored software programmes thoroughly to see which makes the most sense for your needs.

And finally, don't underestimate the importance of training. The best thermal imaging camera in the world is only valuable in the hands of a skilled operator.

These guidelines are extracted from a new guide from FLIR Systems entitled '12 THINGS TO CONSIDER BEFORE BUYING AN INFRARED CAMERA'.

To download your copy go to: <http://www.flir.co.uk/instruments/display/?id=18092>

ROTALIGN touch receives Best Overall Solution Award 2016

At the Reliability Conference 2016 in Las Vegas, Terrence O'Hanlon, CEO and Publisher of Uptime Magazine officially conferred the Best Overall Solution Award 2016 on PRUFTECHNIK for their ROTALIGN touch shaft alignment system.

Uptime Magazine's Solution Awards Program recognizes innovative products, software, training and services for maintenance reliability and asset management.

In his speech, CEO at PRUFTECHNIK North America Florian Buder declared: "I would like to thank the community for the ongoing trust in PRUFTECHNIK's solutions. Laser shaft alignment has entered a new dimension and has never been easier. For the first time it is possible to embed alignment results wirelessly in your asset management system with ROTALIGN touch, the fourth edition of the ROTALIGN series."

The recently launched ROTALIGN touch is the first laser alignment tool that can track an asset's shaft alignment condition over time. The alignment trend provides useful information to help diagnose machine condition more specifically. Cornerstone

of the new solution is the unique sensALIGN sensor technology delivering the leading precision that the industry has now come to expect from PRUFTECHNIK.

The cloud-enabled mobile ROTALIGN touch device wirelessly receives alignment tasks from the ALIGNMENT RELIABILITY CENTER 4.0 software, and sends alignment results back via the cloud from any location. The asset-specific tasks, paired with the integrated RFID reader makes machine identification fully automatic and error-free. The built-in camera allows adding pictures to the alignment report for a more visual documentation.

ROTALIGN touch offers a more modern experience of alignment: just tap, swipe and drag, just like a smartphone or tablet. The interactive 3D user interface and the wizard-like user guidance provide a fully transparent, visual and intuitive workflow. When



the job really gets hands-on, use voice control for hands free operation. With its strengthened glass screen, capacitive glove-enabled touchscreen and tough housing, ROTALIGN touch is built for rough industrial conditions.

PRUFTECHNIK LTD
Tel: +(0)1543 417763, email:-
info@pruftechnik.co.uk or
visit www.pruftechnik.com

Landskrona Kraft expands online monitoring of critical assets

In the fall of 2012, the new CHP plant 'Energiknuten' in Landskrona in southern Sweden was put into operation.

In the plant, public utility company Landskrona Kraft produces electricity and district heating for large parts of Landskrona's urban area. In conjunction with the construction of the power plant, the Intellinova Compact online system was installed and the company has now decided to expand the system to monitor additional equipment.

Intellinova Compact is used for condition monitoring of critical equipment in the combined heat and power plant. The first system installation included heat pumps, feed water pumps, primary and secondary air fans and exhaust fan in the online monitoring system. In the upcoming expansion of the system, five additional pumps - two transfer pumps and three return pumps - will be monitored online. These pumps are connected to the

common piping system used to distribute district heat between the cities of Landskrona, Lund and Helsingborg.

In the new installation, the recently developed DuoTech accelerometer is used. DuoTech makes it possible to monitor operating condition with both vibration and shock pulse measurement on a single sensor. Thanks to the combination of the patented measuring techniques HD ENV and SPM HD, bearing and lubrication condition, unbalance, misalignment, loose parts, and other machine problems can be very efficiently monitored and identified with maximum forewarning time.

The new CHP plant Energiknuten has been built to reduce the use of fossil fuels. The power plant burns

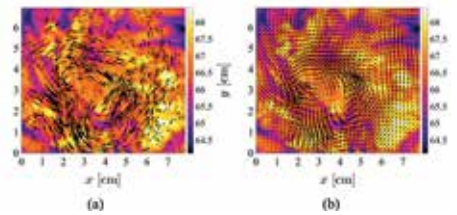


85% paper, wood and plastic (PTP), and 15% wood chips. In addition to district heating, Landskrona Kraft also offers locally produced electricity from the CHP plant.

SPM Instrument UK Ltd.
Tel +44 1706 835 331
info@spminstrument.co.uk
www.spminstrument.co.uk

Simultaneous 2-D Surface Temperature and Velocity Measurement

FLIR Systems reports on an academic journal paper, written by researchers Dr. Alexandros Charogiannis, Dr. Ivan Zadrazil and Dr. Christos Markides at the Department of Chemical Engineering, Imperial College London (London, UK), that describes a novel, combined IR thermographic and velocimetry technique for the investigation of multiphase flows.



Liquid-film flows are open-flow systems that can exhibit a rich spectrum of complex wave regimes, flow transitions and dynamics. Ongoing research into these flow systems is motivated by a strong desire to harness the already excellent high heat and mass transfer capabilities of these flows in the broad range of engineering and industrial applications in which they are employed. Examples of such applications include cooling schemes used in electronic and mechanical systems, heat exchangers, film condensers, evaporators and reactors.

The paper describes a new technique, termed 'thermographic particle velocimetry' (TPV), which is capable of the simultaneous measurement of two-dimensional (2-D) surface temperature and velocity at the interface of multiphase flows. The TPV technique relies on high-resolution IR thermography measurements taken at high frame-rates using a FLIR X6540sc IR camera and is based on the employment of highly reflective particles which, when suspended near or at the interface, can be distinguished from the surrounding fluid domain due to their different emissivity.

The Imperial College London researchers used a series of image processing steps to recover the temperature and velocity distributions, including the decomposition of each original raw IR image into separate thermal and particle images, the application of perspective distortion corrections and spatial calibration, and finally the implementation of standard particle velocimetry algorithms. This procedure is demonstrated by application of the TPV technique to a heated and stirred flow in an open container. In addition, two validation experiments are presented, one dedicated to the measurement of interfacial temperature and one to the measurement of interfacial velocity. The results generated by the TPV technique are shown to correlate well with data generated by conventional techniques.

The device features a 640 × 512 digital InSb detector with spectral sensitivity from 1.5 to 5.5 μm and a f/3 aperture. It provides images up to 125 Hz in full frame and up to 4011 Hz in a 64 × 8 sub-windowing mode. Features on this research grade camera include high thermal sensitivity, snapshot imagery, a motorized spectral filter wheel and a detachable touch-screen LCD. The camera connects to the company's ResearchIR Max R&D software for thermal imaging data acquisition, analysis and reporting. The X6540sc can be temperature-calibrated up to 300 °C, or up to 3000 °C with spectral and/or neutral density filters, and it provides measurement accuracy of ±1 °C for standard configurations.

A copy of the academic journal paper may be downloaded by visiting: <http://www.flir.eu/science/blog/?id=71216>.

The X6540sc IR camera from FLIR Systems provides ultra-fast frame-rate acquisition for scientific and research applications involving dynamic thermal events.

For further information on the X6540sc IR camera visit www.flir.eu/science/display/?id=67896

Contact FLIR Systems on: research@flir.com or call: +32-3665-5100.



LEONOVA[®] IS
INTRINSICALLY SAFE



CONDITION MONITORING AS YOU HAVE NEVER SEEN IT

Leonova Diamond is the latest proof of our commitment to developing first class condition monitoring products for more profitable maintenance. In a direct response to feedback from SPM customers across the globe, we developed an instrument that will deliver long working life under the toughest, most demanding circumstances.

Tel. 01706 835331
leonovabyspm.com
spminstrument.co.uk





Exloc Instruments – Working Smarter, not Harder

Exloc Instruments have expanded their portfolio of mobile computing products including SmartPhones, cameras and tablet computers for use in ATEX and IECEx environments.



Its Dual SIM Quad Band enables smarter and seamless roaming solutions. Data exchange is possible via WIFI or a mobile network. Data and voice connections run simultaneously. Moreover, Bluetooth connectivity enables countless extras such as helmet communication, LEL meter and more.

Android OS Android-based, the Rough Pro can run numerous applications including track & trace, man down, compass and will seamlessly fit into your enterprises workflows.

Readable in broad daylight The smartphone's 4.5" display is easily readable under all lighting conditions and the integral 8 Megapixel Camera shoot the sharpest images so users can enjoy high resolution photography and streaming video applications.

Enterprise graded, the Rough Pro smartphones meet the requirements of your enterprise's IT infrastructure. They can run specific, tailor-made applications using the Remote Device Management Solution (RDMS).

The Rough Pro smartphone can be integrated into the BCOM Smart Worker concept which consists of a Zone 1 smartphone, multi-gas detector, head-set and a series of software solutions for automatic man down detection (Lone Worker Protection), remote assistance and remote gas detection, push to talk and much more with all devices fully compatible with EVision's software solutions.

Having recently partnered with Aegex for their new Zone 1 certified Windows 10 tablet computer, Exloc have now become the exclusive UK distributor for BCOM Solutions Rough Pro EX-SM14 SmartPhone.

The Rough Pro smartphone is certified for use in Zone 1, Zone 2 and Class 1 Div 1. At IP68, the BCom Rough Pro EX-SM14 can be submerged in water for 40 minutes at depths of 1.2 metres therefore declaring it waterproof. It's the waterproof phone that brings reliable communication

to offshore, maritime and extremely humid environments.

Rugged & shockproof, the Rough Pro is extremely robust, and is even MIL-STD-810G certified. As a result, this tough smartphone resists drops and shocks of a high magnitude.

It's what makes them so ideal for use in the maritime environment, oil & gas, chemical and petrochemical industry.

For further details on this or on any of our mobile computing solutions then call us on: 01457 239301 or e-mail sales@exloc.co.uk



Exloc Instruments (UK) Ltd *Hazardous Area Solutions*

One convenient source for the procurement of instruments, electronic devices and other products specifically designed and approved for use in hazardous locations involving flammable gas and dust atmospheres.

DIN Rail Safety Products:

- I.S. interfaces
- Safety relays
- Surge protection
- SIL 3 Power Supplies

Networking:

- opis transceivers
- Ethernet switches and media converters
- Wireless Access Points

Visualisation & Alarm Products:

- I.S. and ruggedised PC terminals and monitors
- Hazardous area beacons, sounders & call points
- Loop powered indicators and displays
- Handheld barcode scanners and RFID readers
- I.S. LED cluster lamps

Mobile Computing:

- Mobile and SmartPhones
- Zone 1 Windows 10 Tablet
- Digital and thermal imaging cameras
- Torches and portable lighting

TUV Approved Functional Safety (Engineer) Training:

- Aberdeen 7-10 June 2016
- Manchester 4-7 October 2016.



EXLOC Instruments (UK) Ltd, Unit 7 Riverside Court, Delph, Oldham, OL3 5FZ
 www.exloc.co.uk Tel 01457 239301 sales@exloc.co.uk



LEADING STANDARDS IN COMPLIANCE & SAFETY



CSA Group is a world leader in conformity assessment and product testing solutions.

Advanced laboratory capabilities combined with ATEX, IECEx and North American approvals from one location in the UK underpin the investment we continuously make to lead the way in conformity services for our clients around the globe.



ATEX • IECEx • CSA Approval • QA Audit • Training • Personnel Competence • MCERTS Certification • PSM & DSEAR

Tel: +44 (0)1244 670 900 | Email: ukinfo@csagroup.org | www.csagroupuk.org

E2S adds light to family of Hazardous Location GRP warning signals with Xenon strobe beacons

E2S Warning Signals, the leading independent warning signals manufacturer, has announced the addition of visual signals to the explosion proof and corrosion resistant GNEx family, www.e2s.com/products/range/gnex.

Suitable for all Zone 1, 2, 21 & 22 hazardous location signalling applications the GNEx beacons have extended temperature range with IECEx and ATEX Ex d approvals. For high ambient light or long distance signalling the GNExB2 beacon is available in 10, 15 and 21 Joule variants producing up to 902cd - a very high output Xenon strobe. The smaller sized GNExB1 is available for where a 5 Joule (up to 117cd) unit meets requirements. Three flash patterns and second stage, set by users, are a standard feature with all GNEx beacons, depending on base model and power (DC or AC) supply.

On-site removal and replacement of the lens filter, such as for colour changes, is simple. Polycarbonate, UV stable lenses are available in

Amber, Blue, Clear, Green, Magenta, Red and Yellow as separate spare parts. Installation time is minimised by design with the GRP enclosure having a threaded flame path, multiple cable entries and a large termination area.

Complementing the GNEx range is the GNExJ2 Ex d junction box, which, having multiple cable entries and terminal configurations is suitable for a large variety of applications.

Both 15 and 21 Joule versions can be supplied as a plate mounted assembly configured with up to four Xenon strobe beacons with a junction box or five beacons without a junction box.



The new Xenon strobe beacon visual signals broaden the GNEx family which includes alarm horn sounders, PA loudspeakers and manual call points for activation of fire alarms, gas detection and emergency shutdown systems.

E2S Warning Signals
Tel: + 44 (0)20 8743 8880
sales@e2s.com
www.e2s.com



ATEX Notified Body
IECEx Certification Body
CompEx Certification

NEW... 'EX14' Responsible Person Certification

Internationally Recognised CompEx EX14 'Certificate of Core Competence' now available for 'Ex' Responsible People (as defined by EN60079-14)

We offer the full range of CompEx Courses (including EX12 for Designers) and a range of specialist courses including advanced intrinsic safety, area classification and explosion risk reduction.

Visit www.exveritas.com call 0845 862 2447 or e-mail info@exveritas.com to book



Free  self-assessment exams  software tools and  information wallcharts

AIR OPERATED HOISTS ARE THE SAFE CHOICE FOR SPRAY BOOTH OPERATIONS

Air hoists from the J D Neuhaus Profi range have been successfully utilised within a paint booth to facilitate the movement of material in and out of the booth.



The installation has helped to boost productivity and was carried out by Engineered Lifting Systems (ELS), a major representative in the USA for the J D Neuhaus (JDN) range of high performance air operated lifting equipment.

ELS are particularly proud of this upgrade, carried out for a spray booth operated by one of their customers. The customer is equally pleased with the improved performance and increased output they have achieved, as well as maintaining a high finish level for their product lines.

The handling of components, designated for spray booth coating operations, had previously been undertaken utilising two manually operated chain hoists located on an overhead rail running the full length of the booth. The hoists provided the necessary lift and full horizontal travel movements required for work pieces being sprayed, with all the manual actions necessary being undertaken by the spray booth personnel. With individual loads of up to 2 tonnes being catered for, it was obvious that fully mechanised load movements would improve working conditions, increase productivity and potentially enhance finish quality.

ELS was both happy and confident to recommend

the JDN Profi 2TI air operated hoists to their customer as the logical replacement for their existing pair of manually operated chain hoists. The choice of air operation throughout (for both lifting and load horizontal movement functions) ensured that the new hoists covered NEC ruling requirements to meet or exceed NFPA 33 standards. In fact the JDN products have a European rating EX II 2 GD IIA T4 / II 3 GD II T4 as standard, providing safe operation within hazardous or potentially explosive atmospheres as can exist in spray painting operations. Even higher safety ratings can be accommodated where increased spark protection is specified to achieve the EX II 2 GD IIC T4 safety standard.

The JDN hoists operate within an air pressure range of 4 or 6 bar, and when being used at the higher pressure rating a lift capacity of 2 tonnes per hoist is available, combined with a full load lift speed of 2.7 metres/min being achieved. All lift and load traverse movements are undertaken using pendant controllers (single handed operation), with a pendant drop length provided to ensure that it can fully clear any freshly sprayed objects as well as providing a good working clearance for the spray gun operator. The hoists are suspended from trolleys running on the overhead standard beam, so providing the

horizontal load movement. Each hoist is fitted with an airline filter regulator unit and a steel chain retention box, together with a muffler/oil collector to prevent spent oil mist dripping onto newly painted products.

The JDN Profi TI range of hoists are very robust and include units with individual lift/load capacities from 250kg up to an impressive 100 tonnes. These hoists may be used for oblique pulling under special safety provisions. In addition, hoists can be fitted with optional trolleys which run in an overhead support beam to provide horizontal load movements. Trolleys available include manual, reel chain or motor operated versions, depending upon the degree of mechanisation required.



The lift/lower and travel movements where incorporated are controlled with pendant hand controls. 3 metre lift chains and pendant control air supply leads are provided as standard, with other specific lengths available to suit user requirements. Optional operating systems are available including rope control, together with sensitive, single speed and multi function controllers, as well as both remote control and electropneumatic interface units.

These JDN products are suitable for safe operation within hazardous areas and provide lube-free operation with no downtime. They are also 100% duty rated, with unlimited duty cycle capability and featuring fail-safe starting. They are also insensitive to dust and humidity as well as environmental operating temperatures ranging from 20°C to +70°C.

Further information is available on request to:

J D Neuhaus GmbH & Co. KG, 58449, Witten-Heven, Germany
Telephone: +49 2302 208-219
Fax: +49 2302 208-286
e-mail: info@jdngroup.com
www.jdngroup.com

“FAR MORE THAN A THERMAL FLUID FIRM” TFS HITS 20 AND SHARES SECRETS OF SUCCESS

Pioneering technology and a service predicated on risk-management lie at the heart of the success of the first company to bring thermal fluid reconditioning to process industries worldwide, according to UK system support and maintenance provider, Thermal Fluid Solutions Ltd, in its 20th anniversary year.



TFS was the first firm to offer thermal fluid reconditioning, facilitating the maintenance of vital fluid safety parameters such as minimum flashpoints. A quick, cost-effective, environmentally sustainable alternative to replacement, HTFluidfit extends fluid life by a factor of at least 10, saving customers up to 70% of their thermal fluid costs.

Since its launch as Heat Transfer Systems in 1996, Derbyshire-based TFS has reconditioned over 10 million litres of thermal oil across 150 systems in 15 countries, saving customers in excess of £20 million

in the cost of replacement oils, excluding the cost of disposal and downtime.

According to managing director, Richard Franklin, the market was quick to adopt its pioneering reconditioning service: “Until we introduced HTFluidfit, companies were having to spend thousands on replacing degraded oil in order to ensure that they complied with UK DSEAR (Dangerous Substances and Explosive Atmospheres Regulations) and European ATEX (Atmosphère Explosible) legislation; we offered a cost-effective alternative.”

The company also attributes its success to its comprehensive, continuous risk-management service, which ensures the safe and efficient operation of customers’ thermal fluid systems and legislative compliance, via the creation of bespoke improvement plans.

Said Franklin: “We’re far more than a thermal fluid firm. We’re our customers’ risk-management partner, assisting them to meet their responsibilities for the safe, compliant operation of their thermal fluid systems, enabling them to focus on other aspects of their operation.

“One of the things we’ll be doing in our anniversary year is developing our risk-management offer further, and we look forward to sharing details of this with the industry later in 2016.”

Since 1996, the company has established a strong international customer base, and in 2011 launched HTFluidfit in North America. It has clients across a range of process manufacturing sectors, including food, wood panel, petrochemicals and fine chemicals. Over the last 20 years, TFS has worked for numerous high profile firms, including Premier Foods, Dow Chemical Company, Pfizer and Airbus.

In addition to HTFluidfit, TFS’ individual services include fluid testing, analysis and advice; water removal; drainage and refill. The company also supplies thermal fluids and a range of ancillary products.

For further details, please visit:
www.thermalfluidsolutions.com.

SpaceVac releases world's first ATEX approved cleaning system

SpaceVac is celebrating a major world-first: its range of high-level cleaning systems has become the first cleaning system of its kind, anywhere in the world, to be certified for use within ATEX explosive atmospheres.



This exciting opportunity represents a major coup for the company – consolidating its position as the market leader for high-level cleaning systems.

Explosive atmospheres can be caused when flammable gases, mists, vapours or combustible dusts build up in confined spaces. If there is enough of the substance, mixed with air, then all is needed, is a source of ignition to cause an explosion. The consequences – as seen at the Bosely Mill disaster in 2015 – can be dire, and it is with safety at heart that the SpaceVac team began developing the groundbreaking ATEX system

The SpaceVac ATEX system (which has been granted a worldwide patent) has been certified for use in explosive atmospheres after independent tests found that the system was completely conductive. This means that everything from the anti-static brushes and accessories and carbon-fibre poles, through to the high-powered wet and dry vacuum units, are guaranteed not to spark.

The system can be used in both M Class and H Class dust and ATEX Zones 1,2, 21 & 22 explosive dust environments – a first for any high-level cleaning system. This is achieved using brushless long life ignition-source-free EC motors and a built-in Flow Sensor that monitors air speed in the suction hose to make sure that it does not go below the minimum 20 m/s ATEX requirement.

SpaceVac Managing Director Colin Lewis said: "After years of continuous R&D on our products, we are very proud that the SpaceVac system is now the first system in the world to be certified as safe within ATEX atmospheres. Clearly for our customers, the welfare and safety of their employees is paramount and with this in mind, we are tremendously excited to be launching the ATEX range to the world."

Find out more at www.space-vac.co.uk

When health and safety depend on it - specify

BVC Industrial Vacuum Cleaners

BVC's new range of vacuum cleaners have been specifically designed to meet the demands of industry and commerce.



- Robust
- Reliable
- Efficient
- Easy to use
- High Filtration
- Made in the UK
- Mains electric, Battery and Air Power
- Standard or modified units for all applications

BVC Central Vacuum Cleaning Systems can work in conjunction with Industrial Vacuum Cleaners or as stand alone



A schematic showing a typical Central Vacuum Cleaning System

systems. They provide vacuum connection points for cleaning around the factory, plant or lab. Dust and debris is conveyed through the pipe system to a filter separator for safe disposal.



Part of BVC's range of Industrial Vacuum Cleaners

BVC

A Quirepace Company

Quirepace House, 6 Pennant Park, Fareham, Hampshire, PO16 8XU

Tel: +44 (0) 2392 603700

e-mail: enquiries@bvc.co.uk www.bvc.co.uk

Specialist Electrical Wholesaler



Authorised Assemblers For Abtech & Pepperl & Fuchs
Stainless Steel & GRP Exe ATEX Certified Junction Boxes
For Use In Hazardous Areas, Zones 1,2,21 & 22

PEPPERL+FUCHS

ABTECH



www.tcad.co.uk

sales@tcad.co.uk

Tel: 01642 612662

Control Panels

ATEX and IECEx Compliant Solutions Providers

www.jcegroup.com

J.B SYSTEMS LTD
EExd & EExe enclosures
Custombuilt panels
Terminal boxes
& Control Stations
Tel: 01296 489967 Fax: 01296 393515
Email: sales@jbsystems.co.uk
Website: www.jbsystems.co.uk

CONSULTANCY

4² Square Engineering Consultancy Limited
ATEX / DSEAR
Inspection-Training-Consultancy-Gap Analysis
DSEAR Compliance & Verification
Explosion Protection Document
Ignition Risk Assessment
Compliance Audits

Tel +44 (0) 1506 823311 Web : www.fsq.co.uk
Mobile 07754 461694 e : info@fsq.co.uk

CONSULTANCY

Inglewood Engineering Consultancy

- DSEAR Site Compliance
- Area Classification and Risk Assessment
- BS EN 60079 Part 17 Inspections
- DSEAR non-conformance support / remedial design

01625 410 100

info@inglewoodengineering.com
www.inglewoodengineering.com



DRUM HANDLING

STS Safety Trolley Systems
Lifts, Taps & Weighs in Hazardous Areas

- Suitable for Zone 1 areas
- Handle all drums 50 to 205 litres
- Including plastic and steel drums
- Complies with latest ATEX regulations
- Bespoke UK design and manufacture

Tel : 01736 851050
Email : sales@sts-trolleys.co.uk
Website : www.sts-trolleys.co.uk

EXPLOSION PROTECTION

Drum Heaters

Fast, Efficient & Safe Drum & IBC Heaters

Thermosafe
Tel: +44 (0)1440 707141
www.drumheating.com

Electrical Distributor

R&M ELECTRICAL GROUP LTD
Your Source Onshore For Everything Electrical Offshore
R&M is the UK's largest independent electrical group serving the Oil and Gas industries.
023 80341 444
www.rm-electrical.com

Total Explosion Protection

- Conventional venting
- Flameless venting
- Explosion isolation
- Explosion suppression
- Testing services
- Expert advice

Contact us today!
Fike UK, 35 Earl Street
Malden, Kent
ME14 1PF, UK
T: +44 (0) 1622 677081
E: info@fike.co.uk
www.fike.co.uk

TURNER EPS
The new name for **FLAMETEC**

The make safe solution to enable plant & machinery to operate in Zone 1 & 2.

- Fork Lift Trucks
- Diesel Engines
- Diesel Generating Sets

TURNER EXPLOSION PROTECTION SYSTEMS
Stoke-on-Trent (UK) office:
tepsystems@turner-eps.co.uk
Tel: +44 (0)1782 657 331

Pipework



JACOB
EUROPE'S NO 1 IN PIPEWORK SYSTEMS

**fast assembly
- tight connections**



**always trust original
JACOB quality**

Jacob (UK) Limited
Unit 2, Laundry Bank
Church Stretton, SY6 6PH
Tel: +44 (0) 16 94 72 28 41
Fax: +44 (0) 16 94 72 34 73
E: sales@jacob-uk.com
Web: www.jacob-uk.com

Training



**the
WORLD
LEADER**

The first provider in the world to have achieved acceptance for all 10 units of competence under the new IECEx CoPC scheme.

Tel: +44 (0) 1298 766600
Email: info@baseefa.com
www.baseefa.com



**EP-IT
GROUP**

Training Courses & Consultancy
for Industrial & Hazardous Areas

www.epitgroup.com

Hazardous Area Specialists



F.E.S. (EX) LIMITED
HAZARDOUS AREAS SPECIALISTS – Explosive Atmospheres

An experienced & professional team with demonstrable and proven skills within the field of potentially explosive atmospheres. Flexible, client focussed and provide logical solutions or resources.

ISO9001, ISO14001 & OHSAS18001 accredited along with our memberships of the Energy Institute & IOSH ensuring no matter how large or small the organisation we tailor our services to match the clients specific needs.



Hazardous Areas Specialists – We Provide

- "Hands On" Inspection & Rectification of Electrical & Instrumentation Assets utilising Hand Held Terminals & fully qualified, experienced personnel
- Select, Install, Test, Maintain Plant & Process
- Mechanical Inspection
- Hazardous Areas Assessment & Classification
- Health, Safety & Environmental Solutions
- Resource and Supervision
- CAD Facilities

Training Solutions

- CompEx E & I
- CompEx E & I Refresher
- CompEx Foundation
- Future - CompEx Mechanical

Based at the **CATCH** facility, Lincolnshire
For course details e-mail: bookings@roxby.com
or call **01642 438700** or **01469 552853**



- ATEX/DSEAR
- Process Safety
- SHE
- Instrumentation

We are multi-disciplined & encompass many differing types of industries. Our client list includes many large & multi-national companies with projects, presentations & training courses completed not only in the UK but also internationally in the following locations:

Azerbaijan, Belgium, France, Germany, Holland, Italy, India, Nigeria, Spain, Sweden, Tobago, Trinidad, Tunisia, China & USA.

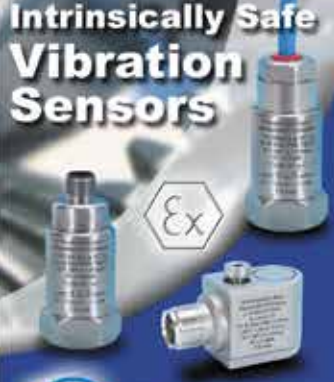


Testing



Vibration Sensors

**Intrinsically Safe
Vibration Sensors**



Hansford Sensors
Excellence in Vibration Monitoring

Tel: 0845 680 1957
Fax: 0845 680 1958
Email: sales@hansfordsensors.com
Web: www.hansfordsensors.com

To advertise please contact:

Paul Miles

MSL Media Ltd

Email:

paul@engineeringmaintenance.info

Tel:

+44 (0)1634 731646



F.E.S. (EX) Ltd., Cleethorpes Business Centre,
Jackson Place, Wilton Road, Humberston, Grimsby,
North East Lincolnshire, DN36 4AS

Telephone: +44 (0) 1472 598987 Fax: +44 (0) 1472 324694
Website: www.fes-ex.com Email: enquiries@fes-ex.com





Introducing CML your partner in Product Certification, Test & Training

Responsive

Accessible technical know-how, outstanding customer service, focussed on your deadlines

Competent

We have strong technical expertise across all protection methods available to help solve your project challenges across a wide range of needs – electrical, non-electrical, components, assemblies, safety-related devices and protective systems as well as production audits and Quality Assurance Approvals (QAN, QAR)

Credible

A wide scope to deliver all product certification work covered by the ATEX directive & IECEx scheme

Innovative

Delivering end-to-end solutions around the globe – including an integrated service for USA & Canada – testing for China, Korea & Japan

Call today for a **FREE technical compliance meeting at your site...**

www.cmlex.com
+44 (0)151 559 1160

