



Mettler-Toledo's X6 Series offers a product safety upgrade for medium to large-sized packaged products and multi-lane applications (see p4).

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Flexicon has introduced a mobile drum dumper with integral flexible screw conveyor for use in hazardous locations (see p11).



Bühler's Grain Innovation Center opens its doors. Feed trials can be performed with production capacities of up to 5 tonnes per hour, covering the entire production line or individual process steps (see p7).



SSB's flour bagging system, with robot support (see p11).

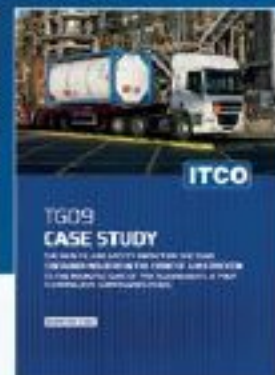


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Calibrating particles and agglomerates



Gericke GNB Nibbler.

Gericke has long experience in grinding and calibrating agglomerates and bulk solids, with the Nibbler GNB being used in the bulk solids industry for many years. It can deagglomerate dry, greasy or partially moisture containing products in an energy-efficient manner or to bring them to the desired target particle size.

The latest generation of Gericke GNB nibblers is focused on an expanding process applications while reducing cleaning time and extending the service life of the nibbler screen.

There are several new features of the Gericke GNB. The target particle size can be adjusted by changing the shaker. This makes it possible to process a wide variety of products on the same granulator. It is now possible to set the optimum clearance between the beater unit to the screen insert for each screen and product without opening the machine. The metal contact monitoring system protects against incorrect adjustment. At the same time, this option also helps to detect ignition sources in an ATEX environment.

The option of moving the beater unit out of the housing on guide rods is popular in various industries. This option significantly reduces the cleaning effort and allows easy inspection of the machine.

The Gericke Nibbler GNB has already been used in various industries. For example, in the food industry or in the production of building materials with frequent colour changes or for materials that tend to stick together or compact.

In order to determine the optimum process parameters and the best machine configuration, Gericke offers the possibility of carrying out tests on a Gericke GNB. Either with a rental machine directly at the customer's premises or in a Gericke test centre. The possible options can be assessed directly, and the optimum machine configuration can be worked out together.



gerickegroup.com Gericke GNB Rental Unit.

More than just energy-efficient

According to the German Environment Agency, electric drives in the industry and trade sectors consume nearly two fifths of the total electricity in Germany. Particularly electric drives and the aggregates



powered by them therefore have a great and economic energy saving potential. With its latest-generation IE5+ motors, system provider NORD Drivesystems offers a solution to significantly reduce the consumption of energy and resources.

The IE5+ permanent magnet synchronous motors (PMSM) from NORD are characterised by a high efficiency of up to 95% over a wide torque range and thus also achieve optimum energy consumption performance in partial load and partial speed ranges. This significantly reduces the application's energy requirements and CO₂e emissions. Particularly for large systems with long operating times of the electric drives – for example in intralogistics with many installed drives – this makes a considerable difference.

The motors also feature an innovative design and require a comparatively small quantity of material. NORD designed the IE5+ motor as an 8-pole synchronous motor in an IPM design. This reduces the size of the motor's active components, which not only results in material savings in the sheet metal package but also with the magnets.

With 8-pole synchronous motors, the stator can also be manufactured with the so-called single-tooth windings. As a result, valuable material such as copper is only used where it is actually productive; inefficient use in the winding head is reduced.

With regard to the energy savings potential, the entire drive system including electric motor, gear unit and drive electronics must be taken into account. The IE5+ motors can be combined with different components from the NORD modular system. This creates optimally matched and tailored system solutions from a single source. This allows to increase the total efficiency of machines and systems, and to reduce the Total Costs of Ownership (TCO). With the NORD ECO service, the drive experts from NORD also offer an effective tool to reveal savings potential in a system and to minimise the companies' carbon footprint.

<https://www.nord.com/en/>

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AMP/AHS appoint DACH sales manager



Dirk Struppe.

Advanced Material Processing (AMP) and Automated Handling Solutions (AHS) have appointed Dirk Struppe as the new regional sales manager for Germany, Austria and Switzerland.

Dirk is a graduated mechanical engineer with over 25 years of experience in various sales roles across engineering companies.

Busch Switzerland celebrates its 50th anniversary



The Busch AG team.

Busch AG recently celebrated the 50th anniversary of its foundation in Switzerland.

Employees and their families were invited to celebrate the jubilee. Live music welcomed the guests to a festively decorated tent where candles in the company color created a warm and

inviting atmosphere. Sami and Kaya Busch, Co-CEOs and Co-owners of the Busch Group, also attended with their families. The event offered a variety of activities and delicious food.

www.buschvacuum.com

Heat exchange screw helps plastic recycling

Solids handling specialist, Ajax Equipment, has supplied a leading waste plastic processor with a heat exchange screw for cooling a polymer solution from high temperatures.

Based on an Ajax Equipment screw feeder, the stainless steel machine uses a water-cooled auger and casing to rapidly reduce the temperature of the plastics from over 100degC.

www.ajax.co.uk



"Next-Gen" X-ray system to enhance food safety compliance

Following the launch of the X2 Series of x-ray inspection systems, Mettler-Toledo Product Inspection has introduced the new X6 Series, offering a product safety upgrade for medium to large-sized packaged products and multi-lane applications. The X6 Series consisting of the X16 and X36.2 x-ray inspection systems presents a range of new features that provide precise contamination detection across single or multiple lanes. Both solutions can inspect medium to large-sized products (500-600mm in length) while also maximising productivity through easy-to-use design improvements.

The X6 models, like the X2 Series, feature advanced detection technology but are specifically designed for larger product formats. With multi-lane capabilities, the X6 Series makes inspection for manufacturers handling bigger products or multiple packages per line, quicker and easier.

This provides flexibility for food and beverage brands that require efficient inspection solutions for varying product sizes and configurations.

The X16 is an entry-level x-ray solution for medium to large-sized products with a HiGain detector, offering excellent detection of contaminants such as metal, glass, stone, bone and low-density materials across single or multi-lanes. The system which can support products up to 300mm in height with conveyor speeds up to 60 meters per minute also performs additional quality and integrity checks, enhancing product safety beyond just contamination detection. These checks include monitoring for correct product placement, mass component count, fill level and identifying damaged packaging. The X16 is designed to maximise production uptime with its intuitive user interface, simplified cleaning routines and reliable subsystems, reducing costly downtime.

For more advanced inspection needs, the X36.2 offers high-level detection capabilities for medium to large packaged products. With HiGain+ detector technology and ContamPlus™ software, the X36.2 offers completeness



Mettler-Toledo's X6 Series offers a product safety upgrade for medium to large-sized packaged products and multi-lane applications.

and integrity checks, identifying small foreign bodies plus missing or broken products. The system is highly customisable, with single or multi-lane configurations and numerous reject bin options. It can accommodate even higher throughputs with speeds of up to 100 meters per minute and the ability to handle over 1000 products per minute, depending on product size.

Both the X16 and X36.2 feature significant mechanical upgrades over legacy solutions plus completely new designs that improve belt removal and simplify service and maintenance routines. These design improvements mean that operators can clean and maintain the systems quickly, minimising downtime. The front-opening hygienic design allows for easy access during cleaning and service, while the conveyor belt can be swiftly removed without the need for tools,

making maintenance more efficient than ever.

To further optimise performance and offer long-term reliability, the X6 Series can be supplied with a choice of service contracts tailored to manage maintenance costs and maximise uptime. Additionally, both systems when purchased with a standard or comprehensive service contract come with a 5-year generator warranty, providing peace of mind of the quality of the heart of the x-ray system.

The X16 offers an affordable entry point for manufacturers looking for high-end inspection technology at a competitive price, while the X36.2 provides an advanced solution for those requiring superior product integrity checks. With multiple configurations available for the X36.2 this system can be customised to meet individual production requirements.

www.mt.com/xray-x6

New IBC plastic frame pallet from Schütz

IBCs transported on automated logistics and production processes need to comply with very precise specifications. Schütz has designed a new product for in-house transport on conveyor belts and handling in fully automated high-bay warehouses. A prototype of this sustainable pallet solution was presented at Fachpack 2023, and within the space of one year it has been taken to readiness for serial production. Fachpack 2024 marked the start of worldwide sales at all Schütz sites.

Modern logistics with automated storage and transport require containers that function smoothly throughout the entire supply chain and which unite technical performance with ecological efficiency. In addition to being eco-friendly thanks to the use of recycled plastic, Schütz's new plastic frame pallet features single-piece construction and wide, partially smooth contact surfaces, facilitating automated forward and sideways transport. On roller conveyors or chain-driven conveyors, the frame pallet enables horizontal movement, meaning that IBCs can be transported forwards and sideways safely and without jamming.

The frame pallet has a stable substructure. The forces acting on the pallet are optimally distributed, and

sagging is minimal. The pallet can also be lifted and lowered from all sides. All IBCs with the new pallet have optional UN approval and, as well as a version with a steel bottom plate, is also available as a full-plastic frame pallet with a bottom plate made of plastic.

The pallet is manufactured in a single piece, including the corner blocks. The robust design and the use of impact-resistant recycled plastic ensures maximum stability and durability. Optimised for the circular economy, the extra robust

pallet offers maximum reusability, which is guaranteed by the company's own Schütz Ticket Service collection system. Schütz recycles sets standards in terms of quality and performance. It is made out of used industrial packaging in a complex and carefully controlled process in the company's own recycling centres. One of many advantages for customers is that by using recycled plastic, depending on the configuration up to 64.8 kg of CO₂ per pallet can be saved compared to a conventional steel frame pallet.



The new plastic frame pallet from Schütz was specially developed for safe and smooth IBC transport on conveyor systems. The pallet is made entirely using Schütz's own, high-quality recycled material.

New investment in static packaging test centre

A new static packaging test centre has opened at Castle Industrial's facility in Lancashire, UK.

The £500,000 investment sees the company play host to an array of testing equipment that can help customers ensure their products are packaged and

transported in a cost-effective and safe manner.

The machinery added to the test centre in Carnforth includes:

- Acceleration bench – to stress test pallets against conditions they will face during transportation

- Tilt vibration bench – to ensure pallets are packaged correctly and in the most efficient way possible
- Fully automated wrapper – this handles all aspects of wrapping with no human interaction

Real-time data and live testing will play a vital role in the new test centre, helping to

display the effect of changes to the overall load of pallets, for businesses to optimise their packaging and logistics solutions.

Speaking of the newly launched test centre Callum James, Director at Castle Industrial said: "With load stability remaining a top priority, this facility will serve as a dedicated space for our experts

to conduct live testing, further solidifying our reputation as the leading authority on packaging efficiency. Our pledge to every customer is to optimise pallet load stability, reduce cost and reduce plastic using accurate world class market leading testing equipment."

<https://castleindustrial.com/>



The Castle packaging test centre.



1-minute packaging test.



3-minute packaging test.

Eriez secures Innovate grant



Eriez has established a strategic partnership with Cardiff University.

Eriez has been awarded a £100,000 grant from Innovate UK, the research and innovation agency. This funding will accelerate Eriez' research and development efforts in artificial intelligence (AI) for next-generation metal detection systems.

It will support a new feasibility study, designed to transform industrial metal detection in food and pharmaceutical processing, according to Christopher

Dyer, Lead Research and Development Electronic Engineer at Eriez-Europe.

In addition, Eriez is earmarking a portion of these funds for an eight-month research programme in collaboration with Cardiff University. As part of this initiative, Dyer will oversee a group of distinguished experts from both Eriez and the university, including several Ph.D. researchers.

www.eriez.com

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Bühler's Grain Innovation Center opens its doors



View of the Grain Innovation Center.

Swiss technology group Bühler has inaugurated its new Grain Innovation Center (GIC) in Uzwil. The GIC has been designed to enable customers from the food and animal nutrition industries to innovate and improve their processes, ensuring they stay ahead of the latest trends in milling and remain competitive in their rapidly evolving markets. Additionally, customers and partners have access to the Application & Training Center (ATC) hub in Uzwil, which connects entire value chains.

With changes in global grain supply chains, nutritional requirements, transparency of sourcing and pricing pressure, the milling industry faces a challenging environment. These include maintaining flour quality with variable raw materials, improving production and energy efficiency, managing safety issues, or finding and keeping well skilled professionals. Adopting new technologies – such as automation, IoT, and data

analytics – and addressing environmental concerns add complexity, while growing consumer demand for healthier and more sustainable products has driven a faster



The five-story facility features state-of-the-art infrastructure along with over 70 pieces of equipment from Bühler and its partners.

pace of innovation.

For this purpose, Bühler has designed a modern, high-tech, milling technology facility – the GIC. The new building is the successor to Bühler's former Grain Technology Center, which has served the milling industry since 1951. The five-story facility spans 2,000 square meters and features state-of-the-art infrastructure along with over 70 pieces of cutting-edge equipment from Bühler and its partners. The GIC works as a leading-edge arena for customers to experiment, innovate, and find concrete solutions to meet their specific needs.

The GIC is equipped with the latest solutions and technologies for processing grain and pulses. Customers can conduct tests on food and animal feed and can develop new processes and solutions in various areas, including cleaning, optical sorting, grinding, sifting, mixing,



Feed trials can be performed with production capacities of up to 5 tonnes per hour, covering the entire production line or individual process steps.

protein shifting (a mechanical process that increases the protein concentration in plant-based raw materials). Additionally, they can work on hygienisation and pelleting, as well as dehulling, peeling, and pearling of grains and pulses.

Food trials encompass a variety of raw materials, including cereals, herbs, spices, and pulses. The GIC includes the technology and expertise to conduct trials on local and ancient grains – raw materials that can play a vital role in improving food security in many countries. Leveraging its extensive know-how in processing, the GIC also offers testing for various other commodities, including coffee, nuts, and insects. Additionally, the Application & Training Center caters to non-food bulk solids, such as plastics and absorbers.

Feed trials can be performed with production capacities of up to 5 tonnes

per hour, covering the entire production line or individual process steps. "One of the main advantages of the GIC is its ability to provide not only detailed data that enable continuous and precise monitoring of the process but also the physical and chemical properties of the product at every stage of production and under different process conditions," says Lothar Driller, Department Manager Feed Application Center and Trainings at Bühler.

The side streams generated by the GIC, such as wheat bran and rice husks, corn husk, pea hulls, and screenings from cleaning, will feed Bühler's Energy Recovery Center, which provides heating for Bühler offices in Uzwil. Customers can also use this Center to explore the potential of utilising side streams through energy recovery, which can lead to the reduction of their carbon footprint, waste, and energy costs.

Networking at Minexpo



Networking at MINExpo.

ScrapeTec, in partnership with BLT World Inc., recently participated in MINExpo, the world's largest mining event - held in Las Vegas. Thorsen Koth highlighted the event as an ideal platform for industry players to network and showcase innovative products.

The ScrapeTec and BLT World team introduced their advanced dust suppression equipment, designed to tackle issues such as dust generation

and material spillage from conveyor misalignment. These systems not only improve operational efficiency but also offer significant cost savings and reduce energy consumption.

As the mining industry prepares for the US Department of Labor's upcoming silica dust regulations, ScrapeTec's solutions permit compliance and worker safety.

www.scrapetec.com

Sampling unit now ATEX certified



Close-up of the Dinnissen sample unit.

Dinnissen's sampling unit has expanded its ATEX certification to cover a wide range of environments. It is now suitable for hazardous areas with explosion risks, specifically for internal zones 20, 21, and 22, as well as external zones 21 and 22. The ATEX certification, compliant with Directive 2014/34/EU, marks a significant milestone and highlights the unit's reliable design.

This certification enables the unit to meet safety standards for dust explosion risks, permitting it to operate in environments with ambient temperatures ranging from -20°C to +60°C, while process temperatures can range from 0°C to +120°C. Additionally, it is capable of sampling products with highly critical explosive properties, making it a versatile solution for various industrial applications.

The ATEX-certified Sampling Unit

offers a wide range of capabilities, including various sampling carousels for further automation. Constructed entirely from premium materials, such as stainless steel 316 and food-grade plastics, the

unit can be seamlessly integrated into existing installations, supporting retrofit applications.

<https://www.dinnissen.com/en/news/smart-sampling-systems>



The Dinnissen sampling unit is now ATEX certified.

AHS & AMP opens new manufacturing facility



UK Bulk handling and processing solutions provider, AHS & AMP (Automated Handling Solutions/Advanced Material Processing), has opened its new, 60,000 sq ft manufacturing facility in Darwen, Lancashire. The new site was officially opened by Mayor Councillor Brian Taylor of Blackburn with Darwen.

This new facility is a significant upgrade from the company's previous site in Clitheroe, now representing 25% of AHS & AMP's global manufacturing capacity.

The Darwen facility will be used to

manufacture equipment across AHS & AMP's four key brands of Spiroflow, Cablevey, Marion and Kason. The expanded space includes dedicated build bays for each piece of equipment, greater storage capacity and improved areas for quality control. The investment will lead to enhanced production efficiency, with space allocated for pre-assembly, allowing engineers to complete tasks with fewer constraints.

The new test bay, covering 10,000 sq ft of the facility, will allow customers to witness AHS & AMP's cutting-edge equipment in action, with one of every

key product available for demonstration. The facility also features modern, employee-friendly amenities, such as spacious kitchens, breakout areas and improved meeting rooms, enhancing the overall working environment for the team.

The facility follows the establishment of a Centre of Excellence in Friedrichsdorf, Germany, in 2023, which focuses on pre-sales testing and aftermarket support. In 2025, further investment in the Darwen site will enhance the company's testing capabilities, matching the offerings of the German test lab.



Brenntag celebrates 150th anniversary

In mid-October, Brenntag, the chemicals and ingredients distribution company, held a celebration to mark its 150-year anniversary. The ceremony, which took place in Essen, Germany, where the DAX40 company is headquartered, included many guests from the chemical industry, customers, suppliers and other business partners - as well as Germany's Chancellor Olaf Scholz.

In his speech the Chancellor emphasised the importance and the needs of the chemical industry and highlighted the success story of Brenntag. As a distributor, the company connects its more than 1,000 suppliers with around

180,000 customers worldwide.

This official ceremony followed on global employee events on the actual founding day of the company on 9 October, a customer and supplier event, the publication of the historical company study "150 Years of Brenntag - From Berlin out into the World". An extensive internal communications campaign with a wide range of activities was also conducted throughout the entire anniversary year.

More information on the historical company study: "150 Years of Brenntag - From Berlin out into the World" can be found here [BRENNTAG 150](#).



Brenntag CEO Christian Kohlpaintner, CFO Kristin Neumann and German Chancellor Olaf Scholz.

Pfeiffer Vacuum changes name

Pfeiffer Vacuum, a member of the global Busch Group, has introduced its new name and refreshed logo, marking the evolution of the company into Pfeiffer Vacuum+Fab Solutions.

This rebranding has been developed to reflect the comprehensive portfolio of

Pfeiffer as a one-stop supplier for both vacuum solutions and semiconductor fab solutions. The updated logo incorporates a representation of a turbopump's rotor blade and stator blade.

www.pfeiffer-vacuum.com



Pfeiffer Vacuum becomes Pfeiffer Vacuum+Fab Solutions.

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How bulk material is set in motion



Nord's MAXXDRIVE.

Whether dusty grain or heavy rocks, bulk material is conveyed vertically or horizontally, upwards or downwards – and over long distances. NORD Drivesystems offers individual drive solutions that enable smooth operation and meet the industry's special requirements. The industrial gear units of the MAXXDRIVE series are particularly advantageous here.

For storing and conveying, weighing and metering as well as loading and unloading bulk material, NORD's portfolio features robust industrial gear units whose characteristics meet industry's requirements. They are characterised by their modular design, high performance and longevity as well as low maintenance effort.

NORD designs industrial gear units based on the respective application and ambient conditions. In combination with motors, frequency inverters, couplings and brakes, this creates flexible and reliable

drive systems for the bulk goods industry. The system provider relies on its modular products and provides tailor-made solutions from a single source.

NORD's industrial gear units feature high-quality, low-friction bearings and the especially torsionally rigid, one-piece UNICASE housing. MAXXDRIVE XT is also equipped with a heavily-ribbed housing and an axial fan. This way, it achieves a very high thermal limit power.

Large roller bearings and optimised geometries ensure excellent load capacity, long life and high operational reliability. Optimum sealing concepts against water and dust allow for long deployment times without leakage, and thus significantly reduce maintenance effort. If required, the drive experts equip your gear units with a corrosion-resistant surface treatment for use in harsh environments.

www.nord.com

Starlinger takes action in China



Starlinger ADSTAR sack types.

Vienna-based machine manufacturer Starlinger, with production plants in Austria, Germany and China, has sued a number of Chinese machine manufacturers and their customers (packaging producers) based on infringement of several of Starlinger's patents. The legal proceedings have been settled with strict obligations for the machine manufacturers.

"Starlinger is strong in research and development," says Harald Neumüller, Starlinger CSO. "This ensures our technological leadership. Due to plagiarism, novel technologies have to be brought to market faster and faster in order to maintain a technological lead. Patents protect our developments and enable us to sell innovative machines over a period of time. It is therefore a

great and important success that we were able to enforce our claims and the machine manufacturers had to stop producing and selling the copied machines. Intellectual property rights are to be respected."

The out-of-court settlement was

reached in the course of lengthy proceedings before both a civil court and a court specialised in intellectual property in China. The machine manufacturers in question confirmed the patent infringements and immediately ceased production and sales of the copied machines. Customers of such machine manufacturers can be sued, too – after all, as purchasers and users of copied machines they are considered as patent infringers as well. In the present case, the machine is a replica of the ad*starKON sack conversion line for producing woven plastic sacks marketed under the brand name "AD*STAR"; Starlinger holds several patents on this line. Many packaging producers, especially in Asia, use Starlinger's ad*starKON conversion lines to manufacture AD*STAR block bottom valve sacks made of polypropylene tape fabric for the cement and construction industries, but also for other dry bulk goods such as rice, flour or chemical granulates.

www.starlinger.com



Starlinger adstarkON.

Innovative recycling technology

The Brazilian recycling company Grupo Ecological, based in Limeira, to the west of São Paulo, has two plastic recycling lines dedicated to processing challenging post-consumer and post-industrial plastics into high-quality reggranulate.

Two of Lindner's Micromat shredders and one Lindner Washtech washing line ensure a consistent throughput and output of high-quality plastic flakes.

In a joint project with Unilever, the companies created the first caps made

from 100 % recycled post-consumer plastics, helping Unilever reach its 2025 global sustainability objective ahead of schedule. An accolade for Grupo Ecological and for Lindner's recycling technology.



Fabio Köhl, founder and CEO of Grupo Ecological in front of the Lindner Micromat 1500.

Dinnissen wins technical craftsmanship training award



Dinnissen wins the award for developing technical craftsmanship.

At October's Brainport Industries Congress, Dinnissen Process Technology, of Sevenum, was awarded the prestigious William Pijnenburg Award 2024. This annual award, presented by Brainport Industries College, recognises companies that demonstrate exceptional dedication to the development of technical craftsmanship in the region. The award was presented by Manon Pijnenburg in honor of her father, William Pijnenburg, who devoted his life to promoting vocational education and technical training.

According to the jury, Dinnissen stood out for its strong commitment to the personal and professional development of both employees and students. The jury report highlighted that Dinnissen trains an impressive

number of skilled professionals and goes beyond merely teaching technical skills. Additionally, Dinnissen's active contribution to regional education, particularly at the Techniekcetrum Brainport in Deurne, was also commended.

Wouter Kuijpers, COO of Dinnissen, was thrilled to receive the award: "This award is a confirmation of our ongoing efforts to elevate technical craftsmanship to the next level. Edwin Valk and Marcel Konings do remarkable work as mentors and student supervisors. Their dedication and involvement are vital to the development of our talents. This award is a tremendous recognition of their hard work and the collective efforts of our entire team."

www.dinnissen.com

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Overband magnet development



PCB Single Pole installed in an e-waste recycling operation.

Bunting has developed three designs of Permanent Crossbelt Overband Magnet (PCB), with different magnetic polarity, to suit an ever-expanding range of applications.

Overband Magnets are mounted over conveyors to separate ferrous metal from non-magnetic material and are commonly used in industries including mining, quarrying, recycling, and wood.

The magnetic field of a PCB is generated by charging ferrite or rare earth magnet blocks mounted inside a stainless-steel box with a steel back bar. The steel bar back forces the magnetic field to propagate through and out of the bottom of the magnet box, which would be down towards a conveyor transporting bulk materials such as aggregate or waste. Although all three designs operate under this basic principle, that is where the similarities cease.

The magnetic field of the three designs of

PCB is defined as being either a 'Single Pole', 'Twin Pole' or 'Tri-Pole'.

Single Pole Overband Magnets

The Single Pole design (PCB Single Pole) is the simplest and most common design of PCB. Constructed with a single magnet block and steel back bar, the north pole sits on the back bar with the south pole at the bottom of the block. The field runs vertical, from north to south, projecting out from the south pole and into material being transported on a conveyor.

The Single Pole design removes general tramp metal from a range of products in various applications. This design offers a reliable, cost-effective solution for quarries, mobile recycling plant and recycling operations.

Twin Pole Overband Magnets

A Twin Pole configuration uses two separate magnet boxes, mounted side by

side on a single steel back bar, each with a different magnetic pole. The magnetic field flows from south to north (from one box to the other) producing a deep magnetic field that projects away and down from the magnet faces.

The enhanced separation performance of the PCB Twin Pole enables capture of smaller ferrous particles. The twin pole configuration has the advantage of lifting longer and thinner tramp ferrous metal, typically steel rebar, in a flat orientation which aids discharge and reduces belt wear.

This characteristic of the Twin Pole occurs due to the different poles of the two magnet boxes attracting opposite ends of the ferrous metal rod, forcing it to remain flat in the field. The Single Pole design attracts one end, resulting in one end striking the belt or face of the magnet box.

Tri-Pole Overband Magnet

The Tri-Pole PCB (PCB Tri-Pole) has two

additional steel side poles mounted either side, with a gap, of a single central magnet box. Each of the side poles has a magnetic north pole, with the centre of the box being south pole (i.e. three poles).

This generates two magnetic fields running from the box to the steel sidepoles. The sidepoles reduce flux leakage and concentrate the magnetic field downwards toward the product.

The greater depth of magnetic field generated by the PCB Tri-Pole results in a higher suspension height of the Overband Magnet, which is ideal for deeper troughed conveyors and higher burdens of material. The Tri-Pole model captures smaller ferrous metals that are difficult to separate with a PCB Single Pole.

An added advantage is that the shape and direction of the magnetic field limits any magnetisation of the Overband Magnet frame, which is ideal when processing materials such as waste wood containing nails and screws.

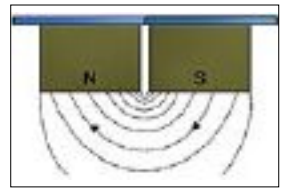
PCB selection

Selecting the correct PCB is dictated by the application. Bunting's applications engineers assess the ferrous metal separation objective (i.e. the plant being protected or the metal being recovered); the nature of the ferrous metal (i.e. shape, size, etc.); and the conveyed material (i.e. size range, burden depth). These criteria assist the team in selecting the optimum PCB for any given application.

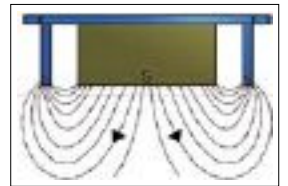
www.bunting-redditch.com



Single Pole Magnet Block.



Twin Pole Magnet Block.



Tri Pole Magnet Block.



PCB Single Pole on a mobile crusher.

Optical sorters for nuts

Key Technology, a member of Duravint's Food Sorting and Handling Solutions group, has introduced its Compass optical sorter for nuts. The system identifies and removes undesirable product defects and foreign material, such as shells, shell fragments, rocks and wood sticks. It is suitable for sorting walnuts, almonds, hazelnuts, pistachios, peanuts, pecans, cashews and others.

Featuring a new, open-design mechanical architecture, Compass has no moving parts. Sensor and light windows are positioned away from product splatter, so accurate inspection is sustained throughout long production cycles without operator intervention.

Compass also features "Key Discovery", a data analytics and reporting software that turns the sorter into an IIoT-connected device and information centre for the customer's operation.

www.key.net



The system identifies and removes undesirable product defects and foreign material.



Compass also features "Key Discovery", a data analytics and reporting software.

TUF-LOK™ PIPE & TUBE COUPLINGS

Tuf-Lok ring grip pipe and tube couplings are rugged, heavy duty, self-aligning and self-grounded couplings with a high end pull. They can be used for almost any application where pipe or tube ends need to be connected. The Tuf-Lok self-aligning couplings install quickly and easily with little effort.

Features

- Self-aligning
- Self-grounding
- High pressure rated
- Full vacuum rated
- Stainless or mild steel
- Usable on thin or thick wall pipe or tube
- Low cost
- Reusable
- Absorbs vibration
- Externally leakproof



Tuf-Lok (UK)

Tel: +44 (0) 1706 822512

Email: sales@tuflok.co.uk • www.tuflok.com

Martin Engineering marks 80 years of innovation



Martin Engineering Field Support Supervisor Sue Griffith talks to visitors about the company's long history.

Bulk handling solutions specialists, Martin Engineering, recently celebrated its 80th anniversary.

During a month of celebrations in September 2024, the firm invited customers, local communities, and employees' families to its flagship "Center for Innovation" in Neponset, Illinois and see Martin's investment in engineering research and technological advancement

over eight decades.

Martin Engineering has focused on innovations, aimed at delivering "cleaner, safer and more productive bulk materials processing". The company holds patents for engineering designs for workplace safety and production efficiency in sectors such as mining and quarrying, cement and steel production, as well as resource recovery and recycling.

The company's products are primarily focused on conveyor belt performance and bulk flow technologies.

The Martin Engineering story began in the midst of World War II when Edwin F. Peterson, the son of Swedish immigrants, followed in his father's footsteps and took a job as a pattern maker at Demmler Manufacturing, a steel foundry and fabrication business in Illinois, USA.

Edwin witnessed his co-workers using sledgehammers to beat on core machines, loosen the sand and release steel components from their molds. Troubled by the health and safety risks, equipment damage and loss of productivity, he was convinced there must be a better way and began working on a solution.

This led to the development of the Vibrolator – a compact ball vibrator that used compressed air to propel a ball bearing inside two steel raceways. The resulting vibration was enough to dislodge the sand and empty the core machines without the need for manual beating.

It soon became clear that the device could be used for numerous other manufacturing operations handling loose materials. Edwin started the business in September 1944 with the backing of investor Charles H. Waller and friend Jim Martin – who gave his name to the business as Edwin felt 'Martin' had better name recognition than 'Peterson'.

The Vibrolator soon went into production and was patented in 1949. Edwin's son, Edwin "Ed" H. Peterson, started working for the business whilst still in high school. Ed worked with his father on numerous innovations and new products through the 1950s and 1960s, gradually assuming the leadership role in the company as it developed its international business.

The development of high-performance components for conveyors enabled Martin to produce a line of belt cleaners, dust-control products, transfer-point solutions and other patented innovations.



Members of the original Martin Engineering team at The Foundry Show in Atlantic City in 1952.

Today, Martin Engineering employs more than 1,000 people worldwide in offices and factory facilities across six continents. Martin remains family-owned – Ed H. Peterson is still Chairman.

For more on the history of Martin Engineering and the Peterson family download the company's Legacy Book. <https://foundations.martin-eng.com/book-options>.



Martin's 80th anniversary cake.



Colleagues, customers and members of the local community gathered for Martin Engineering's 80th anniversary celebrations at the company's headquarters in Neponset, Illinois, USA.

Dinnissen opens new branch in New Zealand



Fons Kuipers.

Dinnissen, a system integrator specialising in process technology for powders, granules, and bulk goods, has opened a new branch: Dinnissen Pacific.

This marks the company's sixth branch, in addition to its two locations in the Netherlands, one in Germany, one

in Indonesia, and the recently opened office in the UK. Dinnissen Pacific's daily management will be led by Fons Kuipers, a Dinnissen process expert with over 15 years of experience, who has been based in New Zealand for many years. Operations will be headquartered in Auckland.

Continuous inline analysis of bulk materials

At the SOLIDS 2024 trade fair, Secopta will introduce its new MineralLIBS analyzer for automatic inline material analyses. The new system has been specifically adapted to the conditions prevailing in lithium extraction and processing operations as well as the recycling of batteries for e-mobility and electricity storage.

Secopta MineralLIBS (Laser Induced Breakdown Spectroscopy) measures the elemental composition of bulk material on conveyor belts in a non-contact, real-time process. While, in the past, this kind of analysis was often performed only discontinuously and on the basis of random samples, the new measuring system enables the continuous monitoring of the material in real time. MineralLIBS is suitable for any type of minerals processing.

Secopta now supplies the system also with a special setup adapted to primary lithium extraction processes and the analysis of black mass. In lithium extraction processes, the system can be used to scan spodumene ores – an important raw material for lithium production. Based on the information provided by the system, it is possible to determine both the lithium content and the contents of the other elements in the ore. Knowing these data makes it possible to optimise the use of chemicals in the subsequent treatment process. This shortens the processing times in the reactors, minimises the use of chemicals, reduces energy



Secopta analytics.

consumption and minimises waste. Exemplary calculations have shown that with a typical input flow rate of about 30 t/h several hundred thousand euros per year can be saved in the pre-calcinate leaching steps.

In battery recycling for e-mobility and electricity storage, MineralLIBS can be used for the analysis of black mass, on the one hand, for quality control during the recycling process from the battery to the black mass and, on the other hand, during the upstream treatment processes to obtain lithium from the black mass.

The LIBS-based inline measuring systems from Secopta measure the

chemical composition of the material on conveyor belts. This ensures that processes can be optimally controlled at all times. The measurement of the chemical composition is based on an optical procedure: Short laser impulses generate a plasma, the element-specific radiation of which is measured by a spectrometer. The measuring system adjusts itself automatically to varying charge heights of the material on the conveyor belt. Self-optimising algorithms translate the spectral information in real time into qualitative or quantitative data about the elemental composition of the material.

Automation in the packaging industry



Example of a packaging line.

In times of skilled labour shortages, automation technologies offer companies the opportunity to compensate for bottlenecks in personnel. In particular, physically demanding or highly standardised tasks can be taken over by using machines, robots and intelligent software solutions.

Technical requirements must be observed: With new directives on machine safety and explosion protection, the European Union (EU) has issued important guidelines that are of key importance for numerous industries. Companies must ensure that their machines and systems comply with the new requirements, which often requires investment in new technologies or the retrofitting of existing systems.

Quality requirements for packaged products play an important role in all industries. Packaging and processing machines must be designed, manufactured and handled in such a way that they guarantee the safety and quality of the products they contain.

In addition, government regulations on the traceability of production data play a key role in ensuring quality, safety and transparency in the manufacture of products, particularly in the food and

animal feed sectors. These regulations make it possible to trace products in the supply chain and to react quickly and effectively in the event of quality defects or sources of danger.

For over 33 years, SSB Wägetechnik GmbH, of Buchholz, Germany has developed packaging systems, as well as customised solutions in bagging, weighing and control technology. SSB develops and designs filling systems meeting the above criteria, from silo discharge to the finished pallet. The modern bagging systems consist of an overall concept of bagging, bag transport, palletising and final packaging.

Well-known companies in the flour production and animal feed production industries - operating both nationally and internationally, - are among SSB's long-standing customers.

Different products require different bagging concepts. Flours or powdery products are usually bagged in valve bags using pneumatic packers. Granular products are usually bagged using FFS bagging machines. The bagging logs are recorded electronically and are available in a central database

for transfer/quality assurance. Criteria relevant to calibration are of course fulfilled.

The bagging logs are recorded electronically and are available in a central database for transfer/quality assurance. Criteria relevant to calibration are of course fulfilled here.

For palletising the bags, it is necessary to prepare the bags optimally, i.e. to shape the bag in order to achieve a clean and stable palletising result. Furthermore, important quality checks such as bag labelling, foreign objects, metal detection or checkweighers can be integrated into the transport route.

SSB offers a compact robot palletising system for various performance requirements. The filled bag is fed to the robot on a special conveyor belt. The robot palletises the bagged goods reliably and efficiently. Depending on the output, several bagging machines can work with just one robot.

The robot is available in different versions up to a capacity of 1200 bags per hour. For higher bagging capacities, several robots can carry out palletising at the same time. This means that outputs of up to 2,300 bags with 2 robots are realistic.

The 4-axis robot model enables precise and

fast operation and can be used in a wide range of applications and therefore for a variety of products. The robot can be programmed using integrated software, making it capable of learning and can be used quickly and flexibly. There is also a large selection of accessories for the bag gripper hand. Pallet modules and soft sheet applicators can be integrated into the hand.

The finished palletised pallet can be transported away automatically via roller conveyors. It is advisable to integrate a corresponding packaging machine into the conveyor line. Stretch wrapping machines or stretch bonnet systems are available. These protect the pallets and at the same time serve as certified load securing. Finally, before the pallet is stored, it is labelled with the current production data. The finished product can then be transported directly to the warehouse.

The focus is on the total integration of all machine components and individual machines in a central control system. This allows processes to be controlled and monitored centrally. Production monitoring, product tracking and data recording are programmed on a customer-specific basis. Remote access is also possible at any time.

www.ssb-waagen.de



Flour bagging with robot support.

Mobile drum dumper launched



Flexicon TIP-TITE. Mobile Drum Dumper with integral flexible screw conveyor is designed for use in hazardous locations.

extended support brackets, placing them outside of the hazardous zone.

The unit accommodates drums from 30 to 55 gal (115 to 200 litres) and measuring 36 to 48 in. (91 to 122 cm) in height. After the drum is placed in the lifting carriage, the carriage is raised against a rubber gasket mounted inside the discharge cone, creating a dust tight seal. The entire apparatus is then tipped, with a motion-dampening feature stopping the process when the pre-determined dump angle is reached.

The material exits the discharge cone and into the charging adapter of the flexible screw conveyor. Fully enclosed inside polymer or steel tubing, the inner screw of the conveyor is the only moving part contacting material, resulting in reduced maintenance and increased reliability. As the screw rotates, it self-centers within the tube, providing ample clearance between the screw and the tube wall to eliminate or minimise grinding. The drive motor is located beyond the point at which the material exits the conveyor, preventing contact with bearings or seals.

It can be rolled into storage when not in use, or to a designated area for cleaning during material changeovers. The system is available constructed of carbon steel with durable industrial finishes, with material contact surfaces of stainless steel, or in all-stainless steel finished to food, dairy, or pharmaceutical standards. A broad range of screws with specialised geometries is available to handle free- and non-free-flowing materials, including products that pack, cake or smear in other types of conveyors.

www.flexicon.com

Other Valves Fight Friction, We Designed it Out

Unlike other valves that seal with friction, Posi-flate's unique butterfly valve uses an inflatable seat to seal with air pressure. Thus it requires less torque and a smaller actuator, resulting in lower cost. Plus, the seat automatically compensates for wear, providing longer life. Some users have reported over six million cycles and the valves are still going strong.

- Less friction
- Low torque
- Low maintenance
- Lower actuator costs
- Longer valve life
- More reliable



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www.posiflate.com

Bunting develops high-intensity electromagnetic wet filter

Bunting has developed a new Electromagnetic Wet Filter with an ultra-high-intensity, background magnetic field (from 3,500 up to 10,000 Gauss). The magnetic separation technology separates fine iron and paramagnetic minerals from liquids and slurries and is used in the ceramics, mineral processing, and recycling industries, as well as cleaning wastewater in steel production and power stations.

The high-intensity magnetic field of the Electromagnetic Wet Filter enables the separation of very weakly magnetic

particles untouched by other magnetic separation technology. In the ceramics industry, the Electromagnetic Wet Filter removes problematic magnetic particles, both free iron and magnetic minerals, from slips and glazes. In mineral processing, more powerful Electromagnetic Wet Filters remove fine grinding iron and some paramagnetic minerals (e.g. hematite) found in non-metallic minerals. Electromagnetic Wet Filters are also used to remove free iron and scale from water in power stations, steelworks and water recycling plants.

The Electromagnetic Wet Filter provides one of the most effective methods of continually removing problematic fine iron and paramagnetic minerals from ceramic slips and glazes, as well as industrial mineral slurries (e.g. kaolin, calcium carbonate, silica sand and feldspar). The technology produces a higher separation efficiency than permanent magnetic and smaller electromagnetic separators by generating a significant background magnetic field strength in the canister (2,500 Gauss, 5,000 Gauss or 10,000 Gauss) and high magnetic field gradient on the matrix surface. The enhancement of the magnetic field on the matrix surface is between 2 and 3 times the background field – e.g. a 5,000 Gauss background field will generate between 10,000 and 15,000 Gauss on the matrix.

An Electromagnetic Wet Filter consists of an electromagnetic coil positioned around a central hollow core containing a magnetic (400 series) stainless-steel matrix of various designs. The computer designed coil generates a high intensity magnetic field that becomes intensified on the points of the matrix creating the magnetic force needed to separate paramagnetic particles from the slurry.

The magnetic coil is either enclosed in a circular or rectangular steel casing designed to intensify the magnetic field into the hollow centre of the coil. The design of the oil-cooled electromagnetic coils maintains thermal stability whilst generating high Gauss values. The coil designs are energy efficient and maintain low operating temperatures.

Valves (for the product feed and exit as well as cleaning water and air) are mounted on the top and bottom to suit the application and installation.

Removal of the captured magnetics inside the Electromagnetic Wet Filter is either undertaken manually or



Bunting's new Electromagnetic Wet Filter.

automatically. For fully automated operation, the Electromagnetic Wet Filter and process is managed through a separate control. The control has a Siemens S7-1200 PLC incorporating Siemens HMI. Via the control, operators are able to set the frequency and parameters of the matrix cleaning regime.

The directional flushing system ensures the maximum removal of captured magnetics and para magnetics from the

matrix, maximising magnetic separation from the next batch of product.

The Electromagnetic Wet Filter is fitted with a built-in jig to enable easy removal of the matrix, poles, and complete canister for maintenance and additional cleaning. The jig keeps production downtime to a minimum, whilst making matrix handling safer and easier. A separate transformer rectifier is used to deliver power.

www.bunting-redditch.com



Bunting's new Electromagnetic Wet Filter.

Presenting innovative solutions at BAUMA China 2024

ScrapeTec showcased its dust suppression and material handling solutions at the recent BAUMA China 2024 in Shanghai.

The company was highlighting its AirScrape system, designed to reduce crystalline silica emissions and meet MSHA dust control standards, ideal for the mining industry.

Additionally, ScrapeTec unveiled

its PrimeTracker conveyor belt technology that reduces wear and improves efficiency. Partnering with Qingdao Quaddro, ScrapeTec aims to expand its presence in the growing Chinese market. With over 2,800 exhibitors, BAUMA China was a prime opportunity for ScrapeTec to network and connect with industry leaders.



Busch Group launches new website



The new Busch Group website.

The Busch Group has launched a new website – according to the company, the site “serves as a comprehensive digital platform reflecting the unified identity and collaborative spirit of its three members Busch Vacuum Solutions, Pfeiffer Vacuum+Fab Solutions, and centrotherm clean solutions”.

Visitors to the site will find detailed information on the corporate culture

– including the family-like working environment – as well as the group's comprehensive portfolio of vacuum solutions, its proximity to customers worldwide, and its extensive service network.

The website also offers a wealth of information about the Busch Group's operations and achievements, including the main key figures of the company. It

moreover provides examples of where the company's vacuum and overpressure solutions are used, such as in food processing, plastics recycling, chemical and pharmaceutical industries, flat panel manufacturing, analytics and laboratory settings, renewable energy projects, research and development sectors, and the semiconductor market.

www.buschgroup.com

Industry Updates – Every Week

Every week, EuroBulkSystems publishes a digest of the latest industry developments:

• New Products • Technical Innovations • Latest Orders •

For up-to-date news on In-Plant Handling and Bulk Processing, visit: www.eurobulksystems.com

Bringing 3D and AR experiences to the smartphone



With the Vuframe app, Greif-Velox systems can be viewed in 3D and augmented reality right on your smartphone.

Packaging and filling technologies provider Greif-Velox has partnered with the 3D platform Vuframe to showcase innovative digital representations of its main systems. Through the Vuframe app, users can now view the VeloVac packaging line, the A-DOS-P1 filling machine, and the BVP pneumatic packer in lifelike 3D and Augmented Reality (AR) on their smartphone or tablet, from any angle.

Digital twins of the machines are created based on the original design data, allowing customers and interested parties to gain insights into Greif-Velox's technologies without requiring physical presence or extensive information

materials.

Features of the Vuframe App The app offers three main features that make the experience particularly vivid and user-friendly:

- 3D View: Users can interact with machine models, rotating and zooming in on specific functions on their touchscreen.
- On-Table AR: The systems are projected onto a tabletop using AR and can be viewed from all angles.
- Life-Size AR: Machines can be placed in actual size within real-world environments, providing a highly realistic and immersive experience.

The machine models are accessible

through the Vuframe app, streamlining information for potential customers. The VeloVac packaging line also includes the SafeDyVac bags, developed by Greif-Velox in collaboration with the paper bag manufacturer dy-pack Verpackungen Gustav Dyckerhoff GmbH.

In addition to the 3D view in the browser, users can benefit from the AR experience on their device. The free Vuframe app is available on the App Store and Google Play. Each machine on the Greif-Velox website has a quick step-by-step guide for downloading the corresponding data package.

www.greif-velox.com



The Greif-Velox A-DOS-P1 filling machine in 3D view.

Securing transport of steel tight-head drums



With the Schütz Drumfix load securing system, four empty or filled drums can be securely fixed on a pallet.

Packaging specialists Schütz has introduced the Drumfix load securing system for the safe transport of tight-head steel drums. "The cost-effective, single-use system combines safety, economy and sustainability, thus ideally meeting the increasing demands of the industry", the company says. It is made from recycled plastic and certified to EUMOS 40509.

Specially developed for the transport of tight-head steel drums, the Schütz Drumfix system can be used to create secure loading units from four drums and a pallet quickly, easily and sustainably. Using special screws, the Drumfix elements are attached to the pallet in 20 seconds and firmly grip the bottom

seam of the drums. Two additional straps at the top and bottom ensure that the drums are optimally secured both when full and empty. Even under extreme test conditions, such as inclinations of up to 45°, the Schütz Drumfix keeps the load unit completely stable. In addition, the load unit can be stacked as usual, making transport and handling in the filling plant easier.

To make customers' supply chains more sustainable and reduce their carbon footprint, Schütz has championed recycling and reconditioning. This basic principle is also reflected in the Drumfix solution. The load securing system is made of reinforced plastic, which is obtained from recycled Schütz



Schütz Drumfix is made of reinforced plastic, which the packaging expert recycles from empty Schütz packaging in keeping with its commitment to the circular economy.

Screw conveyor expands carbon black production

Solids handling equipment specialist, Ajax Equipment, has supplied leading black masterbatch producer, Hubron International, with a horizontal screw conveyor for handling fines as part of a new plant. Hubron's Manchester facility utilises a range of Ajax solids handling equipment including screw feeders, hoppers and four FIBC big bag dischargers.

Commenting, Dave Waterhouse, engineering team leader at Hubron International said, "We have good long-

term relationship with Ajax, having worked on many projects with Eddie and his team. Ajax deliver high quality equipment at competitive prices, and we are happy to have completed another project with them."

"Ajax has had the pleasure of working with Hubron International over a number of years to expand and enhance their solids handling and processing capabilities. We wish them luck with the new plant," said Eddie McGee, managing director, Ajax Equipment.

www.ajax.co.uk



The horizontal screw conveyor for Hubron.



The screw conveyor is part of a new plant at Hubron.

packaging. As well as reducing waste, the Schütz Drumfix also saves expensive packaging material because stretch film and reusable components such as straps and metal brackets are no longer required. The system can be assembled and dismantled quickly and is fully recyclable. The Drumfix elements can be returned via the Schütz Ticket Service and flow back into the material cycle.

The new system complies with all legal requirements and international standards for load securing, including the European standard EUMOS 40509, which specifies measures to prevent layers or entire load units from slipping, thus offering the shipper maximum safety. Transport companies benefit from increased safety and reduced liability in the event of inadequate load securing.

www.schuetz.net

Control system upgrade – in record time

Coperion has successfully modernised the entire control system of a ZSK production extruder at Tetra, the leading manufacturer worldwide of fish food and water conditioners, within just a few weeks' time. The ZSK extruder, which has been operating at high capacity for over 30 years producing various types of fish food pellets, has been upgraded with a new control unit and main drive.

This retrofit updates the entire automation to the latest standards, improving performance and efficiency.

The update to the ZSK extruder's automation allows for implementation of future upgrades and expansions. Any new guidelines can be integrated into the production process. At the same time, energy savings can be expected thanks to the installation of a reluctance motor.

Tetra has produced fish food pellets for many years using the Coperion ZSK twin screw extruder at very high production capacity. Throughout its long operational life to date, Tetra has regularly implemented smaller upgrades to the production line. However, they now faced the task of a comprehensive modernisation of the control system, where the challenge lay in the extruder's high usage rate due

to ongoing orders. There was only a very short window available during the annual shutdown period to perform the entire upgrade.

Tetra and Coperion were determined to make optimal use of the available time. During an intense coordination phase, Coperion service technicians and Tetra operation and maintenance personnel prepared a detailed plan of

every necessary step. The motor, drive, and the control and drive cabinets were swapped out in no time. The automation was entirely updated and equipped with the latest Siemens components. The ZSK extruder was put back into production at full capacity according to plan.

www.coperion.com



In just a few weeks, Coperion implemented a comprehensive control system upgrade, allowing Tetra's ZSK twin screw extruder to once again produce fish feed pellets at full productivity and efficiency.



The extruder main drive's control system was swapped out and the ZSK extruder's entire automation was updated.

Bulk Materials Handling and Processing in the Net Zero Economy



The Wolfson Centre is organising a 1-day course on Wednesday 4 December focusing on bulk materials handling as part of the solution to net zero.

Organised at its University of Greenwich campus, Chatham, the course will discuss trends and opportunities, with delegates being invited to share their current methods in use. They will discuss how the industry can become more aware and active in reducing carbon emissions, using techniques and processes already in operation around the industry.

The process of handling bulk solids generates carbon emissions but it is also a fundamental "enabling technology" in processes that can reduce carbon emissions through Energy from renewable biomass; Energy from waste; and Recycling and "green" chemical feedstocks.

Course Programme

Bulk solids handling and processing as a key enabler in the move to net zero:

- Renewable solid fuels and waste recycling

- Growth minerals for emissions reduction (lithium, copper etc)
- The renewable power sector and infrastructure
- Carbon negative processes

Reducing the emissions from bulk solids handling and processing operations:

- Identifying the main energy consumers
- Pneumatic conveying and compressed air
- Grinding and classification
- Port operations

Course fees are £580 per person. Registration and payment is available via the on-line shop. Discounts are available for group bookings of 2 or more.

Further information from Caroline Chapman wolfson-enquiries@gre.ac.uk or call +44 20 8331 8646.



New chopper for fast and efficient mixing

Industrial mixing specialist, Marion Process Solutions, an Advanced Material Processing (AMP) brand, has launched its newest chopper. Designed to improve mixing processes in industries such as food processing, pharmaceuticals and chemicals, this latest innovation is built to address the most common challenges processors face - such as overheating, frequent downtime for repairs and contamination risks.

Running at speeds up to 3600 rpm, the chopper reduces lumps and agglomerates and breaks up liquid-rich shot balls, open-matted fibrous materials and distributes pigments.

The chopper allows processors to

homogenise their mixes faster, while ensuring the equipment runs continuously without overheating. Key to this new design is the integration of more durable shaft seals and bearings, enabling higher throughput rates and less heat generation, therefore reducing the risk of costly downtime through component failure.

The chopper design simplifies maintenance with an all-in-one cartridge assembly that can be easily removed from outside the mixer. This advancement allows for quick changeouts, reducing the time it takes to replace the chopper by 75% - meaning 15 minutes compared to an average changeout time of one hour. It also eliminates the need for operators

to crawl inside the mixer, enhancing worker safety and significantly reducing labor time, as well as personnel required to perform maintenance.

Furthermore, it is designed to prevent product contamination and leaks, which is especially crucial in industries like pharmaceuticals and food processing. The high-speed rotation-rated lip seal and anti-leakage geometry direct the product mix away from sensitive components like the shaft and bearings, therefore reducing the likelihood of leaks and contamination. This design also extends the lifespan of the chopper, ensuring that processors can maintain long-term efficiency while minimising maintenance costs and downtime.



The new Marion chopper.

Visualisation: Tailor-made solutions for multiple production sites

Processing plants with several geographically separated production sites are often faced with the challenge of centrally recording and monitoring the fill levels of a large number of process containers.

In various industrial sectors, especially in bulk material handling, it is becoming increasingly necessary to combine continuous level measurement and data monitoring with automated visualisation.

The measurement results from UWT silo sensors are quickly and easily displayed using licence-free software and can be conveniently called up on screen at any time. This effective silo logistics system significantly increases transparency and planning reliability for the plant operator. If desired, customers or suppliers working with in the processing plant can also be integrated into this system. With the right combination of level and point level measurement, extremely efficient solutions for bulk solids management can be realised.

This was such the case in this application: an international plastics processor was faced with the primary difficulty of mapping the exact real time fill levels of silo batteries at three production sites and making this information centrally accessible.

In addition, the sensors had to work reliably and precisely, regardless of the different properties of the stored plastic granules, such as the DK value, dust development or fluctuating temperatures.

Centralised fill level monitoring

The project was implemented by UWT with a customised solution using a combined installation of the NivoTec® 3500 for level monitoring, the NivoBob® 3100 electromechanical lot system for level measurement and the RN 3002 full detector from the Rotonivo® series.

The NB 3500 with Modbus RTU interface continuously measures the level of various plastics in the silos, regardless of the bulk density and DK value. The Rotonivo® – RN 3002 full silo alarm reliably supports the system and thus protects against overfilling. The arm of the Rotonivo® rotary paddle level switch can be

flexibly adjusted to the required length and the appropriate switching point. Both sensors are versatile all-rounders in the plastics industry and are suitable for use in all solids, granulates and powders. They are cost-effective and easy to install.

Optimal monitoring and control of fill levels

The NivoTec® NT 3500 is a level visualisation system for displaying and monitoring fill levels and limit levels, ideal for complex applications. This stand-alone system works with visualisation software on a web server module and can monitor up to 50 silos – or more on request.

At the core of the NT 3500 is a web server module with powerful visualisation software. All fill level monitoring and display functions can be conveniently operated via a PC or an illuminated membrane touch panel. The Ethernet interface allows simultaneous operation from all connected PCs, with password-protected access. The control cabinet can be equipped with various operating and display elements, including a touch panel (10.4" or 15") or a digital fill level indicator with LED lights for full and empty notifications.

Electromechanical lot systems can be started via the visualisation software or manually using a button. A horn can be installed on the silos to sound an alarm in the event of a full signal. A pinch valve control to stop filling in the event of a full alarm is also available. The NT 3500 offers a complete solution, including the power supply for the sensors, and is supplied with project-specific electrical planning.

Core components

Core components of the system solution include:

- **NivoTec® NT 3500:** This system offers comprehensive visualisation of fill levels and enables central monitoring. It displays the fill



The NivoTec NT 3500 is a level visualisation system for displaying and monitoring fill levels and limit levels.

levels in real time and ensures that the data from all production sites can be retrieved and analysed centrally. The three silo systems were connected to the NT 3500 controller via gateways and VPN tunnels, which ensures secure and reliable data transmission.

- **NivoBob® 3100:** The level measurement is carried out by the robust NivoBob® 3100 lot sensor, which delivers precise measurement results regardless of the material properties of the plastic pellets. This independence from variables such as DK value, dust development or temperature changes is crucial for the reliability of the measurements.

- **Modbus network:** Communication between the level sensors and the central visualisation

system takes place via a Modbus network. This protocol enables fast and reliable data transmission, which means that the central systems always receive up-to-date and accurate fill level information.

- **Rotonivo® – RN 3002:** To prevent silo overfills, the full detector of the RN 3002 series is used. This sensor continuously monitors the maximum fill level and alerts in a timely manner to prevent overflows.

Key challenge and its solution

The centralised recording of the fill level monitoring of several silo batteries across different locations places specific demands on the communication and measurement systems:

- **Real time data availability:** For efficient production planning, it is essential that the fill levels are available in real time. The Modbus network from UWT ensures that the measurement data is transmitted immediately and without delay.

- **Precision and reliability:** The NivoBob® 3100 systems provide accurate measurement data that is independent of varying material properties. This reliability is crucial in order to obtain consistent and usable information.

- **Central administration:** With the NivoTec® NT 3500, the fill levels of all locations can be centrally managed and monitored. This enables management to react quickly to changes and make informed decisions.

Benefits and results

The UWT solution offers numerous advantages:

- **Increased efficiency:** The centralised recording and real-time display of fill levels means that production processes can be better planned and resources optimally utilised.

- **Cost savings:** Precise fill level measurement and the avoidance of overfilling reduce material losses and production downtime.

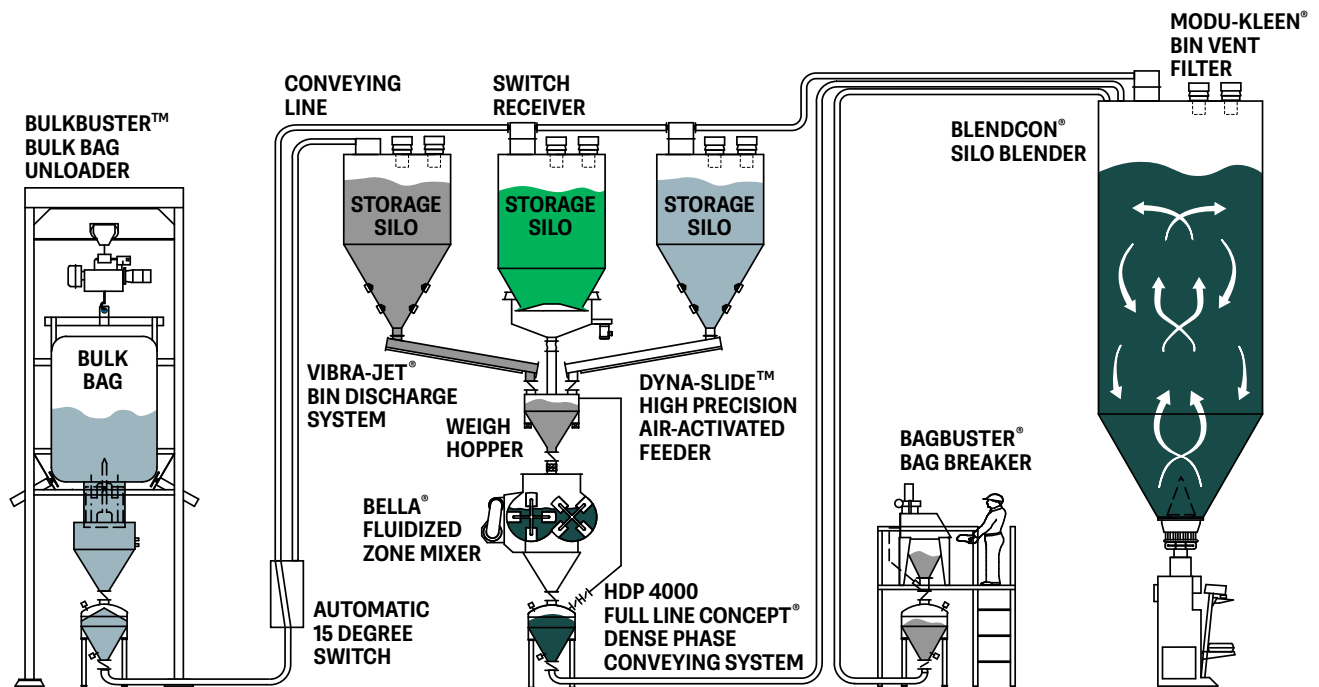
- **Increased operational safety:** The use of reliable sensors and a robust communication network minimises the risk of incorrect measurements and technical failures.

Thanks to the implementation of gateways and VPN tunnels to connect the three silo systems with the NT 3500 controller, the plastics processor was able to significantly improve its operating processes, increase efficiency and ensure operational reliability. The flexibility and reliability of the technologies used have proven their worth in the demanding environment of plastics processing.



An international plastics processor was faced with the difficulty of mapping the exact real time fill levels of silo batteries at three production sites - and making this information centrally.

SOLUTIONS *that Power Success*



Who We Are

Dynamic Air has over five decades of expertise in designing and manufacturing pneumatic conveying systems and equipment for handling dry bulk solids. We are a leading provider of custom solutions for the handling of bulk materials for processing businesses across various industries.

Our Approach

We never take a cookie-cutter approach just to cut costs up front; we know that the right solution will save you money in the many years to come. Our tailored solutions involve thoughtful planning, meticulous engineering and precise manufacturing that optimize efficiency and productivity.

Dynamic Difference

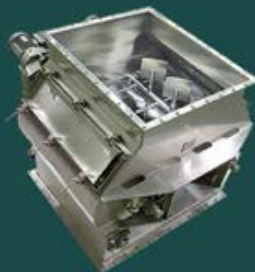
At Dynamic Air, we set the standard for excellence in bulk solids handling. With a relentless focus on quality, reliability, and customer satisfaction, we deliver reliable, high-quality pneumatic conveying systems, equipment, and custom solutions that exceed expectations.



Dense Phase Transporter



DC-5® Air Saver Control



Bella® Fluidized Zone Mixer



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