



Products & Services

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The Paper Industry Technical Association (PITA) is an independent organisation which operates for the general benefit of its members – both individual and corporate – dedicated to promoting and improving the technical and scientific knowledge of those working in the UK pulp and paper industry. Formed in 1960, it serves the Industry, both manufacturers and suppliers, by providing a forum for members to meet and network; it organises visits, conferences and training seminars that cover all aspects of papermaking science. It also publishes the prestigious journal *Paper Technology International* and the *PITA Annual Review*, both sent free to members, and a range of other technical publications which include conference proceedings and the acclaimed *Essential Guide to Aqueous Coating*.



ABB OFFERS A NEW APPLICATION TO HELP CUSTOMERS WORK SMARTER NOT HARDER

Pioneering digital technology company ABB has a new application that will help customers achieve higher levels of productivity and improve economic return to meet their performance and quality objectives.

The Asset Management Application is a digital solution that enables process industries to manage and protect their assets through predictive and preventative maintenance to avoid costly failures. Cost effective management becomes a reality through the optimisation of workflows and in-depth analysis of results, offering efficient asset management strategies that enable smarter, more informed decisions.

The application offers industrial plants real-time condition monitoring of equipment, connected devices and field devices to reduce unscheduled downtime, prevents equipment failures and optimises operation and maintenance of the installed base. ABB enables predictive and preventative maintenance by diagnosing asset conditions and predicting looming equipment problems on premise and, for the first time, at an enterprise's global level. Moreover, the application enables the usage of advanced analytical methods such as machine learning and artificial intelligence to analyse equipment problems and optimise the performance.

As geographically dispersed production sites constantly grow, global connectivity, helped by advanced cloud technologies, is an important feature. It brings added benefits of wider collaboration across teams, management and operations.

ABB Ability™ Edge ensures a secure connection between assets and the cloud, efficiently separating IT and OT. Edge technology can also act as a platform for applications to give customers the option to operate solely on premise rather than in the cloud.

In the case of a problem, users can make informed and quick decisions, based on clear recommendations. Actions range from immediate attention to scheduling maintenance in the near future and the identification of issues that can be resolved during its routine maintenance of equipment. The application is available for basic instrumentation equipment across all processing and manufacturing industries, for detailed assets such as motor transformers or circuit breakers and complex electrical or rotating equipment, and mechanical handling equipment such as conveyor belts. By providing a precise cause of any equipment problems, the application also enables speedy identification and recovery, further reducing costs.

“One of our priorities when developing the Asset Management App was to provide customers with complete control over knowledge of the process. In doing so we will, for the first time, give them the flexibility to quickly create their own asset models from the intelligence they gather.” says Neil Shah, Global Product Manager for Device Management & Asset Optimization at ABB. “Asset analysis, including root-cause analysis, is another key factor in helping customers to remain competitive in today's industrial markets.”



The Asset Management Application will be launched in the second half of 2019. It sits within ABB Ability™, ABB's digital offering, which includes more than 210 Industrial Internet solutions and an Industrial Internet technology platform and cloud infrastructure. Drawing on insights across 20 plus industries and more than 40 years of experience in digital technology, ABB Ability™ helps customers to develop new processes and advance existing processes by providing insights and by optimising planning and controlling for real-time operations. The results can flow into control systems such as ABB Ability™ System 800xA and ABB Ability™ Symphony Plus to improve key performance metrics of plants and assets.

With over 70 million connected devices, more than 70,000 digital control systems and 6,000 enterprise software solutions, ABB is a trusted leader in creating digital solutions for customers in the industrial space.

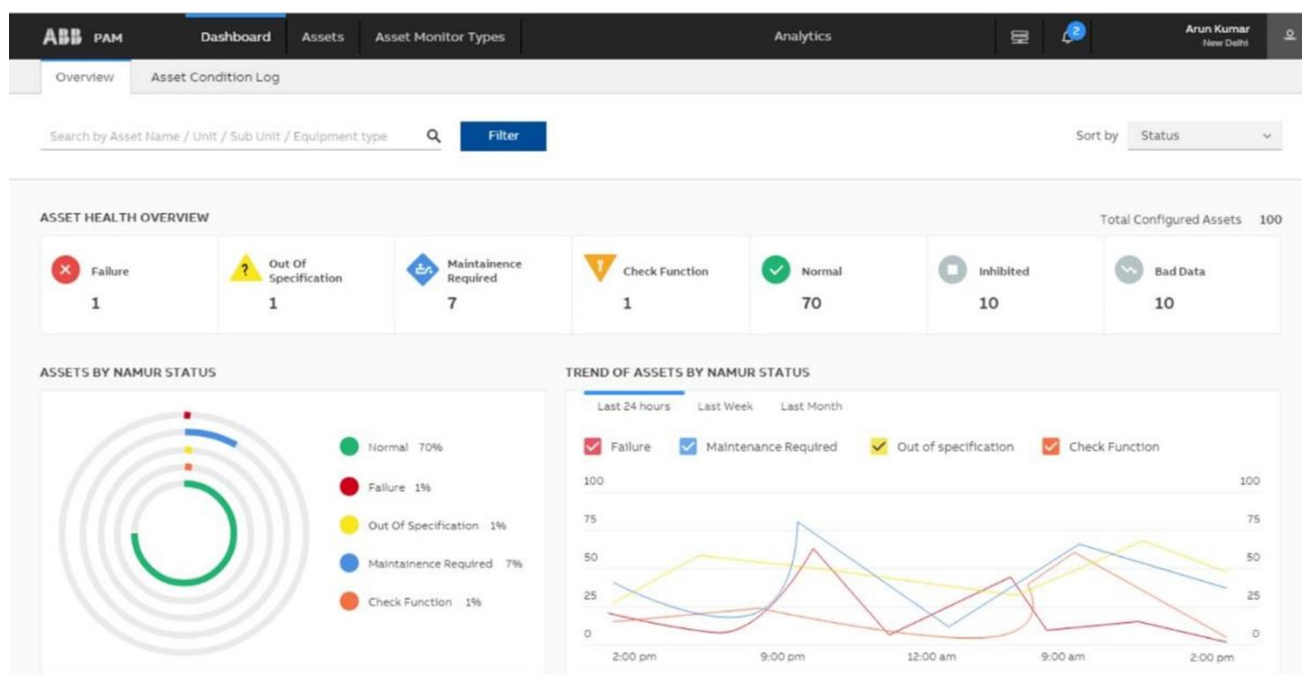


ABB UNVEILS LATEST UPGRADE TO DCS FREELANCE

Security is a top priority in the age of Industry 4.0 and enhanced security is one of a range of new features and benefits included in Freelance 2019.

Originally launched in 1994, Freelance is ABB's cost-effective distributed control system (DCS) solution for process industries. It combines the advantages of a DCS with Programmable Logic Controllers (PLC) and is characterised by ease of use, scalability, flexibility and reliability. Freelance 2019 is the latest version of the DCS.

The Freelance suite of solutions comprises Freelance Operations for use at operator level, a scalable process level option, and Freelance Engineering which is used to configure and commission the system including the operator interface. The new version provides significant improvements throughout the complete system.

New features and benefits of Freelance 2019

Improved usability: Freelance 2019 provides a significant increase in efficiency and usability for its Operations and Engineering solution by adding advanced navigation, filter and sort functionality. The user experience has been improved with a new, very modern UI.

Scalable: A new controller, PM 904F, expands the Freelance AC 900F controller family in the upper range, supporting four communication interfaces. It also provides more application memory and enables the reservation of specific memory. As for all Freelance controllers user applications are 100% runtime-compatible which also enables smooth upgrade opportunities.

More connectivity: Up to four monitors can now be connected to a single operator workplace. The available display types per monitor, as well as the arrangements of the monitors, are easily configured and fulfil the typical requirements for occupational safety and operator effectiveness.

Enhanced security: Freelance provides an additional alternative to its user management capabilities known as "Security Lock" by a solution called "Extended User Management". This new option makes use of Windows user accounts, supporting both local and domain accounts. As a result typical requests for options such as central password management, rules for password complexity, or password aging can be fulfilled.





Compatibility: Freelance 2019 can run on Windows 10 and Windows 7 in the same system architecture. This allows customers to do a step-wise upgrade to modern IT infrastructure which helps in reducing maintenance costs.

“Being user-friendly, cost-effective and robust has already made Freelance a popular choice for businesses of process industries in more than 100 countries worldwide. Its flexibility and extensive reach are demonstrated by the 1000s of installations of the solution in industries,” said Ingo Mauritz, Global Product Line Manager for Freelance at ABB.

“Wacker Chemie in Germany uses Freelance with Freelance Operations as the tool to efficiently operate and monitor their ketene plant. In China, Freelance provided uniform configuration of field devices online at YunNan HongTa DianXI Cement obtaining the maximum automation with minimum engineering. Freelance was also integral to the modernisation of Glinojek, a leading European sugar producer and was at the centre of one of the most sophisticated reverse osmosis desalination projects in the Middle East,” added Mauritz.

As in earlier versions of Freelance customers have the option of staying automatically up-to-date by subscribing to the Automation Sentinel life cycle program by, for example, providing automatic cyber security patches.

Available in a wide range of languages, Freelance takes five minutes to install on any standard computer and can easily be self-learned. The intuitive operator interface enables easy operation and diagnosis of the entire system and being just one file it is easy to back up as the entire application fits on a small memory stick.



ABB ACS6080 DRIVE FOR HIGH PERFORMANCE MOTOR CONTROL

ABB has expanded its all-compatible drives offering to include the ACS6080 medium voltage (MV) drive for critical applications. The new drive introduces a breakthrough control technology, developed by ABB, that brings high performance motor control to demanding processes used in industries such as mining, metals and marine. The drive also enables plants to operate more efficiently and produce higher quality output.

Traditionally, achieving high dynamic performance and excellent power quality required hardware with multiple devices. However, this increase in components could decrease reliability of the operation. The ACS6080 drive maintains the same highly reliable hardware as its predecessor, the ACS6000, and includes the new advanced control capability, known as Model Predictive Pulse Pattern Control (MP3C).

ABB's MP3C technology combines model predictive control with optimised pulse pattern to modulate the semiconductors. This means that at every point in time this control can anticipate the best motor operation point by finding the perfect compromise between dynamics, efficiency and harmonic distortion.

The new control enables system integrators and plant operators to maintain stability, while reducing investment and operational costs by using a smaller drive or a smaller motor. The increased power capability of the ACS6080's single power module reduces the footprint of the drive by up to 20 percent. The new control helps to reduce operational cost in two ways: it is more energy efficient than other control solutions, and maintenance costs are reduced as there is less mechanical and thermal stress on the equipment leading to longer lifetime of the components.

The ACS6080 provides extensive input/output connectivity and supports all major fieldbus protocols, making it easy to integrate into existing systems and processes. It is compatible with ABB Ability™ condition monitoring services, allowing customers to obtain real-time data about the status and performance of the monitored equipment from any location.

"The ACS6080 MV drive provides benefits which help deliver exceptional value to industrial processes in terms of product quality, uptime, safety and energy efficiency," says Mark Land, Manager – MV Drives, ABB Limited.





The new drive delivers a high level of safety for people and equipment via an arc-resistant design and certified functional safety features. The ACS6080 is built on ABB's common drive architecture, enabling a faster and harmonised start-up, commissioning and monitoring. Once a user has learned how to use one all-compatible drive, they can then operate any other drive in ABB's all-compatible offering.

The modular design of the ACS6080 enables it to be configured for single or multi-motor applications. It controls all types of AC motors including induction, synchronous and permanent magnet, without the need for different software. The ACS6080 can be tailored to any heavy industrial application, and has a power range from five megawatt (MW) to 36 MW.

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ABB LAUNCHES UK-WIDE VARIABLE SPEED DRIVES HIRE FLEET

Users of low voltage variable speed drives (VSD) can now keep processes running, test new applications or prove predicted energy savings before purchase, through a leasing program provided by the ABB authorised value provider network.

ABB has invested significantly in the rollout of a variable speed drive hire fleet across the United Kingdom and Ireland, with units extending from 3 kW up to several megawatts. Hire drives can be delivered the same day, and installed and commissioned within a matter of hours by engineers from one of twelve ABB authorised value providers. With a fast response, 24 hours a day, all year round, no other drive hire scheme offers such wide geographical coverage across the UK and Ireland.

Customers can choose from a wide range of drives, including the ABB general purpose drive, ABB machinery drive and ABB industrial drive. All are fully maintained and pre-loaded with the latest firmware.

There are four scenarios where hiring a drive can deliver customer benefits:

Emergency or unexpected failure: Hiring a drive can be a quick, low cost way of keeping critical processes running in the event of a breakdown. It reduces the cost of downtime whilst providing time to repair the failed equipment or to source and allocate capital for a permanent replacement.

Temporary capacity: Hire drives can be used for short-term, semi-permanent or seasonal applications, allowing companies to ramp process capacity up or down with ease, while eliminating storage and maintenance costs.

Prove predicted energy savings: If a variable speed application has not previously used a drive, or if an existing drive is due for upgrade, hiring can be a low cost way to prove predicted energy savings before purchase and in a real environment. This can help customers to make more informed buying decisions.

Equipment testing: Testing houses may be called upon to test variable speed applications, but may not have a suitable drive with which to pair it in-house. Hiring a drive can allow testing to get underway at short notice and low cost.

Drives are hired at a fixed daily rate (minimum hire period may apply), which includes all installation and maintenance for the duration of the hire. The ABB authorised value provider network can be contacted by telephone on 0333 005 7001, or via www.new.abb.com/uk/drives-for-hire.

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MAJOR UPGRADE OF ABB ABILITY™ SYSTEM 800xA

The new release of ABB's Distributed Control System (DCS) 800xA 6.1 brings significant value to capital projects with more flexible and efficient engineering.

ABB Ability™ System 800xA 6.1 provides significant innovations to the entire DCS architecture and introduces technologies that shorten timescales for project execution, reduce the impact of late changes and enhance the scalability of the system, bringing substantial value to capital projects. This is achieved by the introduction of new Ethernet I/O solutions, additional High Integrity controllers and a series of new engineering tools such as a new Ethernet I/O Field Kit, an Ethernet I/O Wizard for field commissioning and the possibility to engineer with signals in the Control Builder.

“Our new flexible I/O solutions and engineering workflow will significantly change the way projects are delivered in future,” said Luis Duran, ABB's System 800xA Product Manager. “The new system can deliver major cost savings on large capital projects. Through greater standardisation, tasks can be done in parallel allowing users to make late changes more easily”.

The Select I/O is an Ethernet based single channel I/O that uses xStream engineering to reduce project delivery schedules. Independent teams can work in parallel and then bind together with precision and efficiency later. This reduces the impact of changes during the project, particularly late changes and effectively reduces the commissioning time. Testing efforts and the hardware footprint are considerably reduced as well. Pre-tested, standardised cabinets can be wired directly to field devices and eliminate the needs for physical marshalling cabinets, reducing drawings, equipment and labour. Testing efforts and the hardware footprint are considerably reduced as well.

The new version supports IEC 61850 Ed 2 which means that it is ready for new digital solutions, e.g. digital substations. The electrical integration capabilities in System 800xA offer detailed, real-time information on power consumption down to the individual loads and secure a reliable and steady electrical power supply. The system prevents blackouts and disturbances of operations – while controlling energy costs, enhancing safety and mitigating both environmental and health impacts. Moreover, it's easier to configure and integrate IEC 61850 networks within System 800xA's engineering environment providing additional project execution flexibility and the further decoupling of project tasks which in turn reduce design and commissioning time.



Select I/O: Modular, single point, late binding, Ethernet I/O solution that can be digitally marshalled into the ABB Ability™ System 800xA architecture

System 800xA's hardware is equally effective for small hybrid systems as it is for large, high availability, integrated automation applications. The modularity of the subsystem results in higher return on assets by providing the flexibility to choose the specific functions necessary to meet actual requirements.

The new system also includes support for two new safety controllers; PM857 and PM863, providing even more flexibility for the most mission critical applications. These characteristics in combination with new Select I/O Safety Single Channel Modules expand the existing capabilities and increase the flexibility. The High Integrity controllers offer flexibility of network design as they can be used for integrated but separate safety operations or for fully integrated applications where safety and business critical process control are combined in one controller without sacrificing safety integrity.



xStream Engineering: Innovative tools for digital marshalling and late binding remove dependencies and enable multiple workstreams.

ABB Ability™ System 800xA and its extended automation concept has over 11,000 installations world-wide, in practically every industry, automating processes, controlling and monitoring electrical equipment, and reducing risk through high integrity safety systems. It is part of the ABB Ability™ platform that enables customers to securely integrate and aggregate their data, combine with wider industry data, apply big data and predictive analytics, and generate insights that can help them drive performance and productivity improvements.
www.abb.com/800xA

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ARCHROMA LAUNCHES LEUCOPHOR® AFCN FOR FOOD CONTACT

Archroma announced the introduction of a new optical brightening agent (OBA) specially designed for food packaging and paper, Leucophor® AFCN liq. The newly launched OBA has been approved for food contact by the US Food and Drug Administration.

Urbanisation and digitalisation are rapidly changing our lifestyle. People around the globe are increasingly purchasing and consuming on the go. A growing part of food containers are made from renewable sources, such as paper and board. It is necessary to ensure that these paper containers are free from substances that would be harmful for the consumer.

Archroma is committed to continuously challenge the status quo in the deep belief that we can make our industry sustainable. We strive to introduce innovations that allow safe, efficient and enhanced manufacturing processes - and end products.

Leucophor® AFCN liq was designed with these guiding principles in mind:

- Leucophor® AFCN liquid has approval for use in food-contact paper and paperboard under FDA Food Contact Notification 1921, which became effective on 9 November 2018.
- Leucophor® AFCN liq is ideally suited for stock application and for use in coating formulations that contain polyvinyl alcohol (PVOH), carboxymethyl cellulose (CMC) or casein as a secondary binder.
- Leucophor® AFCN liq is a disulphonated OBA, with a characteristically high substantivity in the wet-end delivering the papermaker cost savings through the ability to make more rapid grade changes.

"There is a fast-growing demand for food packaging made with paper and board, and our Leucophor® AFCN liquid OBA has been developed to help manufacturers to respond to that demand", comments Andrew Jackson, Global Product Manager Optical Brightening Agents, Paper Solutions Business, Archroma.

"Complementing our FDA-compliant tetrasulphonated OBAs and shading colorants, Leucophor® AFCN liquid provides our customers with greater flexibility to produce attractive, white, paper-based packaging and containers for food applications. Because it's our nature!"

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JARSHIRE EXPLAINS HOW DOTEC EMBRACES INDUSTRY 4.00

When looking for a reel or roll handling solution, it is unlikely that Connectivity, the Internet of Things, Big Data, AI or App-control are at the forefront of a customer's mind. However, experience has shown that it is not long before forward-looking prospective customers begin to understand its importance and investigate.

Today, systems are becoming more and more complex due to the need for additional functions and better safety features. This need has resulted in many more pneumatic components and, as a result, building has become very labour intensive – especially since “in industry 4.0”, everything is required to be connected.

Until now, Dotec has incorporated its own electronic platform in the range of LiftAssist handlers. However, whilst researching suitable control components, Dotec's R&D manager came across the Festo Motion Terminal. The resultant close cooperation between Festo and Dotec resulted in a system that has encapsulated the control of complex movement combinations, safety, modern communication and digitalised pneumatics. A fully integrated Digitized Pneumatics control, based on the Festo Motion Terminal VTEM, has come to fruition.

Dotec's main reasons for an upgrade:

- Key features of Dotec LiftAssist equipment are ergonomics and user convenience – i.e. responsiveness, smoothness in operation, easy to use and to be fail-safe.
- Dotec was looking for more flexibility; only one type of control and software to configure when customising to order; enabling monitoring and modifications on site, be it a change in parameters or a firmware upgrade; interconnectivity was essential to monitor the system wherever it is in the world, to collect big and small data for predictive maintenance, and to better remote assist.
- And, importantly, to be ready for the future. In an era of robotics, computer vision and artificial intelligence, at some point it is a logical step to upgrade to a robot or autonomous system. This is part of Dotec's R&D agenda. Taking account of industry 4.0 is the company's challenge for a successful future.

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JARSHIRE ON HIGH PRESSURE WATER JET TAIL CUTTING

The Italian equipment specialist Weingrill has announced a new development within its range of tail cutters claiming that its HP-Waterjet is the best alternative to dry-end tail cutters with rotating blades, and that this new device offers major advantages over traditional cutting systems.

Dry-end tail cutting

Modern paper machines demand high reliability and performance. Today most have dry-ends equipped with fixed or rotating blade tail cutters, any of which provide an acceptable cut quality under ideal operating conditions – i.e. limited base weight range, high paper dryness and assuming a well sharpened blade.

High-pressure water-jet cutting

With the purpose of meeting evolving market demands, Weingrill has developed the HP-Waterjet Tail Cutter, whose working principle is based on the use of high-pressure water. In simple terms, the equipment is composed of one pumping station providing the water and one nozzle turning the applied pressure into a high velocity water jet. Paper can then be “cold cut” without any alteration of its chemical and physical properties.

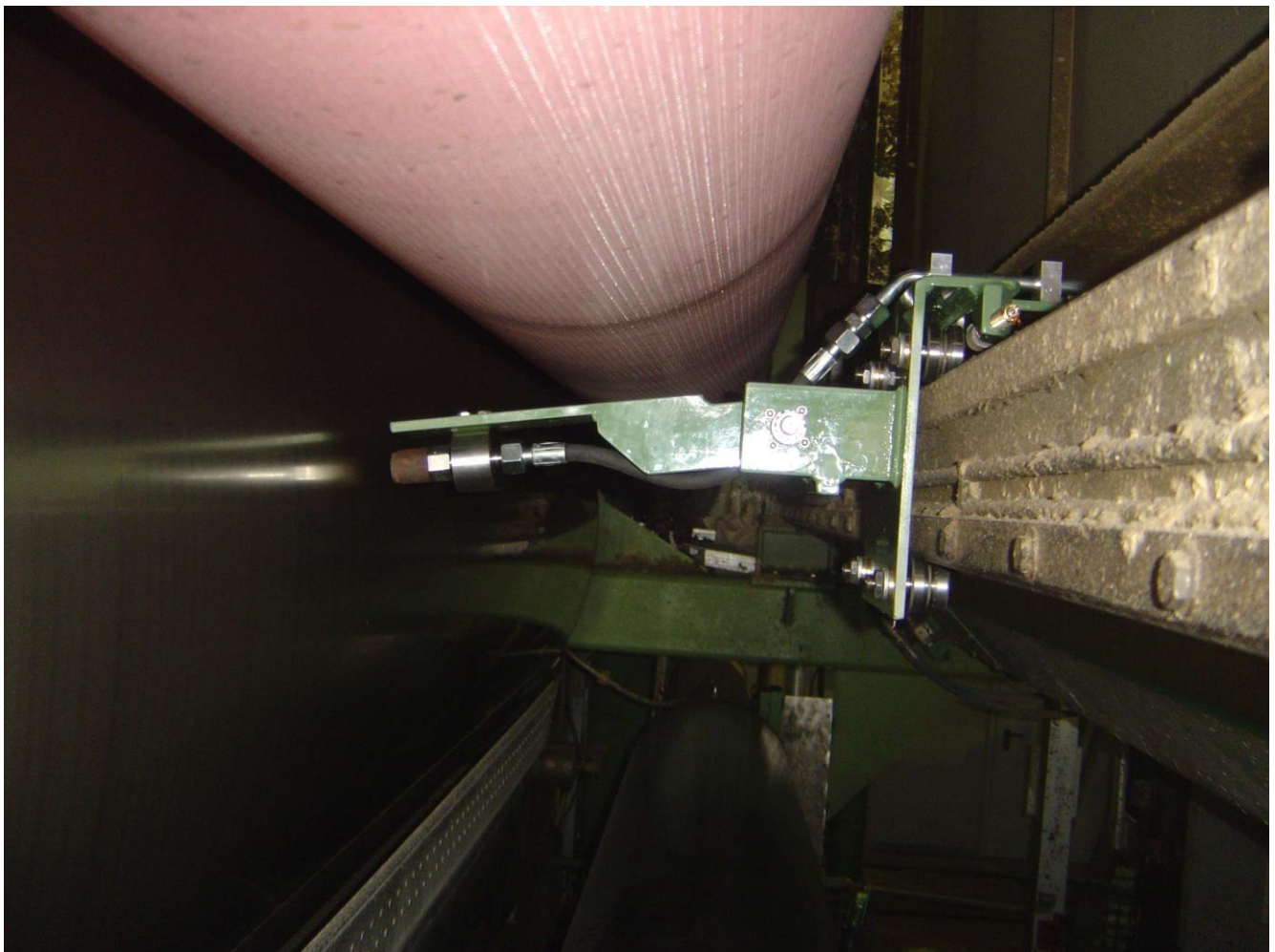
Fully automatic, the tail cutter has been specifically designed to provide an alternative tail cutting system to traditional blade tail cutters. The high-pressure water medium ensures no mechanical contact with the paper leading to a dust- and drag-free cut, and reduced threading downtimes. In addition, non-contact cutting eliminates the inconvenience of inevitable wear and tear and replacement relating to rotating (or fixed) blades, and the associated time losses.

It should also be noted that high-pressure water cutting exerts lower cutting forces on the paper compared with traditional blade devices, which results in stronger sheet edges and reduced web breaks.

With applications in all kinds of paper and board production, including coated grades, the HP-Waterjet provides for very reliable and successful tail threading that quickly reacts to paper breaks, so minimising associated production losses. In comparison with blade tail cutters the HP-Waterjet ensures the following benefits:

- It is not subject to wear therefore not requiring continuous service (blade sharpening).
- Airborne dust is eliminated significantly reducing paper breaks in addition to improving air quality and the overall working environment.
- Due to its compact construction the water jet guarantees efficient paper cutting at high speed without disturbing or breaking the sheet.
- The water jet exerts a lower cutting force on the paper. Consequently, the cutting operation is faster and smoother with reduced cross-machine cutting time, improving the efficiency of tail transfer from section to section.
- The water jet does not require physical adjustments and it is not influenced by profile variations or sheet fluttering.

- The cutting head has more flexible mounting options. It can be applied against dryer fabrics, in proximity of dryer cylinders or in open draws. When applied to open draws, a supporting plate is provided along with the cutting head.
- It is a compact cutting device, which can be installed in relatively old and narrow dry-end fabric runs.
- The water jet produces sharper and stronger sheet edges than a knife or rotary blade.
- It is provided with a pre-programmed control unit, which is automatic and user-friendly.



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VALMET INTRODUCES NEW FIBER FURNISH ANALYZER

Valmet introduces the completely redesigned Valmet Fiber Furnish Analyzer, which takes advantage of Valmet's extensive field experience and new technology. Valmet Fiber Furnish Analyzer provides fast and precise online measurement of key fibre and furnish properties for paper, board and tissue makers.

New image analysis techniques enable the Valmet Fiber Furnish Analyzer to automatically measure a wider range of furnish properties. Additional modules can also be added to the Valmet Fiber Furnish Analyzer platform, with standardised measurements of Canadian Standard Freeness or direct Shopper-Riegler as well as a chemistry module to monitor pH and conductivity. The Analyzer is ideal for process control and, with the addition of a remote manual sampling station, it is also a valuable laboratory tool providing fast and accurate analyses.

Rather than relying on infrequent and time-consuming laboratory tests, machine operators now have the information to act quickly and decisively. Better control of refining levels, monitoring of incoming pulp quality or fibre blend optimisation are further improved with the built in Valmet Data Modeler and Valmet Soft Sensor, which continuously predict pulp strength properties from a combination of measured properties.

"Operators can now see fibre development and impact of process changes on pulp strength in real-time. Without waiting for physical tests, shift to shift quality variations can be greatly reduced to provide significant energy and raw material savings," says Ismo Joensuu, Product Manager, Analyzers & Measurements, Automation Business Line, Valmet.

Technical information about Valmet Fiber Furnish Analyzer

With comprehensive self-diagnostics and Industrial Internet capabilities, including remote product and application support, measurement reliability is assured. Valmet Fiber Furnish Analyzer also enables operators to remotely activate the automatic collection of follow-up samples for later laboratory verification and automatic validation of pulp strength modelling.

Connections to existing and future mill systems are securely supported by versatile communication interfaces. The application areas of Valmet Fiber Furnish Analyzer have also been widened. A new sampler for coarse pulps is now available as well as an optional de-foamer addition to improve measurement capabilities with certain grades of pulp.

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Read more: www.valmet.com/valmetmap





MATERIALS HANDLING



MIDLAND PALLET TRUCKS ANNOUNCES EXPANSION TO EXISTING RANGE OF MOVING SKATES

Midland Pallet Trucks, nationwide leaders in the provision of high quality hand pallet trucks and other materials handling equipment, has announced the introduction of a new range of moving skates, also known as machinery skates, shifting skates, and load moving skates. The five new models in the Midland Pallet Trucks collection are designed to work alongside the firm's selection of hydraulic lifting jacks to offer a simple, all-in-one solution for safe, secure, and efficient moving of heavy machinery.

The new moving skate models include the X4-Y4 8000kg set, the X8-Y8 16000kg set, the X12-Y12 24000kg set, the X16-Y16 32000kg set, and the X18-Y18 36000kg set. These products have been added to Midland Pallet Trucks' existing range of moving skates to enhance and expand the collection and provide customers with greater choice. All models are available now directly through the Midland Pallet Trucks website.

The five new introductions to the Midland Pallet Trucks moving skate collection can be used within a variety of industrial environments, and are both steerable and adjustable for complete ease of use and added safety within the workplace. Featuring flexible swivel action due to the inclusion of a thrust bearing, and a powder-coated, durable finish, all of the latest models are designed and manufactured to the highest quality, ensuring top performance in warehouses.

"We've specialised in moving skates for many years now, but have previously focused primarily on 6-18 ton weight capacities as these were what our customers were coming to us for," says Midland Pallet Trucks Managing Director Phil Chesworth. "At a time when the needs of our customers are changing rapidly, we've taken measures to meet these new demands by introducing a wider capacity range, all the way from an 8 ton machinery skate set to a much more heavy duty 36 ton capability.

"Our ultimate aim is to continue expanding our range to give our customers greater choice."

All skates within the new Midland Pallet Trucks range feature quality polyurethane skate wheels; an alternative to the standard nylon wheels included on many forms of machinery skate. The greater resistance of polyurethane compared to nylon ensures that this new skate collection performs optimally and to a continually high standard even on rough, uneven warehouse floor surfaces. Polyurethane is considered to be an effective material for skate wheels, offering a high level of crack resistance, unrivalled durability for longevity, and a minimal need for ongoing maintenance.



DRIVER ENVIRONMENT FOCUS FOR HYSTER® LIFT TRUCKS

As the driving experience is an essential element of success in high intensity applications, Hyster Europe is focussing on enhancing the operator environment according to the application, including in the wood, metal, construction, ports and paper industries.

“When handling expensive, awkward and heavy loads, the driver environment matters more than ever,” says Chris van de Werdt from Hyster Europe. “Every lift truck brand claims its products are ergonomic, but you have to ask, ‘under what conditions?’ Intelligent Hyster® lift truck design focuses on the driver environment in all applications, but this proves particularly important for efficiency and driver comfort in extreme and demanding operating conditions.”

Wood handling

Throughout the wood supply chain, lift truck drivers may have to drive in reverse due to tall loads obscuring forward visibility. These operations can be very uncomfortable if the design of the driver environment doesn't account for it.

The shape of the rear of the truck, including the position of the exhaust stack, can affect visibility, while the seat needs to minimise body rotation to accommodate reversing. The Hyster® H13XM-6 is a typical lift truck used in the wood industry and addresses these challenges. With a clever rear design and the option of a swivel seat that turns 15/30 degrees, it aims to provide maximum comfort for the driver when driving in reverse. Depending on the application needs, Hyster Europe can also fit lift trucks with full rotating seats and drivers can be further assisted by camera systems.

In addition, TouchPoint™ mini-lever controls help reduce awkward shoulder and arm postures by locating the hydraulic functions directly at the driver's finger tips. This maintains driver comfort and helps the driver to focus on reversing.

Paper Industry

In the paper supply chain, it is common to handle large, expensive and fragile paper reels using giant clamps.

“It's important for drivers in paper applications to use trucks and attachments that not only minimise the risk of damage, but also optimise speed and performance,” says Chris. “However, this should not be at the expense of driver comfort.”

A popular truck is the Hyster® S9.0FT which gives a 9-tonne lift on a 7-tonne chassis footprint, providing the instant advantages of added space and manoeuvrability during handling. The truck also offers a spacious driver environment, thanks to the design of the overhead guard and optimised floorspace in the operator cabin.

The truck's isolated drivetrain minimises the effects of powertrain vibration on the driver, while features such as ergonomically designed hydraulic controls, a contoured arm rest and a multi-function joystick also help to ensure comfort as well as lifting and handling accuracy.

“Lift truck driver comfort is about far more than having some general ‘ergonomic’ features within the cab,” says Chris. “The best way to optimise the driver environment, even in the toughest operating conditions, is to select an intelligently designed heavy-duty lift truck with standard and additional features that meet both the demands of the application, and the needs of the driver.”



SAFETY



WHAT IS ISO/TS 19837:2018 - TRAPPED KEY INTERLOCKING DEVICES?

ISO/TS 19837:2018 - Safety of Machinery – Trapped Key Interlocking Devices – Principles for design, selection and configuration is the first international ISO document devoted specifically to trapped key interlocking and answers many of the questions that have arisen relating to performance levels, key coding, and power interlocking. It is a significant step forward which will provide more choice for users of interlock devices and systems.

Trapped Key Interlocking has its roots in the rail and power distribution industries where sequential control was, and still is, critical to safe, continuous operation. In the 1960's trapped key interlocking was gradually utilised by the manufacturing sector, where isolating machinery before gaining access, was the requirement.

Machinery with multiple energy sources and access points can be easily safeguarded using trapped key interlocks. Fortress Interlocks has developed specialised products over the years which can isolate air and hydraulic supplies as well as electrical power in sequence before allowing access points to be opened.

When ISO14119:2013 Safety of Machinery – Interlocking device associated with guards, Principles for design and selection, was published trapped key interlocking had become no more than an annex, even the scope was clear that it did not provide all the specific requirements for trapped key systems. In many respects ISO14119:2013 served to confuse users and potential users familiar with decades of trapped key interlocks installations.

ISO/TS 19837:2018, three years in the making, is a welcome addition to the existing suite of machinery safety standards. Perhaps the most critical question addressed is where mechanical or hybrid mechanical/electrical systems sit in relation to performance levels introduced in ISO 13849.

Power Interlocking is now more properly referred to as "Isolation control through direct mechanical action" and falls within the Safety Related Part of The Control System. This coupled with the section "Validating performance level" makes evaluating performance levels for trapped key systems much clearer.

The difference between actuators and keys is cleared up, following the confusion created in ISO14119:2013, and both are addressed in the "Terms and definitions" and "Symbols and abbreviated terms" sections.

The need for a schematic detailing the trapped key system operation and establishing key coding appears under "Key Transfer Plan" and will provide users with an excellent tool in the system design phase as well as a documented system layout after installation. Key coding and management is also addressed extensively.

A much-needed standardisation of symbols to represent trapped key interlocks will make it easier for customers to understand schematics, and the excellent pictorial examples throughout the document are useful for those building a trapped key interlock system.

www.fortressinterlocks.com



TESTING / ANALYSIS

EMTEC ELECTRONIC WITH ITS SUCCESSFUL INNOVATIONS AT THE ZELLCHEMING EXPO

The pulp, paper and supplier industry will meet also this year at the Zellcheming Expo 2019 in Frankfurt/Main, Germany. From June 25th to 27th the company emtec Electronic will present their innovative measuring devices in hall 4.1 at the booth no. G18, by which the complete production process can be controlled and guided in the right direction.

At the beginning of this year, emtec Electronic celebrated a great success: the 300th TSA Tissue Softness Analyzer has been sold. The device is now used in 48 countries, in each part of the world. Especially for tissue products, the TSA gives reliable and objective information about the three basic parameters, which determine the human feeling, the softness, roughness and stiffness. From these three, an overall hand feel value can be calculated. New for hand sheet measurements: an updated version of the TSA and an improved measuring method for hand sheets (made in the lab) enables a reliable prediction of the final product quality in the lab without expensive machine trials.



Two of the most-modern measuring systems for the wet-end are the CAS touch! to measure the particle charge, and the FPA touch! to measure the surface charge of fibres. The small and light devices help to optimise the utilization of chemicals with the target to stabilise the process, to improve the product quality and to reduce costs.

The ACA Ash Content Analyzer enables the determination of the mineral filler content without combustion, that means without destruction of the samples, within seconds. Both, the total mineral filler content, as well as the individual filler components (e.g. calcium carbonate, kaolin/talcum, titanium dioxide, iron oxide) and their percentage distribution are measured.

Besides this, the EST12 emtec Surface & Sizing Tester is shown. A device to determine important and for the converting relevant paper surface properties such as surface hydrophobia / sizing as well as the surface porosity, which influence printability, coatability and gluability of paper and board. The PDA.C02 Penetration Dynamics Analyzer as modular system is the equivalent, that delivers additional information by the use of different modules.



EXNER COMPACT SENSOR FOR RELIABLE TURBIDITY MEASUREMENT

The compact NIR backscattering sensor EXspect 271 has an innovative optical measurement system and offers economical and reliable turbidity measurement.

In its EXspect 271 backscattering sensor, the company EXNER is launching a compact measuring device for reliable and economical turbidity measurement. One major benefit of the new sensor is in the spherical design of its optical measurement system. This minimises the attachment of air bubbles and the build-up of deposits. The focussing of the beam due to the sapphire lens allows for a measurement right on the barrier layer of the medium, meaning only the reflection is measured, and not the proportion of the light beam absorbed. Both the attachment of all kinds of things to the measurement system and the measurement of absorbed proportions are drawbacks on the current market.

The measurement takes place in the near-infrared region (NIR) at a wavelength of 880nm, which allows for colour-neutral measurement. The LED light source being used guarantees a long-lasting and stable signal. The stainless-steel case of the EXspect 271 has a hygienic design and is suitable for CIP/SIP. As another special feature, NIST-traceable reference standards can be obtained for calibrating or checking the sensors in the field.

Due to its hygienic and robust design, the EXspect 271 sensor is suitable not only for many applications in the food and drinks industries, but also for diverse applications in the processing industry. This includes, for example, yeast recovery, phase separation, purification processes in dairy plants, and the measurement of cellulose concentrations.

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SICK OL1 DELIVERS PRECISE DETECTION IN THE MICROMETER RANGE

The SICK OL1 Optical Micrometer is a highly-accurate, miniature and rugged addition to SICK's portfolio of displacement technologies for thread, material thickness and edge measurements in continuous, sheet feeding and winding machines.

The SICK OL1 Optical Micrometer is a rugged instrument for integration into small spaces. With a miniature sender and receiver placed up to 300mm apart, it uses light curtain measurement technology, based on a multipixel, linear CMOS sensor, for high-precision, high-repeatability measurement and process control in the micrometer range. The OL1 is teamed with the SICK AOD1 Mini displacement evaluation unit for improved stability and consistency of output.

With a 10mm light band and detection resolution down to 0.2mm, the OL1 Optical Micrometer is a versatile and stable performer at short ranges, small tolerances and for handling thin materials, so it can support precision applications in paper, printing and packaging machines.

"SICK was able to apply its world-leading expertise in light curtain technology to develop a technology with micrometer accuracy that delivers high accuracy and efficiency in 1D and 2D profiling and displacement measurement within very limited space," says Neil Sandhu, SICK's UK Product Manager for Imaging, Measurement and Ranging.

"Whether designing new machines, or upgrading existing applications, the OL1 Optical Micrometer provides a highly-reliable and accurate option for web or thread width measurement, double layers, hole diameters or edge positioning and guidance. It is therefore particularly useful in industries such as paper making, printing and packaging industries. Whether it's tiny objects, tubes, threads, wires, transparent or reflective web materials, the OL1 delivers the reliability and fine tolerances required for high tech performance."

The SICK OL1 Optical Micrometer is a sender and receiver in twin miniature (61 x 21 x 10mm) rugged metal housings. The SICK OL1 sender emits a Class 1 laser 10mm-wide parallel light curtain, which is captured by the receiver on a high-resolution CMOS chip, with any object in between registering as a precisely-measured shadow. The SICK OL1 is an analogue measurement device and is combined with SICK's AOD1 evaluation unit for integration with the machine controller.

Alignment is simple with the integrated LED alignment aid at the sensor head. Commissioning and integration with machine controls is quick and easy, via the display configuration with individualised configuration and calculation through the AOD1 evaluation unit. The AOD1 displacement evaluation unit functionality enables simple interfacing with machine and SCADA factory control systems.

For more information on the SICK OL1 Optical Micrometer, please contact Andrea Hornby on 01727 831121 or email andrea.hornby@sick.co.uk.

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MISCELLANEOUS



HI-LINE HLI62 VERTICAL AIR RECEIVERS

As a company that listens carefully to changes in market demands and industry trends, Hi-line Industries now holds a range of class-leading Vertical Air Receivers in stock. The top-quality vessels are available immediately at highly competitive prices.

Currently, four sizes of Vertical Air Receivers are being stocked at Hi-line: 300, 500, 1000 and 2000 litre variants. The vessels are manufactured at Hi-line's new factory, centrally located in Burton-upon-Trent where the company has a storage facility populated with the vessels ready for immediate shipping or collection.

Receivers provide valuable temporary storage for compressed air, particularly at facilities with high air consumption. The vessels also serve to stabilise pressure peaks and provide steady air flow. Not having one as part of a compressed air system can increase the load/unload cycles on the compressor, making it work harder.

All of the Vertical Air Receivers stocked by Hi-line are powder-coat finished in compressed air blue (RAL 5015) and are PED compliant to 2014/68/EU. Indeed, quality is the primary attribute of the vessels, which are built by robots to ensure perfect and consistent welding quality. In addition, high-quality 5mm plate and fittings are used throughout. As a result of this build quality, the Vertical Air Receivers are twice the weight (pro rata) of standard catalogue vessels.

All four models of Vertical Air Receiver being stocked by Hi-line Industries offer 11 bar working pressure and come with a 10-year warranty. The vessels can be supplied with or without fitting kits to suit individual preferences. Safety valves, gauges and drains are also available as options.

As a member of the British Compressed Air Society, Hi-line is proud to be part of the 'Made in Britain' campaign that promotes the best of British manufacturing.

Further information is available from:

Hi-line Industries Ltd,

Green Street, Burton on Trent, Staffordshire DE14 3RT

Telephone: 01283 533377

www.hilineindustries.com



SELECTRONIC'S SUNLIGHT SPECTRUM LEDS CLOSE TO SUNLIGHT

IMAGINE artificial lighting in a business or home setting with LEDs producing close to actual sunlight all day long.

Well now you can get just that with the Sunlight Spectrum 2835 SMD packages from UK LED specialists Selectronic and their Chinese partners HongliTronic.

The Witney, Oxfordshire, based Selectronic, celebrating their 40th anniversary this year, are experts in opto-electronic technologies.

"We are pleased to introduce Hongli's Sunlight Spectrum 2835, which is the perfect solution to those wanting very close to natural light from an artificial source," said Selectronic MD Kevin Dry.

"The option to create lighting products that replicate daylight opens a new era of what can be achieved in previously closed-off rooms or underground environments, not to forget the health benefits in dark winter periods from creating artificial daylight particularly when linked with a time clock to accurately reflect the various times of a bright sunny day."

"The Sunlight Spectrum 2835, which produces perfect colour, measuring more than 95 in the range R1 to R15 and continuous saturation, is very close to the actual sunlight spectrum. There is much less blue light and it is a first choice for protecting our eyes."

The technology produces a spectrum of light that best matches sunlight's natural spectrum, giving the ideal solution whether it is for various industrial/retail applications as well as in business, office or home lighting products.

