

# Best Practice

Issue 660 | Spring 2022 | 0121 725 1587 | [www.bestpracticeuk.co.uk](http://www.bestpracticeuk.co.uk)



## Medical Shops achieve surgical precision with Deep Hole Drilling Automation

Medically speaking, cutting people open is dangerous. Today, physicians get around this problem by using modern surgical instruments to perform minimally invasive procedures, which make major operations into simple outpatient appointments. But to accomplish these feats of surgical science, manufacturers in the medical industry have to drill small-diameter holes through the entire length of slightly larger instruments. Thin part walls, intricate features, high surface quality and concentricity requirements, and extreme depth-to-diameter (D:d) ratios make these parts a challenge in production.

A typical laparoscopic surgical instrument is designed to direct tools, cameras and other devices into the body through the instrument using a guide wire. And to ensure smooth, reliable and accurate performance during procedures, highly precise hole concentricity is required at D:d depth ratios well above 100:1, a challenge even for dedicated deep hole drilling equipment.

With these challenges, it's no surprise that many manufacturers try to skip the deep hole drilling process altogether by farming out the work, but going to outside suppliers brings its own problems. Pre-drilled blanks might solve the deep hole drilling problem, but they have to be fed into the machine one by one, defeating the



whole purpose of using automation-ready Swiss-style machines. Meanwhile, cannulated bar stock allows shops to continue using their bar feeders, but it's very expensive – and the hole quality and O.D./I.D. concentricity rarely meet the needs of medical manufacturers anyway.

To overcome these challenges, medical manufacturers are turning to dedicated deep hole drilling equipment to finish instruments started on the Swiss-style machines. With an experienced gundrill operator, careful setup and a bit of finesse, the hole quality can be

excellent, and it allows the Swiss-style machines to remain fully automated. The only remaining problem is part handling and transfer, which introduces significant risks when the accuracy requirements are so high, and if the part has to be flipped to drill a stepped bore, that introduces more setup operations and more risk of human error.

What medical manufacturers need is a truly end-to-end automated process that allows for an efficient single-piece workflow for surgical instruments – and some deep hole drilling OEMs, such as UNISIG, have engineered all the technology required to meet this goal. The result is a complete system that offers easily automatable, on-demand deep hole drilling processes for the most demanding surgical instrument applications: the UNE6-2i.

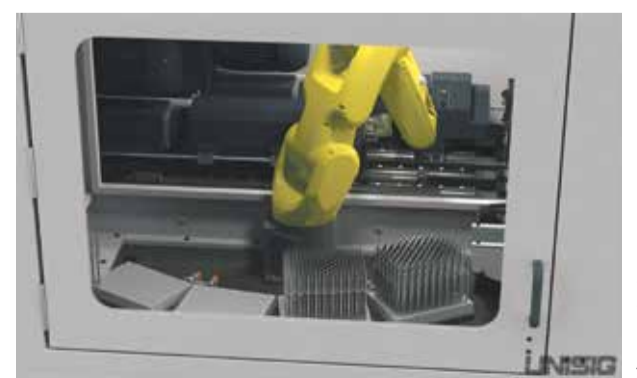
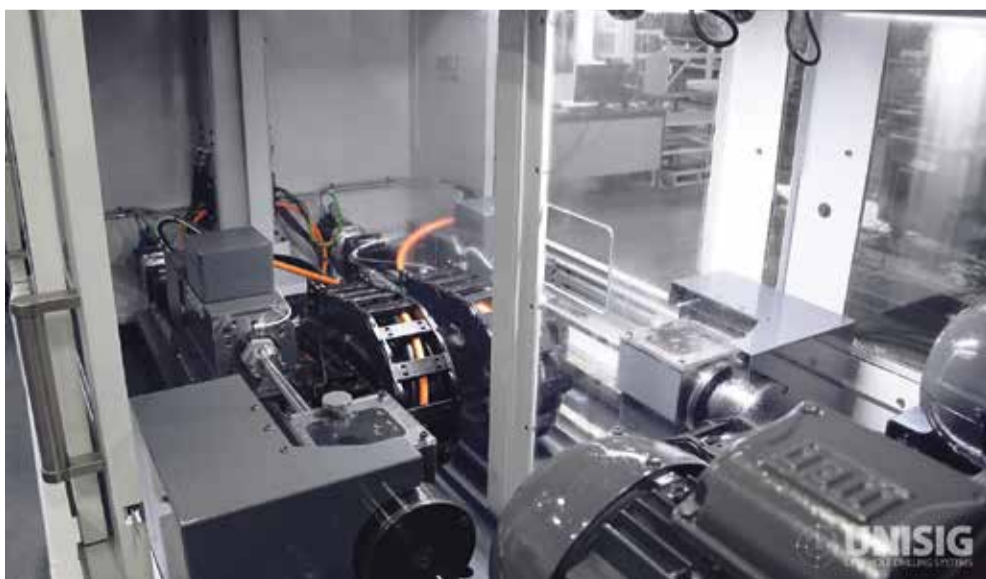
As a twin-spindle machine with two independent drilling axes, the UNE6-2i inherently has the capabilities manufacturers expect from a high-performance deep hole drilling machine. Counter-rotation, specialized workholding and superior alignment and precision allow shops to confidently hold concentricity tolerances and minimize mismatches,

even at the extreme D:d ratios common in the medical industry. In addition, the UNISIG Smart Control Interface simplifies operation, while an innovative flow-based coolant system automatically reacts to pressure changes for effective chip evacuation and high process security.

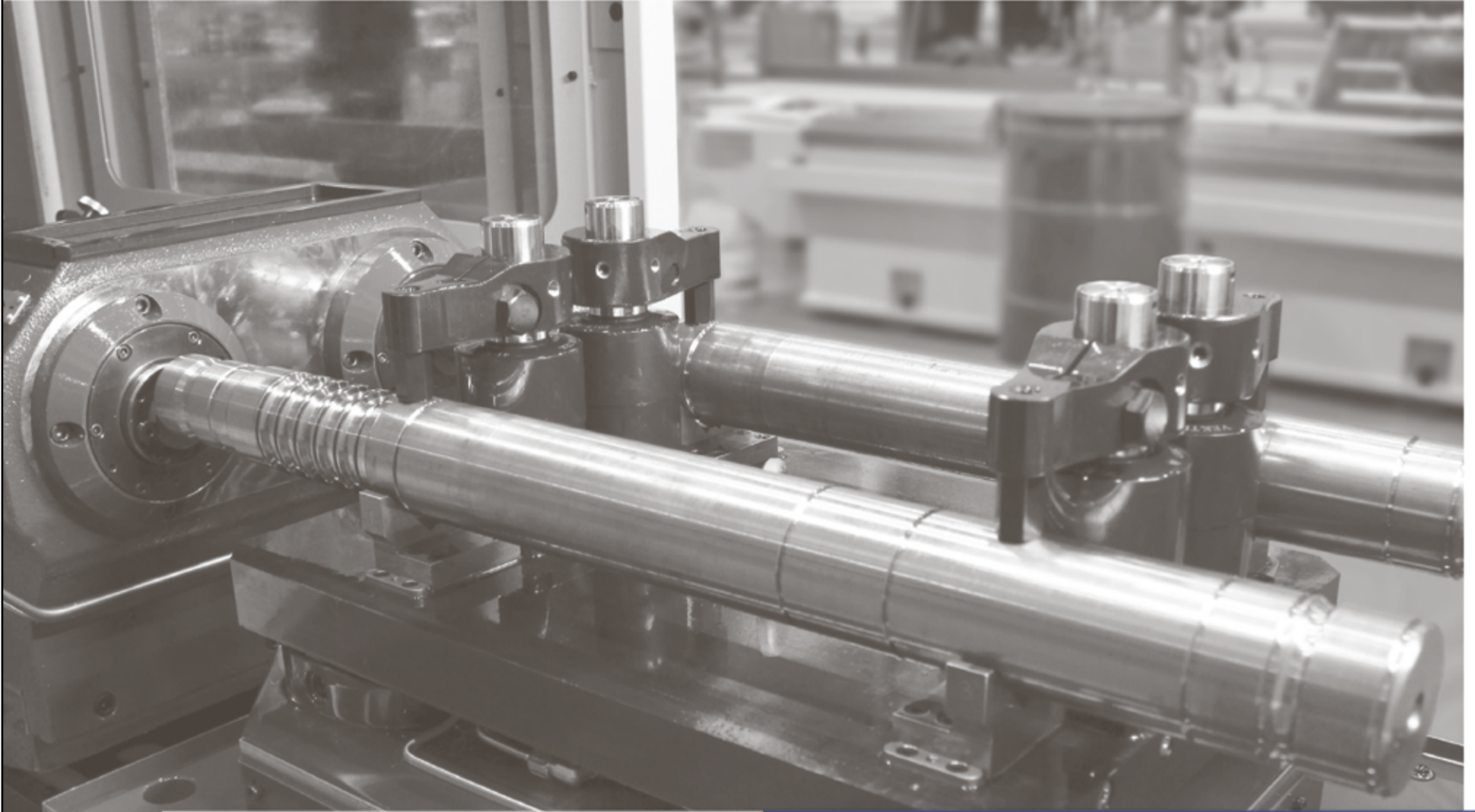
What allows the UNE6-2i to truly shine as a part of the surgical instrument production process, however, is the in-machine automation. After the front spindle drills the first hole, a robot takes it out of the spindle, puts the hole onto the second spindle, and loads another fresh blank into the first spindle. The robot's perfect repeatability ensures the highest hole quality – and the only human labor required for the process is loading bar stock into the Swiss-style machines, preparing the blanks for the UNE6-2i's robot, and sending the finished parts on for post-processing.

The UNE6-2i's capabilities also give manufacturers significant production flexibility. Two holes with two different diameters could be simultaneously drilled in a single part, or two parts could be in-process simultaneously to allow operators or robots to load and unload the machine without stopping. Alternately, this twin-spindle configuration can be used to drill halfway through a part from one end with the first spindle and allow the second spindle to finish the hole from the opposite end.

**Further information on all machines of the UNE series and the complete UNISIG machine program is available at: [www.unisig.com](http://www.unisig.com) or follow the company on LinkedIn and Twitter (@UNISIG).**



Photos: UNISIG



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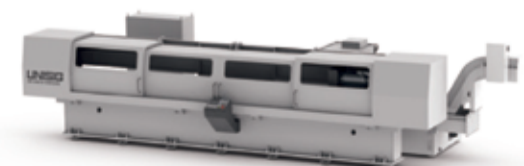
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## Turning 2022 pink: Lanes marks 30 years of service

Drainage and wastewater specialist Lanes Group plc is gearing up to mark its 30th anniversary with a programme of activities throughout 2022 to celebrate the achievements of its teams and raise money for its charities.

The company, famous for its bright pink branding, began as a one-depot drainage company in Leeds, West Yorkshire, in November 1992, employing 15 people with a turnover under £500,000.

It now operates 20 depots, 11 utility hubs, and five specialist service centres, employs more than 2,200 people, and has an annual turnover of over £215m, making it the UK's largest drainage and wastewater specialist.

Wayne Earnshaw's father, Allan Earnshaw, and Graham Tattersall triggered the company's rapid development when they bought Lanes for Drains from its founder, John Lane.

Within five years, Lanes for Drains had expanded to South Yorkshire, Lancashire, Greater Manchester and the East Midlands, with 100 employees and a turnover that had shot up to £5 million.

Through a process of careful acquisition, new depot openings



and service development, the now rebranded Lanes Group has maintained that impressive and sustainable growth, while remaining a family-run business.

The company's 30th anniversary plans include a major fundraising challenge that aims to turn the country Lanes pink, as teams from every depot will be invited to raise money for the company's nominated charities.

The Lanes-i launch has been a big success, with the business building a rapidly growing portfolio of contracts, aided by an innovative business model that combines digital operational systems with industry-leading safety and quality standards.

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# The cutting edge of machine knives technology

CAMB Machine Knives has built an enviable reputation for high quality machine knives. With over 30 years of experience, CAMB Machine Knives supplies to companies across the world, with an established network of agents in Spain, Holland, France, New Zealand, South Africa, Australia and Israel, as well as its UK headquarters.

Currently, CAMB Machine Knives supplies and exports its knives to over 20 countries worldwide. Because the company deals with several carrier and freight companies, it ensures it can always get the most competitive prices and best carriage option to its customers' destination.



and excellent customer service, CAMB Machine Knives really is a cut above the rest.

If you would like to find out more information, head to the website or get in touch using the contact details below.

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**www.camb-knives.co.uk**



The company's range of blades includes circular knives, top dished knives, bottom knives, toothed knives, straight knives, anvils, tray form blades, razor blades, shear blades, granulator blades, carpet knives, tobacco knives and confectionary knives.

The range of circular knives is ideal for a wide range of industries, including packaging and rubber. Furthermore, CAMB Machine Knives' range of poultry processing blades cover all the main machines used in the industry, including Stork, Meyn, Systemate, Foodmate, Linco, and many special sizes made to order.



As well as supplying new blades, CAMB Machine Knives can provide a full regrind/re-sharpening service on many of the knives it supplies. This can be arranged on a weekly basis, or booked as and when it is required. This is ideal for increasing the life of circular, straight, toothed and special blades, as well as increasing the efficiency of the machine.

Regrinding/re-sharpening is the ideal way to bring your knives back to an as new condition, and is considerably cheaper than purchasing a brand new set of knives. CAMB Machine Knives can collect and deliver anywhere in the UK within 24 hours, offering competitive shipping rates and a quick turnaround. What's more, if a job is urgent, in some cases the company can regrind the same day.

With its comprehensive product range



## CAMB MACHINE KNIVES

### "A Cut Above the Rest"

#### QUALITY IS OUR GUIDING PRINCIPAL

With over 34 years of experience supplying the machine knives industry. CAMB Machine Knives was established in the UK in 1989 and aimed to provide consistently high quality knives and service to a broad range of industry sectors. Based on these guiding principals, CAMB Machine Knives has flourished and grown throughout Europe, USA in 25 countries worldwide establishing a reputation for high quality products and service.

#### CAMB MACHINE KNIVES INTERNATIONAL REACH

CAMB Knives International really does have an international reach with a network of exporters and carriers - with offices both in the UK along with agents in Spain, Netherlands, Italy, Germany, South Africa and many more so you'll never be far away from a CAMB Knives representative.



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# 100 years of engineering excellence from Kingston Engineering

With an impressive successful history dating back to 1919, Kingston Engineering has developed a rich heritage built on providing precision engineering. Leading to the present day, Kingston Engineering has established itself as one of the UK's leading manufacturers of bespoke power screws and engineering services.

Kingston Engineering is proud to be part of Yorkshire's strong manufacturing history and that of Hull. From its facilities in Hull, Kingston Engineering manufactures and produces bespoke power screws, adaptable for mechanical power transmission.

The company is able to offer bespoke designs, to suit the needs of their clients' precise requirements, which has led to them building an exceptional reputation for being able to fit the needs of various industry sectors. The company's products are used extensively in a diverse range of applications which include aerospace, oil and gas, nuclear energy, the chemical and medical sectors and many more.

Kingston Engineering specialises in manufacturing Right Hand/Left Hand, single/multi-start, cut thread Power Transmission



Screws and Nuts for over 60 years. Adaptable for mechanical power transmission, their products conform to the standards of British, European and American requirements.

Utilising its team of highly skilled engineers, precision parts and assemblies are produced to exceptional quality and to the most exacting of specifications.

We caught up with Production Director, Paul Bielby about how Kingston Engineering's screws have become so popular. He added, "Kingston Engineering's screws can be used in a range of applications and across multiple industries. This includes in Aerospace, Oil and Gas, Nuclear energy, the chemical and medical fields, and much more. We work closely with both suppliers and end users in order to provide the very best, customised and purpose built screws possible. We also have an ever growing base, with customers all across the UK and even further afield in the US."

Committed to quality, all of Kingston Engineering's products meet ISO 9001-2015 accreditation and are examined thoroughly during the manufacturing process. Kingston engineering has gained an outstanding reputation since its inception, enabling the company to flourish within its industry and further its development and manufacturing processes.

Excelling in engineering quality, Kingston Engineering showcases 100 years of skilled, expert and customer focus based history. Through these advancements and changes in technology, the company has maintained its presence in the



market and gained further global recognition and presence.

It is clear to see that over the years, the company has significantly invested in its machinery for continued success. The company's current directors have an unprecedented, more than 100 years' of experience between them and are continuously engaging in plans to help the company become global leaders in screw manufacturing.

Kingston Engineering has shown remarkable resilience and responsiveness to change across



the decades. These core values still are still at the forefront of the company's operations and the company remains firmly committed to its home city of Hull, recognising the importance of continued investment.

As to the future, Kingston Engineering will continue to build on its strong foundation of engineering excellence as the company embraces the years ahead.

For more information, please see below:  
T 01482 325676  
[www.kingston-engineering.co.uk](http://www.kingston-engineering.co.uk)



Kingston Engineering is a leading precision engineering company, experts in the manufacture of specialist power screws.

Using materials and specifications to suit customer's exact needs, we produce cutting edge, power screw components with complimentary nuts and fittings. We provide specialist precision engineering services to a diverse range of industries both in the UK and across the world.

With our origins dating back to 1919, Kingston Engineering has an enviable reputation for providing engineering excellence, built on skill, innovation and expertise. Our strength is our focus on providing a solutions-based approach, delivered to the highest quality standards.

With state-of-the-art equipment and facilities, Kingston Engineering are committed to innovation and continued investment in advanced technologies. Combined with expert knowledge and engineering skill, we facilitate great flexibility and rapid response to meet all you specific engineering requirements.



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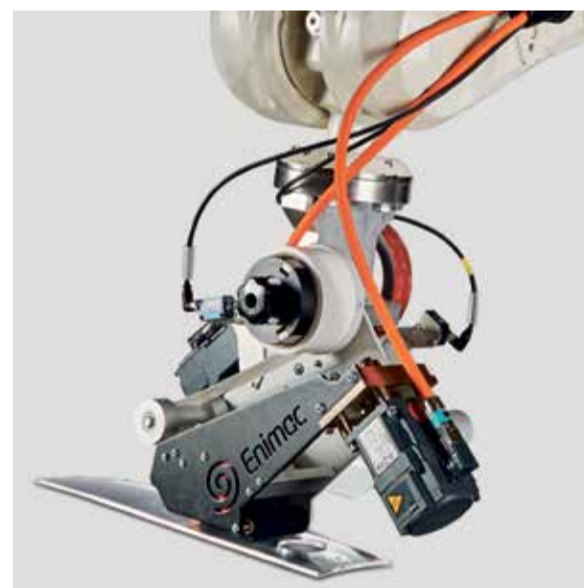
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If not controlled, dust presents a major hazard to users and operators of machinery, to trades in the local vicinity and the general public.

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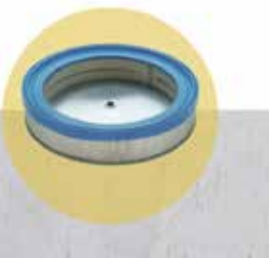
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plant to hand tools, and efficiently defend against exposure to harmful dust.

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**Contact our expert team today and start tackling dust in the safest, most efficient and effective ways on: +44 (0)1522 561460 or visit: <https://www.ppcgroup.co.uk>**

# Heat dissipation in high power, densely packed enclosures



Components within electrical enclosures are getting smaller. With often huge amounts of terminals, wiring, circuit breakers and more packed tightly into trunking against core high power components such as VFD's and PLC's, panels can be crowded resulting in an increased ambient heat load surrounding the enclosure, restricted airflow and a high density of heat producing equipment. This makes it even more important to protect electronic components from the excess heat.

In most circumstances where space is at a premium, the option to add a side mounted air conditioner is simply not an option. So, designers now opt for the build-up, not out mantra to tackle these issues. Natural ventilation is clearly not an adequate approach to these high-density control panels, so a forced ventilation method using inexpensive filter fans is the initial approach. Ensuring that internal temperatures are lower than ambient outside temperatures is the key to ensuring the proper operation of electrical components and effective heat dissipation.

High-power, densely packed control panels need more than a simple filter fan to ensure their cooling reliability. With such a densely packed enclosure, the airflow that the fan can deliver is impaired due component density. A roof exhaust fan can usually provide a much-needed solution to pull hot air out of the enclosure and exhaust out to the atmosphere above when a higher airflow is required. Backward curved fans act as the workhorse within these units, but occasionally the heat load coupled with the high-power nature of the panel mean more than regular top mounted systems are needed.

Higher power, higher pressure and higher airflow backward curved plug fans regularly used in other industrial applications of air movement such as air handling systems, are a much better performance option that can ensure the enormous amount of heat generated is dissipated effectively. For example, a high-performance MCC within the water treatment industry could require a suitable cooling option to handle a 9,400m<sup>3</sup>/hr flow rate at 400 Pascals. Something a regular enclosure cooling solution would not be able to handle. Plug fans such as the GKHM Series from Axair can achieve the duty required with a bottom to top flow of air. The use of high-powered industrial fans in these situations means that designers can incorporate the same larger drives they're used to, ensuring accurate power distribution with the added benefit of being speed controlled.

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# Pumps, Valves & Drainage

# A completely new seal design was the only answer!

The Fife LNG plant at Mossmorran, operated by SHELL, can provide a challenging environment for any high-pressure valve, but when a need arose for a number of ANSI class 300 DBB valves with a high operating temperature range, few manufacturers could meet the requirements.

The requirement for ANSI 300 class, 2" DBB valves suitable for a temperature range from -50°C up to +350°C would force the designers at Oliver Twinsafe to completely rethink the sealing technology used in their double block and bleed ball valves.



An additional layer of complexity, on top of this already challenging application, came with the requirement to meet the demanding MESC 77/300 design validation test that includes fugitive emission testing.

The actual ball sealing was readily achieved as Oliver Twinsafe already manufactures

a wide range of metal seated valves, dispensing with any elastomeric seals completely. But even here special attention was needed in relation to the ball and seat materials, especially the tungsten carbide coating required to ensure long service life. For zero and low through seat leakage requirements, such as this application, porosity control of the Tungsten Carbide coating is of paramount importance. Other sealing sites throughout the valve



would prove more challenging, especially the dynamic sealing requirements for the operating stem used to rotate the ball.

Industry standard stem seals, for more challenging applications usually made from Graphite, PTFE or PEEK, see a rapid degradation in their mechanical and physical properties at temperatures above 180°C. Searching for seals that can function across the required temperature range, Oliver's R&D team turned to one of the world's leading elastomer manufacturers who suggested a high-performance specialist polymer solution usually associated with jet engine technology.

Although now armed with a suitable material, turning this into an effect seal still remained elusive. The Oliver Twinsafe designers and R&D team worked through many traditional configurations, with limited success; the only answer was to design a completely new stem seal arrangement in house.

The decades of knowhow in the Oliver team and a rigorous testing led development process, eventually came up with, a now patented, stem seal design that delivered fugitive emission leak rate B across the full temperature range required also passing the MESC 77/300 design validation test.

A combination of experience, innovative design, class leading R&D, and the drive to meet the most challenging applications makes Oliver Twinsafe one of the world's leading valve manufacturers.

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### Experts in stainless steel fasteners



Precision Technology Supplies (PTS) was established in February 1988 by Stephen Edwards. Based in East Grinstead, West Sussex, PTS is a stockist and distributor of stainless steel fasteners, offering a one stop shop for a wide range of quality products, with fast delivery times and efficient customer service.

"Our whole ethos is about offering a quality product and service to our

customers," said Andy Knight, Sales Director.

With over 30 years of experience in managing a growing number of customer production lines on-site, PTS can be counted on to deliver 'just in time' delivery to their OEM customers in 90 countries across the world. Within the UK, PTS provide numerous variations of Direct Line Feed management to suit individual needs. PTS has the

facilities to plate standard and special screws. One of their most popular is the 'Touch-Dry' Chemi-Black process, also known as Black Oxide. With this method, the finish is so thin that it doesn't affect any dimensional tolerances. In addition to this, PTS also offers finishes in gold, nickel, silver and zinc. What's more, PTS provides patchlocking, ideal for vibration resistance and added torque performance, and offers screw modifications.

PTS always makes sure to exhibit at the bi-annual Fastener Fair in Stuttgart, and were in attendance during the event in March this year. If you would like to find out more information on their full range of products and services, head to their website or use the contact details below.

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### Experts in Thermal Control and Measurement



# LAUDA

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Since 1967, LAUDA has been developing, manufacturing, and supplying reliable precision measuring instruments that have become firmly established worldwide in research, teaching and quality assurance. We are here to assist with your application needs, from measuring instruments for determining the viscosity of polymer solutions, to optical contact angle measuring instruments for measuring the free surface energy and the wetting behaviour, through to classic tensiometers for determining the surface and interfacial tension of oils and surfactants.

For decades, well-known clients from all over the world have come to rely on LAUDA measuring instruments, which bring together precision, reliability, and longevity, along with extensive experience in sales and service to provide the very best levels of product support.

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### Pumps

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## Custom fabrication for the process industries



At ERG Plastic Fabrication Ltd, we specialise in the high quality custom fabrication of process industry vessels and associated components from GRP and composite plastic materials.

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- PPVC – Plasticised Poly Vinyl Chloride
- CPVC – Chlorinated Poly Vinyl Chloride
- PP – Poly Propylene
- HDPE – High-density Polyethylene
- GRP – Glass Reinforced Plastic
- ECTFE – Ethylene Chlorotrifluoroethylene

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# Big benefits from small parts picking in pallet racking



Edward Hutchison, Managing Director of BITO Storage Systems, explains how using pallet racking for small parts storage turns this ubiquitous storage product into a flexible order picking solution.

While constant innovation generates a stream of new intralogistics solutions, 'classic' pallet racking remains the most commonly used storage system. Its relatively low investment costs and flexibility – whether through changing rack configuration, retrofitting special purpose modules or adding extra bays – have made it an indispensable framework for storage and order picking systems.

Of course, many operations use pallet racking as the basis for straightforward storage and retrieval of full pallets, either to fulfil customer orders or as a bulk store for replenishment. But the trend toward shorter product life cycles is increasing SKU numbers. The drive to minimise stock levels for each SKU and improve picking process efficiency to speed up order fulfilment, combined with demands



for Just-in-Time delivery and online retail, is generating a greater need for small parts storage.

This is where the adaptability of pallet racking comes to the fore because small parts picking can be easily integrated within pallet racks. One option is to create small parts pick locations on the reachable ground level, with upper storage levels serving as a buffer store for replenishment. Small parts storage containers will help to store and organise small goods and C-parts – making them available for quick and easy picking.

This will result in a reasonably efficient picking process but ground floor locations within a pallet rack will, of course, be limited. Solutions are therefore required to maximise the available space to create a pick face with sufficient locations for the required SKUs, and enough stock to ensure availability during picks.

Flow shelves can be easily installed into pallet racking to increase the number of pick locations and volume of SKUs located on the ground level pick face. Goods are easily accessible from the front of the racking – the rollers on the flow shelves allow bins and containers containing small items to be picked roll smoothly to the front of the shelf – which makes picking easy. A full

container of parts will roll to the operator each time the empty one at the front removed.

Standard shelving is another option to create flexible small item pick faces within pallet racking. There are several solutions: the first incorporates static shelving at right angles to the racking, with space in between each run to facilitate picking. An alternative option is pull-out mobile shelving that maximises the available space under the racking – though movement of shelving has a negative impact on pick time. A third solution involves static shelving parallel to racking, which makes front items easy to pick. Shelving dividers can be fitted.

Inclined supply shelving within a pallet racking bay will make items clearly visible for picking. Cardboard cartons or plastic bins can be used, though the later option enables preparation in advance at the goods-in area by filling the plastic bin with the items to be picked.

Plastic bins and containers will keep goods protected throughout the intralogistics process and during transport to ensure the quality of products are delivered to the customer in prime condition. It is worth seeking out storage system suppliers that in addition to offering racking, shelving and in flow lanes, also provide a container range comprising a variety of sizes with and a broad choice of accessories. Such a supplier will be able to design the optimum system to fit a given space, maximise the potential for small parts picking and, ultimately, improve fulfilment.

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# Tio Fire Safety delivers UK first with Revolutionary Digital Logbook

The paper fire logbook, a critical link in the safety of millions of UK buildings has been updated and made fit for modern safety, facilities and compliance professionals with the launch of the revolutionary digital fire logbook from Tio Fire Systems.

Cloud-based and permitted under BS5839-1, Tio's true Digital Fire Logbook is priced and designed to replace a range of paper logbooks, and is pre-configured to bring together a huge number of fire, safety and security topics in one place. It is quick to set up and as easy to use as paper, solves a multitude of issues and radically improves safety, relationships and compliance for all parties, including the building occupier, service provider, risk assessor, installer, commissioning engineers and emergency services.

Full of unique features, Tio's logbook includes a compliance task manager that automatically schedules and tracks tasks for service providers, building occupiers and risk assessors;

a customisable guidance module that helps staff complete jobs, linked asset registers and maintenance, variances, false alarm and activation tracker, custom tasks creator; fire visitor logbook; and digital documents storage. All users get a performance and compliance dashboard, permitting oversight and management from a single site to vast portfolios of properties.

Instead of a paper document in a cabinet at the building entrance, a QR code is displayed, giving either open access to the cloud-based records or, where security is a concern, access to all permitted individuals and organisations.

"Today, there is rightly much more focus on correct compliance, from a building occupier, and FM perspective right through to service providers and the logbook is central to this." said Jason Hill, sales manager for Tio Fire Safety. "Paper logbooks are too often, inaccurate, incomplete, duplicated, misplaced or lost, all serious issues that are removed in a click with Tio.



We call our product the only true digital fire logbook because, while other products do call themselves logbooks, they are in reality limited, one-way customer portals or engineer tools, not genuine improvements on the paper logbook that permit contributions from all stakeholders. Our Digital Fire Logbook delivers all of the required information, which can be accessed and entered on

any web-connected device, ensuring 100% compliance and safeguarding the integrity of the information in any fire incident.

"At Tio, we believe that fire safety, compliance and maintenance are better achieved through clear communication and efficient management of tasks, assets and responsibilities across many teams and parties. A digital record is becoming essential for accountability and best practice. The logbook can be used independently, combined with our own asset management suite, or integrated with a growing number of fire and safety software providers."

Tio is a fast-growing fire and safety software provider, created and staffed by UK fire and safety industry experts from estates managers and OEMs to service and maintenance engineers, ensuring its products are fast, efficient and solve customer problems while improving building safety.

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

## Packaging

# Impact sucks your waste away: Automated waste packaging removal solution

With each passing year, the volume of waste plastic film, bags, cling pallet wrap, paper, and other flexible packaging materials, used by large ecommerce companies, fulfilment groups, supermarkets, mega warehouses, and distribution facilities, continues to rise. As consumer habits move away from the high street and towards online shopping and returns, this is only going to continue and contribute to a huge logistical challenge to manage unwanted flexible materials. In-house waste disposal is becoming increasingly important and more reliable and effective solutions for removing, transporting, and recycling waste, are essential.

In many instances, the simple waste bin or

cage is still widely used in these facilities to allow operators to dispose of unwanted mixed packaging during their daily duty. These are then manually moved to central waste collection points or compactors.

Impact Air System's solutions for large ecommerce and fulfilment giants are engineered to allow the operators to hand feed unwanted flexible material such as adhesive tape backing, garment bags, pallet wrapping, tissue paper or other similar waste products directly into a dedicated local suction point, located near the workstation. No more bins clogging up the work area or wasted time walking to and from central compactors or

waste cages. No more slip or trip hazards when waste collects on the floor, significantly reducing labour costs and time. There is also the added benefit of better recycling rates of this material if sorted at the source and bulk compacted or baled, resulting in a significant reduction in handling and transportation costs and treatment fees at the waste site.

Think vacuum cleaner, just on a much larger scale and integrated into the building's structure. Waste is collected from the source of generation, transported through a ductwork system at a high level, freeing up valuable floor space. A fan provides the suction, moving material at high speeds to a central recycling

area for compacting or baling.

Systems can be designed to collect material from multiple workstations simultaneously and transport it long distances to a convenient point, even move the waste to the outside of the building. Each system can be built bespoke to each packing/unpacking scenario depending on the number of workstations, material quantity and space within the facility.



Impact Air Systems works within a wide range of industry sectors, providing air-based technologies to improve productivity, increase recycling rates, reduce manpower, and save money, all whilst fulfilling environmental responsibilities.

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## Automated Packaging Removal Solutions

A huge amount of packaging waste is created during the packing and unpacking process. Our systems suck it away from the working environment and bale it for recycling.



Our systems remove a wide range of flexible packaging...

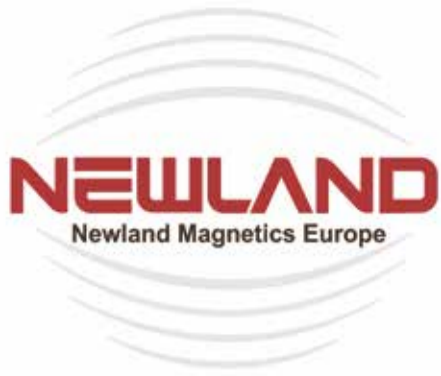
- Plastic bags
- Plastic film/shrink wrap
- Paper seal strips
- Tissue paper
- Void fill packing
- Label backing paper



Impact Air Systems offers various solutions to assist your processes, creating an improved working environment and enhanced productivity. We work with a wide range of industry sectors, providing air-based technologies to improve productivity, increase recycling rates, reduce manpower, and save money, all whilst fulfilling environmental responsibilities.

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## Newland Magnetics Europe SAS

Your total magnetics solution provider

Newland Magnetics Europe with its offices and warehouse located in France, are part of the Ningbo Newland Magnetics group who have been manufacturing Sintered NdFeB magnets and magnetic assemblies for over 15 years. Now with an annual turnover of more than €30M, ISO9001:2015 & IATF 16949:2016 accreditation and production capacity of 1,000tons per year, Newland Magnetics is rapidly becoming one of the largest producers of high-quality NdFeB magnets in China.

Newland Magnetics Europe can provide material data, technical, design assistance and sampling to assist with your application.

Once in production we can also provide a range of stocking options including consignment stocking at our location in France or within your own facility. Newland Magnets also supply Bonded NdFeB, magnetic powder, Alnico, SmCo, Hard ferrite and complete magnetic assemblies.

And have recently added the supply of rare earth metals with a very high purity of up to 4N. including Dysprosium, Neodymium and samarium to are product range.



**Please visit: [www.newlandmagnetics.eu](http://www.newlandmagnetics.eu)**

**Tel: +33 (0)5 45 83 99 59 | Email: [info@newlandmagnetics.eu](mailto:info@newlandmagnetics.eu)**

# Newland Magnetics Europe now supply a range of rare earth metals

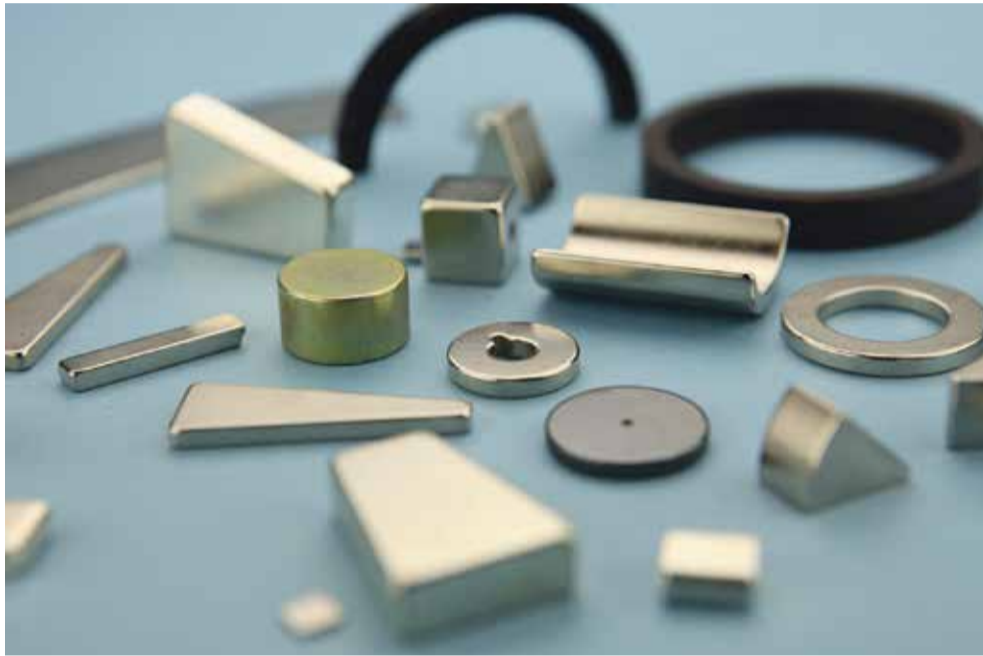
In this issue of Best Practice, we have chosen to recommend Newland Magnetics Europe for its high-quality customer service and resounding technical expertise in delivering complete magnetic components to the industry.

Newland Magnetics Europe is part of the Ningbo Newland Magnetics Group that has been manufacturing Sintered NdFeB magnets and magnetic assemblies for over 12 years. Since its establishment, Newland Magnetics continues to receive an annual turnover of more than €30 million and is ISO9001:2015 and TS16949:2016 accredited. With a production capacity of 1,000 tons per year, the company is fast becoming one of the largest producers of high-quality NdFeB magnets in China.



Newland Magnetics Europe provides material data, technical, design assistance and sampling to assist with client applications. Once in production, the company can also provide a range of stocking options including consignment stocking from its location in France or with the client's facility. Having a European office and warehouse allows the company to offer reliable delivery services, high-quality customer services within European time zones.

"Newland Magnetics Europe is not a distributor. We are the European subsidiary of Ningbo Newland Magnet Corporation Ltd, which gives us access to a number of magnetic specialists allowing us to provide technical data design assistance and pricing much quicker than our competitors. We operate out of our warehouse located in Cognac, France, which enables us to maintain stock in Europe. We can hold



consignment stock in our facility or at the customers location working to agreed call off schedules. Newland Magnetics Europe can supply clients with a wide range of materials including Sintered and Bonded NdFeB magnets, NdFeB Powder, AlNiCo, SmCo and hard ferrite magnets, as well as complete magnetic components assembled in our own factory in Ningbo, which allows us to control the quality of the assembly from magnet production to finished part. Our goal is to build a strong and lasting relationship as our customers reference supplier, whilst offering a premium customer service," stated Forbes Crisell, Managing Director.

Its parent company has been working with a number of organisations to constantly find new innovative products. Recently, it has worked with the Chinese Academy of Sciences, which has enabled Newland Magnetics Europe to begin supplying a range of rare earth metals with a very high purity of up to 4N. "The materials we can supply include Neodymium, Samarium, Aluminium Scandium and Dysprosium. The materials are supplied in ingots or powder form and in a range of packaging to enable easy integration into your production process," said Forbes.

Neodymium magnets (NdFeB) have a high strength and are one of the strongest magnets in the world. Even tiny Neodymium magnets can be effective due to its high strength. This capability makes it very versatile, however, most recently Newland Magnetics Europe has seen the cost of the raw material for NdFeB magnets increase at a fast rate, jumping to over 30% since the



Magnetics Europe is beginning to navigate its way out of such unprecedented times. "After a challenging year we are seeing business return to normal, the requirement for magnetic material is continuing to grow, driven by the increasing demand for electric/hybrid vehicles and the government's commitment to green energy. Also consumer demand for white goods, audio products etc is also pushing the demand for magnetic components." Newland Magnetics Europe is well experienced within the Renewable Energy market already as it manufactures and supplies a large range of quality Neodymium magnets, which are best suited for wind turbines. This invaluable knowledge combined with its employee's expertise enables the company to continue searching for new ways to best serve the industry with its solutions designed to have as little impact on the environment as possible.

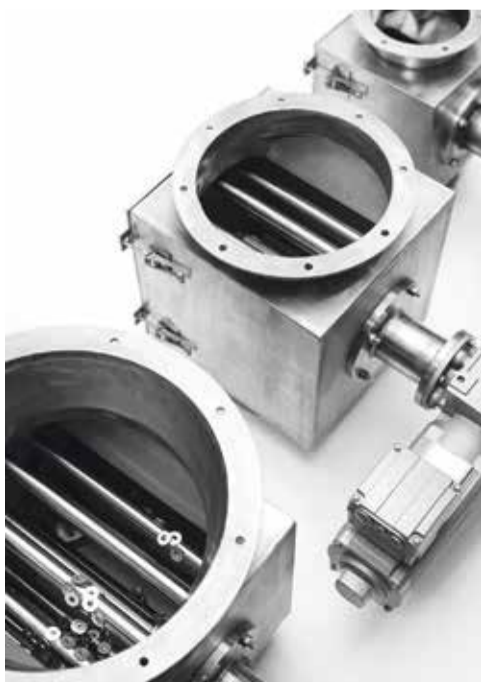
The return of trade shows has been warmly received by many businesses and attendees alike. The opportunity to meet and connect with prospective customers and fellow industry professionals has been sorely missed and Newland Magnetics Europe is excited to get back amongst the mix. "We are finally planning to attend trade shows as we see them as an excellent way of meeting existing and potential new customers. In May 2022, we will be at CWIEME held in Berlin and are looking at other trade shows in the UK and Europe. We will update our website with the details of the additional exhibitions early next year," stated Forbes.

For more information, see below:  
T +33 (0)5 45 83 99 59  
info@newlandmagnetics.eu  
www.newlandmagnetics.eu



beginning of October. Forbes explained, "To help our customers manage this increase in cost we have worked with our engineers to try and find ways to use lower grades of NdFeB where possible and we have also looked at using alternative materials such as samarium cobalt. Our factory also controls the manufacturing process to ensure any waste material is recycled back into production. They are also recycling magnets from obsolete assemblies such as hard drives and motors to reuse the magnetic elements in their new production process."

The impact of COVID-19 has been felt by many businesses all over the world. However, with restrictions slowly easing Newland



# Revolutionary new sprayer instantly turns salty water into powerful disinfectant

A unique handheld sprayer has been launched which turns mildly salty tap water into a powerful disinfectant that kills 99.99% of germs, bacteria and viruses, including COVID-19.

The easy-HClO uses an electrochemical reaction to instantly convert tap water containing just 0.25% salt into hypochlorous acid, a powerful disinfectant which the human body itself produces to fight infection.

The easy-HClO has been designed by Vapourtec, a leading manufacturer of flow chemistry equipment used throughout research and the chemicals industry.

“Hypochlorous acid is a powerful disinfectant which our bodies already use to kill germs. The easy-HClO instantly produces it from nothing more than tap water and salt, eradicating the need for costly disinfectant” says Duncan Guthrie, Vapourtec’s founder and Managing Director.

Hypochlorous acid is a disinfectant which occurs naturally in the blood stream of all mammals. Highly effective at killing bacteria, fungi and viruses, and neutralising odours, it is also one of the only disinfectant agents which is non-toxic to humans.



It is used commercially as a powerful disinfectant but has a relatively short shelf life when stored.

The new easy-HClO is a handheld sprayer powered by a rechargeable lithium battery and features a 2-litre reservoir which is filled with tap water and just 5 grams of salt.

Pulling the trigger produces an instant spray of hypochlorous acid solution, the concentration of which can be controlled depending on the intensity of disinfection needed, making it suitable for a wide range of applications.

The spray rapidly kills germs and viruses, yet is safe to use on solid and fabric surfaces and around people and pets.

The battery has a 90-minute run time and each 2 litres of water produces around 25 minutes of continuous spraying, making the device ideal for disinfecting larger areas like offices, schools, health settings and public transport.

However, it's the cost saving and convenience which the creators believe will appeal most to potential users. “The easy-HClO means there is no need to buy, store and carry around traditional disinfectant or



bleach. It can cost up to 96% less to use than NHS-grade disinfectants and helps cleaning and facilities management businesses transition to a zero carbon future,” explained Vapourtec MD Duncan Guthrie.

With commercial disinfectant costing between £0.75 and £4 per litre, the easy-HClO requires just a few pence worth of tap water and 5 grams of salt each time it is refilled.

The device weighs just 3kg when empty and features a shoulder strap for carrying and operation. It dispenses the fine disinfectant spray at a rate of around 5 litres per hour for commercial and professional use.

“The device has some sound environmental benefits too as the disinfectant leaves no harmful residue and it eradicates the need for single-use plastic disinfectant bottles.” adds Duncan.

The unique micro-Ion flow reactor within the device is protected by a patent and the easy-HClO is now available to buy through Vapourtec and online.

Contact [www.easy-hclo.com](http://www.easy-hclo.com)

## Force Measurement Solutions

# Interface Force Measurements: Force, Torque and Pressure Measurement Specialists

Interface Force Measurements have been supporting UK Industry with the highest quality force, torque and pressure sensors for more than 25 years.



You can benefit from our experience whenever you contact us about using our force, torque and pressure sensors in your next application. Experience gained helping product designers, R&D and production engineers across the aerospace, automotive, oil/gas and renewable energy, food and beverage, engineering, furniture and general industrial sectors.

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- ▲ **DDM:** Miniature pressure sensors for automotive R&D
- ▲ **XSensor:** Pressure mapping systems for bed/ mattress, seating, automotive R&D and static or dynamic tire testing applications and

high-speed impact testing for seats, airbags, helmet and protective sports equipment

We also offer wired, wireless, single and multi-channel amplifiers, electronics, displays and software to help with your data collection needs that will work perfectly with our or other manufacturer's sensors.

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## TÜV Rheinland issues first UKCA certificate to Schmersal

As a testing body with official recognition by the UK Government's Department for Business, Energy & Industrial Strategy (BEIS), TÜV Rheinland has issued the first certificate for the testing of AZ300, AZM300 and AZM300-AS solenoid interlocks made by Schmersal in accordance with UKCA requirements.

UKCA stands for United Kingdom Conformity Assessment. Since the UK's departure from the European Union (Brexit), this new marking is required for products sold in England, Wales and Scotland. The UKCA marking replaces the CE marking used in the EU single market, although the latter is still accepted for registration on the British market until the end of 2022. "We were consciously aware of the significance of the British market



for many of our customers and of the need to be able to offer rapid and reliable support with the new regulatory requirements as an official testing body," explains Thomas Steffens, head of the testing and certification body 'Funktionale Sicherheit & Cybersecurity' at TÜV Rheinland Industrie Service GmbH.

### Testing for Schmersal for more than 20 years

TÜV Rheinland has been testing safety switchgear devices and systems made by the international Schmersal Group, based in Wuppertal, for more than 20 years. The new UKCA certification involves not inconsiderable outlay for product manufacturers.



With the team at Schmersal, TÜV Rheinland was able to undertake the recognition process and conformity assessment for UKCA certification of the AZ300, AZM300 and AZM300-AS solenoid interlocks promptly and successfully.

Contact Steve Watkins, Schmersal UK Limited, T 01684 571980 swatkins@schmersal.com www.schmersal.co.uk

## New E-Commerce site from Interface Force Measurements

Interface Force Measurements, suppliers of the popular and whisper-quiet 1,200 precision series load cells are pleased to announce the launch of a brand new E-commerce website where you'll be able to order your load buttons, in-line load cells and mini s-beam load cells.

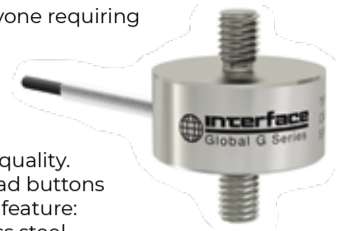
Going live on the 1st of April, <https://store.interfaceforce.co.uk> will feature the Interface G-Series of load buttons, in-line load cells and mini S-beam load cells. The Interface G-series has all the quality, reliability and performance you'd expect from a force transducer bearing the Interface name, but at very competitive prices.

<https://store.interfaceforce.co.uk> will offer our G-Series load cells on short lead times with next business day delivery for small quantities being the aim. Interface load cells at competitive prices with all the convenience purchasing online offers, what's not to like?

The Interface G-Series was launched around one year ago, becoming a popular product range with students, industrial engineers,

OEMs and anyone requiring a small form force sensor offering accuracy, repeatability and Interface quality. All G-Series load buttons and load cells feature:

- ▲ Full stainless steel construction
- ▲ Individual calibration certificates to NIST traceable standards
- ▲ High output at 2mV/V
- ▲ Capacities from 4.5newtons to 50kN.



If you are interested in placing volume orders or have an OEM application that G-Series products might be suitable for, please contact us directly.

Contact Interface Force Measurements Ltd, T 01344 776666 [info@interfaceforce.co.uk](mailto:info@interfaceforce.co.uk) [www.interfaceforce.co.uk](http://www.interfaceforce.co.uk) E-Commerce: [store.interfaceforce.co.uk](https://store.interfaceforce.co.uk)

## Automotive

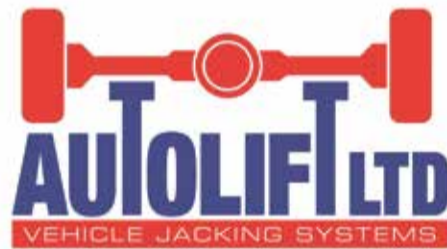
## Autolift Ltd launches new Twin Ram Pit Jack

Autolift Ltd specialises in the design and manufacture of commercial vehicle lifting solutions including pit jacks, jacking systems and jacking beams. Autolift Ltd has over two decades of designing and manufacturing reliable HGV vehicle pit jacks from 13 tonne jacks through to 40 tonne models.

Named as one of the UK's major suppliers of pit jacks, the company has established an unrivalled reputation in providing safe, efficient and cost-effective lifting solutions to all truck, bus and coach garages. Its reputation of its jacks and performance is globally known amongst fellow industry professionals and customers across a range of sectors.

British born and bred, Autolift Ltd is proud to use UK suppliers and manufactures a range of pit jacks, free standing jacking beams and component parts, all out of its manufacturing plant based here in the UK. Giving customers the option of either a manual or air assisted product, Autolift Ltd's entire range of pit and garage equipment is robust, safe and reliable providing a comprehensive solution to all vehicle lift, jacking beam and pit jack requirements.

From start to finish, Autolift Ltd is consistent and



professional in providing a full turnkey service of the highest standard. The company has been on the receiving end of many glowing reviews from past and current customers, 'we have used Autolift for many years and we have found their product range to be excellent,' 'their products are second to none. It's great to see industrial products that are manufactured here in the UK.'

Headquartered in Coventry, Autolift Ltd's services spread nationwide, helping your company move to the next level. Its vast range of jacks include



single ram pit jacks, floor pit jacks, transmission jacks, spreader beams, twin ram pit jacks, as well as further accessories and spare parts. In support of these products, Autolift Ltd also provides an after-sale service and repair of pit jacks. In the case of a pit jack being sent back to the workshop, to which Autolift Ltd can arrange a collection by pallet courier if required, it then completes an assessment on the jack and deliver a detailed recommendation of the best solution back to the customer before any work is carried out.

One latest product innovation sees a new 40 Tonne Air Powered Twin Ram Pit Jack added to



the range. Autolift Ltd have streamlined the design and improved the overall performance of the jack with updated internal components using the latest in seal technology advancements. As with all Autolift twin ram pit jacks, the 40T model comes with a triple-layer of safety features as standard; a safety lowering valve, anti-burst valves in both cylinders and ram lock-off handles which prevent accidental lowering. They also offer Security struts, which can be fitted to all their jacks, to offer an extra layer of security to the user if requested.

Autolift's jacks are powered by a high output air pump to the cylinders & thus raising the rams to their full 400mm stroke in 45-60 seconds for 20 Tonne models & 60-75 seconds for their new 40 Tonne model. Furthermore, Autolift use a unique 'air-over-oil' design in their jacks which not only increases the performance of the jack but also improves the life-span of the chrome cylinders, compared to other manufacturers' designs, by keeping them emersed in oil when not in use.

All jacks are designed and manufactured in accordance with Machinery Directive 98/37/EC and engineering standard: BS EN 1494:2001 (Materials handling equipment), the unit complies with EC requirements and is covered by a five-year warranty. Each unit is fully tested, marked with serial number and supplied with a test certificate.

For more information, please see below: T 02476 613223 [info@autolift.co.uk](mailto:info@autolift.co.uk) [www.autolift.co.uk](http://www.autolift.co.uk)

## MARKET LEADING PRODUCTS TO HELP TAKE YOUR COMPANY TO THE NEXT LEVEL

We have over 2 decades of experience in the designing and manufacturing of reliable HGV vehicle lifting equipment. Our jacks, are available in various lifting capacities; 13, 15, 20, 30 and 40 Tonne models. As one of the major UK suppliers of pit jacks, we have established an unrivalled reputation, providing safe, efficient and cost-effective lifting solutions to the commercial vehicle sector. The reputation of our jacks and their performance in garages around the world has led to the Autolift name being synonymous with quality and reliability.

We manufacture a range of pit jacks, free standing jacking beams & component parts all at our UK plant and covered by a 5 year warranty. All our jacks come with several built-in safety features to ensure the end user is able to work with minimal risk to themselves while not hampering performance and productivity. All our pit and garage equipment is robust, safe and reliable, providing a comprehensive solution to all vehicle lift, jacking beam and pit jack requirements.



SPREADER BEAM



TRANSMISSION JACK



FLOOR JACK



TWIN RAM PIT JACK



SINGLE RAM JACK



ACCESSORIES



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SHIP AT YOUR OWN RISK SHIP AT YOUR OWN RISK



**Did you know that a damaged product can cost your business up to 17 times more than the original cost of shipping it?**



This is extremely costly - and the impact goes beyond just financial loss.

Damaged items can mean discounting the product or refunding your customer completely. But more than that, it can often result in loss of repeat business.

With over 40 years experience, packaging expert 5 Star Cases has created a new range of packing crates that provide a versatile method of storing and transporting a vast range of products that have uses across multiple industries and applications, from engineering and motor racing, to medical and catering equipment.

In fact, with an optional foam lining for additional equipment protection, 5 Star crates can be used to transport almost anything, anywhere, safely and securely.

**Why let goods 'travel at their own risk' when they can travel 5 Star?**

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01945 427000

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SHIP AT YOUR OWN RISK SHIP AT YOUR OWN RISK



# Schmersal launches respiratory protection mask to FFP2 standard

**Reusable protective equipment for infection prevention and occupational safety**

The Schmersal Group has developed a particle-filtering half-face mask without exhalation valve. The reusable SPM100 respiratory protection mask satisfies the requirements of EN 149:2001+A1+2009 FFP2 and is available for delivery as of now. The mask is designed to reliably protect medical staff and employees at other exposed work locations, for example dusty work environments, from solid and liquid aerosols.

The mask body in the SPM100 (Schmersal Protection Mask) is made from medical-grade, biocompatible polypropylene (PP) and is reusable. The mask seal is created with a silicone profile that can be removed easily for regular disinfection and then quickly be reinserted into the mask.

The filter caps can be removed with ease, thus offering easy filter changes. All reusable parts of the mask are made from resistant materials that are suitable for cleaning and disinfection.

The SPM100 respiratory protection mask is used with an FFP2 filter insert, PPE category III, in order to prevent the inhalation and/or transfer of particles, droplets and aerosols. This filter unit filters certain particles from the air inhaled by the wearer within the specified limit values of the filter used.

The SPM100 is a respiratory protection mask with no exhalation valve. Respiratory protection masks without an exhalation valve protect the wearer and prevent the wearer from contaminating his or her surroundings

with exhaled droplets. In addition, the mask also comprises skin-compatible components and offers maximum comfort for the wearer.

"In developing the SPM100 respiratory protection mask, we made full use of our many years of experience in safety technology and occupational safety. We want to help ensure that even in this difficult time of the coronavirus people can work safely and stay healthy," explains Matthias Banaszek, Project Manager for Strategic Organisation Development.

**Other products and services for infection prevention**

In addition to the SPM100 respiratory protection mask, the Schmersal Group offers other products and services to help protect employees from coronavirus infection in the working environment. This includes 'Schmersal Access Control' (SAC-IO-20), which enables digital organisation of access management by limiting visitors, e.g. in retail settings. The system is an intuitive traffic light system with integrated counter that automatically



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counts the number of visitors entering a shop or other facility.

In addition, tec.nicum, Schmersal's service division, offers execution and documentation of 'Risk assessments for infection prevention' for businesses in all industries – a legal requirement for employers under industrial health and safety regulation and fully independent of a current coronavirus pandemic.

Contact Steve Watkins,  
 T 01684 571980  
[swatkins@schmersal.com](mailto:swatkins@schmersal.com)  
[www.schmersal.co.uk](http://www.schmersal.co.uk)

Visit [www.cleanairenvironmental.co.uk](http://www.cleanairenvironmental.co.uk)

Contact Mark Ashby  
[mashby@cleanairenvironmental.co.uk](mailto:mashby@cleanairenvironmental.co.uk)

# Taking the fear out of self-employment with technology

With working practices and attitudes to employment changing following the pandemic, self-employment technology specialist, Wise, recently took a deep dive into uncovering the UK's views on work and self-employment and the results were startling.

For instance: 37% of people were hesitant towards self-employment due to worries about being unable to pay their bills. However, 35% of younger people are aiming to start their own business as soon as possible, with 30% of people saying that being your own boss is the only way to achieve true fulfilment.

Being your own boss can seem daunting for those who have never handled their own tax before or had to deal with managing different levels of



income from month to month. Wise works with over 250 UK logistic firms and over 50,000 subcontractors with its technology easing the fears around this type of work whilst helping both people and businesses to save time and money.

Historically, self-employed subcontractors, along with all the responsibilities of their role, have managed their own taxes, invoices and completing a self-assessment tax return. Typically, this has caused some business owners stress, particularly when it comes to dealing with HMRC, and many have opted to bring in costly high-street accountants to ease this burden. However, by utilising the new Wise platform, subcontractors have access to a partner accountancy service and a range of support that aims to help them save time, money and stress.

Simon Hills, Chief Executive Officer at Wise, said, "Self-employed business



owners are a vital part of the UK economy and they have certainly been hit harder than most over the last couple of years. We're committed to innovating and creating truly revolutionary technology that not only supports subcontractors who are currently within this sector, but also reduces the fears

and barriers that our independent research shows are still putting some people off this type of work."

To find out more about how Wise is improving the entire self-employment experience within logistics, head to: [www.withwise.com](http://www.withwise.com)



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# Bradshaw EV release two industry leading electric vehicles

Established in 1976, Bradshaw Electric Vehicles (Bradshaw) have been manufacturing and distributing electric vehicles, producing some of the safest, most robust and versatile products. As the UK's largest manufacturer of electric vehicles for industry, Bradshaw specialises in delivering electric transport solutions that help reduce costs and improve efficiency.

"Our range includes electric road vehicles, utility vehicles, people carriers, tow tractors, load carriers, walkalong tugs and bin trailers which are supplied to companies for a variety of applications including, waste movement, manufacturing and line feed, logistics and distribution, hospitals, railways



and airports. If a client has the need to transport goods, then we can supply a tailor-made vehicle to suit their requirements," stated Ramsy Labassi, Marketing Manager.

A note-worthy addition within their range is their third generation T800, the leading four-wheel, 8-tonne tow tractor on the market. Providing an endless number of capabilities, the T800 is very popular and used for baggage towing in airports and many other applications. Some T800 product features include electronic steering, enhanced suspension, a new front axle, larger wheels, new brakes, and a redesigned cab.

Ramsy commented, "We have replaced hydraulic steering with electronic power steering, the leaf spring suspension has been re-configured, and we have also added a few aesthetic changes such as a soft-touch panel and instruments on the inside of the vehicle. It comes with a range of cab options and is the most robust, reliable and durable machine we have built that uses a low maintenance AC traction motor for more power whilst reducing costs and downtime."

In other news, The Goupil G6, a 100% electrical utility vehicle is now available in the UK. The new addition expands

the Goupil family, making the G6 a credible, environmental and economical solution for the sub-3,500kg market. The Goupil G6 boasts generous payloads and volume, a novel design that incorporates unprecedented body mounting options, and an unrivalled unique cab and driving position that is the best on the market for ergonomics and comfort.

"The Goupil G6 will be an instrumental part of our growth in 2022 and will have more options added in the year. We are also excited to release the PT2500, which



is a fully electric, remote-controlled pedestrian-operated tow tractor designed for moving articulated lorry trailers up to 25 tonnes. It's an ideal partner for manufacturing and distribution applications or anyone working in logistics and distribution," said Ramsy.

Bradshaw's vast customer base has expanded immensely over the years by



the increasing investment, innovation and commitment given to producing a strong product portfolio and a trustworthy service.

Ramsy commented, "We offer a first-class service, aiming to match the right vehicles to the right job. We are the authorised dealer for Club Car and offer many other services such as leasing or hire of our vehicles. We strive to deliver the best after-sales service possible from quickly dispatching spare parts to offering on-going maintenance contracts to keep customers vehicles running smoothly."

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# UNISIG DEEP HOLE DRILLING SYSTEMS: PERFECTION IS NEVER AN ACCIDENT

UNISIG produces deep hole drilling machines that are used around the world by nearly every industry imaginable – and at UNISIG, striving for perfection has never been an accident. To secure long-term success, the company decided to further invest in machining its own precision parts rather than subcontracting components, as some of the most critical parts they produced have tolerances and complexity that cannot be made by most machine shops.



To machine their own parts while continuing to grow and develop new products, UNISIG embarked on a new approach to machining which would allow for industry-leading CNC machine tool accuracy and performance to be coupled with new technology that would ultimately eliminate manual intervention in machining that prevails in many shops.

“The deliberate connection between engineering, design, and machining improves our product. Our ability to rely on very high accuracy and productivity from our internal machining capacity allows UNISIG to provide more advanced solutions and value to its customers,” quoted Anthony Fetting, CEO of UNISIG.

Automated machining was the goal, which required a change in thinking by the team’s engineers, programmers, and machinists. To

harness this new direction, UNISIG put in the time and energy to secure the best manufacturing resources available, including several Okuma machine tools.

To begin, UNISIG devised a plan to combine modular fixturing, offline tool setup, and full simulation of the machine, workpiece, and tools to provide a platform of innovation within their machine shop. The team’s intent was to radically improve spindle uptime and exploit the full potential of automated CNC machining, even when the batch size would be only one part.

The first step of the UNISIG strategy was to move away from classic CNC boring mills and adopt the higher productivity potential of CNC horizontal machining centres with twin pallets. After consulting with credible industry sources and leveraging their

internal team’s knowledge, the MB-10000H horizontal machining centre from Okuma was selected for medium-sized, high-accuracy part machining.

One of the most important factors in this capital investment was the need to trust the machine accuracy enough to program from its centre of rotation and let the machine run without stopping and manually verifying the machining process many times during the cycle. The Okuma MB-10000H installation was a success and reinforced UNISIG’s wisdom to focus on automated machining – and the benefits were so extraordinary that UNISIG continued to look to additional Okuma solutions to bring its strategic vision to life.



UNISIG’s next target was large-part machining. Previously, to hold the finished machine tolerances, extensive hand scraping was necessary which added a lot of time and expense to produce these machines. UNISIG established a set of machining accuracy parameters that would eliminate much of this handwork to achieve tolerances.

Working directly with the local distributor, Morris Midwest, UNISIG was able to engage with Okuma America and Okuma Corporation’s technical leadership to tailor the specification of an Okuma MCR-A5CII 35x10 double

column machine for the exacting geometry and overall volumetric accuracy needed.

The collective Okuma team ensured the MCR-A5CII machine tool specifications were defined and perfect for UNISIG’s application. A quick-change fixture system was developed by UNISIG to allow two parts up to 3 m (10 ft) long to be machined simultaneously and removed for setup offline. The results after installation were very impressive, allowing lights-out automatic machining of parts previously not possible for UNISIG to manufacture.

With two machines from Okuma running and performing to expectations, one more opportunity identified for upgrade resulted in the new MA-12500 machine. The OSP Control common to these three Okuma machines was a big value to the programming and simulation group at UNISIG. “This baseline trust in Okuma is what allows UNISIG to excel at advanced manufacturing,” said Mr. Fetting.

In addition to offline tool presetting and modular workholding on all machines, UNISIG uses a variety of Okuma’s Partners in THINC suppliers including: Mastercam,

Vericut® and Renishaw. Using a layered approach to technology and understanding the benefits of eliminating the gaps between engineering, design, and manufacturing, UNISIG has differentiated itself as a machine tool builder. The company’s long history of achievement is one Okuma and Morris Midwest are proud to be a part of – especially in helping UNISIG achieve their goal of capitalising on the full potential of automated machining.



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