

EuroBulkSystems

The European journal for in-plant handling and processing of powders, granulates, pastes and liquids

INTERNATIONAL NEWS • PEOPLE • PRODUCTS

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ISSUE 13



Pneumatic conveying specialist Air-Tec system of Italy recently installed an advanced positive-pressure pipeline system for handling sugar at the Lemarco refinery in Bucharest, Romania. This is described on p12 together with other similar installations, serving to illustrate the capabilities and advantages of positive-pressure conveying.



Gericke's newly opened test centre in Regensdorf, Switzerland, was the venue for a three-day seminar in late January attended by 120 customers (see p4). Among the topics discussed in detail were latest developments in micro-feeding, with regard to precision and homogeneity. On p9 Gericke research engineers describe how recent technical advances in metering have allowed problems associated with poorly flowing bulk products and the effects of outside interference such as vibration to be largely overcome.



Vortex Valves Europe has undergone rapid expansion during the four years that it has been trading, its latest landmark achievement being the opening of a strategically located sales office in Switzerland (see p3). On p8 managing director Jon Naylor explains his company's core values and outlines future plans.

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In the last week of January Netherlands-based high-speed weighing and measuring technology specialist Penko Engineering officially inaugurated its new headquarters and manufacturing facility in Ede (see p6). Fred Foster, CEO of parent company ETC Inc, is pictured performing the opening ceremony.



Specialising in manufacturing mixers which are internationally recognised for their gentle handling characteristics, Lindor of the Netherlands has developed a prototype machine (pictured) which features a fully demountable inlet and outlet for quick and easy cleaning for ultra-hygienic applications. This and other recent mixer innovations are described in the feature on p11.



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CZECH REPUBLIC

Last October the **Lasselberger Group** headquartered in Poechlam, Austria, put into operation a new ceramic tiles manufacturing plant at Rakovnik, some 60km west of Prague. The new facility replaces two older and less productive units at Rakovnik which were scheduled to be closed at the end of January with the loss of 220 jobs.

FRANCE

Lifocolor Farben based in Lichtenfels, Germany, has opened a new plant for making plastic masterbatches at Bellignat, France. Initial capacity is 600t/yr but the factory has been designed to allow for future expansion.

GERMANY

Royal DSM NV in January opened its new plant in Meppen, Germany, for production of wet polyesters and other speciality resins. Total investment costs amounted to €15M.

GERMANY

Kuraray Co has increased its PVB (polyvinyl butyral) resin capacity by constructing a new production line at its European subsidiary, **Kuraray Europe GmbH**, headquartered in Frankfurt-am-Main. Total PVB resin capacity has been increased to 39,000t/yr.

GERMANY

Grafe Advanced Polymers GmbH plans to invest €9M over the next three years to expand capacity for producing colour and additive masterbatches at its Blankenhain plant in Thüringen.

GERMANY

In January **Merck** started work on the construction in Darmstadt of a new production plant for the manufacture of pharmaceutical raw materials, including inorganic salts. The new facility, representing an investment of some €30M, is scheduled to be operational by mid-2011.

GERMANY

Lanxess is to build a new facility for formalin production at its Krefeld-Uerdingen site. Total investment will be in the region of €18M. Construction of the new plant is expected to begin in the third quarter of this year with commissioning scheduled for end of 2011.

HUNGARY

In late September 2009 **Duna-Drava Cement** commissioned its new cement production line at Beremend, Hungary. Construction of the new installation, carried out by **Polysius** and many subcontractors, had taken only 21 months.

HUNGARY

Magyar Cukor, Hungary's only remaining sugar producer owned by Austria's **Agrana**, expects to process 730,000t of sugar beet at its Kaposvar factory during the current season. This will be significantly above the 573,000t total harvested last year. The company expects to produce 105,000t of beet white sugar in 2010 and will import about 50,000t.

ITALY

Late last year **Nutreco** opened a new animal feed production plant in Mozzecane, Italy. It will replace production from the **Trouw Nutritia** plant in Bussolengo as well as from the former **BASF** plant in Comun Nuovo which were acquired in 2007.

ITALY

Christian Pfeiffer Germany has recently established a new automated heat-treatment facility with a downstream automatic packing plant at its manufacturing facility in Mezzomerico, Italy. Here it produces a range of high chromium alloyed cast grinding media.

NETHERLANDS

Dutch animal feed cooperative **Boerenbond Deurne** has opened a new ship unloading and storage terminal at the inland port of Oss, the Netherlands. The new facility, which is a subsidiary of Boerenbond Deurne, will operate under the name of **Bracofeed**. The company is reported to be applying for permission to build a new 400,000t/yr feed mill alongside the terminal.

NETHERLANDS

Sime Darby subsidiary **Unimills** has taken over a lecithin production plant in Zwijndrecht, the Netherlands, previously owned by **Loders Croklaan**. The facility, which is on the Unimills site, processes and packages lecithin produced from soyabeans and sunflower seeds. Unimills produces over 450,000t/yr of vegetable oil products including hardstocks for margarines and spreads, dough fats, flaked fats and ice cream fats.

POLAND

Dow Corning has expanded its presence in central Europe by opening a new commercial office in Warsaw. It will house sales professionals and experts in silicone technologies to provide the country's construction, personal care, processing and manufacturing industries with silicon-based materials and solutions.

RUSSIA

Leading Russian producer of petrochemicals and synthetic rubbers **Nizhnekamskneftekhim** has plans to construct a large petchem complex at Nizhnekamsk, in the semi-autonomous Russian republic of Tatarstan. This will include a 1Mt/yr ethylene plant based on naphta and butane gas feedstocks. A final decision on the proposed project will be made this year, with completion expected in 2013/14.

RUSSIA

Also at Nizhnekamsk plans are afoot for **Clariant International** to establish a new plastics masterbatch production plant. Here again definitive go ahead has not yet been given, but a decision is expected by end of 2010.

RUSSIA

CHS Inc, the US-based energy, grains and food company, has formed a joint-venture with Moscow-based **Agrico Group** that will manage the supply, logistics, export and worldwide marketing of Russian wheat, feed and grains.

SPAIN

CalciTech based in Geneva, Switzerland, recently signed a letter of intent with **Calcinor** headquartered in Altzo, Guipuzcoa, Spain, for the construction of a calcium carbonate plant at one of Calcinor's lime mining sites in Guipuzcoa.

UK

At the end of the third quarter of 2009 **Cemex** opened a new cement grinding and blending plant at the Port of Tilbury, Essex. This is the only operational cement plant in the south-east of England and represents the UK's largest single cement industry investment in the past five years. It is capable of producing three types of cement: standard CEM1 (cement clinker and gypsum); CEM2 (a mixture of 70% CEM1 and 30% fly ash); and CEM3 (50% CEM1 and 50% ground granulated blast-furnace slag).

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Vortex Valves opens office in Switzerland

Vortex Valves Europe headquartered in Darlington, UK, has set up an office close to Zurich, Switzerland, which will cover Germany, Austria and France while also providing support for its existing Italian agent, Normicom. The new operation will be headed by Swiss national Oliver Küng, 34, who worked previously in a senior capacity for Buhler. Already with an in-depth knowledge of solids handling valves and fluent in five languages, he is expected also to help the company establish new sales territories in Eastern Europe. Vortex provides slide gates, diverters and iris valves which are designed specifically for handling dry bulk solids.

Several weeks earlier Vortex had named Barcelona-based Iberfluid Instruments as its new official agent in Spain and Portugal.



Oliver Küng

Established in 1972, Iberfluid specialises in providing industrial solutions for the plastics, food, chemical and pharmaceutical industries. With two Spanish branch offices outside Barcelona and a third planned for Lisbon, the company operates several divisions including a solids handling division headed by Xavier Miquel. It will manage technical inquiries and service for Vortex's full range of valves. See also p8.

www.vortexvalveseurope.com
www.iberfluid.com

Relaunched abrasion-resistant valve range for liquids, slurries and solids

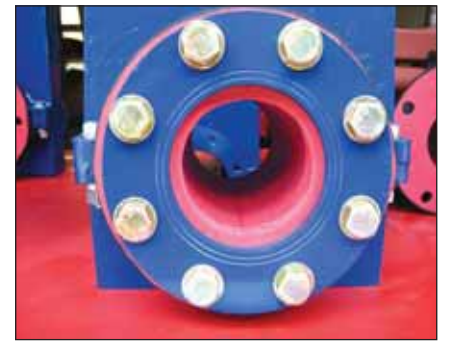
Linatex, with European headquarters in Yately, UK, in January unveiled a newly designed and re-engineered valve product range which offers superior abrasion resistance thanks to the fact that they are lined with the company's own unique formulation of premium rubber. It has been making valves for over 50 years and the new range includes various designs of pinch valves, knife gate valves and check valves suitable for use with aggressive liquid chemicals and gases through to

highly abrasive powders and granulates including cement, fly ash and alumina. Trials have shown that they are capable of outlasting conventional valves by a very wide margin.

Jim Geyer, Linatex's global valve product manager, commented: "A lot of work has gone into our offering to ensure that Linatex valves meet industry needs across a wide range of applications. In fact Linatex now has the most comprehensive valve range on the market". These include pinch valves of both open body and closed body design, knife gate valves, check valves (single non return, or double non return), pneumatic split liner pinch valves and pneumatic single piece pinch valves.

Designed and customised to meet the demands of tough minerals processing applications and transfer of abrasive/aggressive product flows, the valve range offers a choice of heavy-duty steel operating mechanisms and robust steel, iron or aluminium bodies. They can also be supplied with complete automation packages.

Linatex has long been recognised as a leading innovator in the use of premium natural rubber for abrasion, impact and corrosion resistance. Decades of growth in the global marketplace has led the company's worldwide operations into a complete range of products and



A one-piece Linatex premium rubber liner in trademark red gives this 100mm closed body pinch valve a distinct competitive advantage in terms of superior wear protection, ensuring extended service life and reduced maintenance requirements.

services, which include process equipment and systems, moulded and fabricated components, screen media and materials handling hose.

Bruce Cooke, general manager Linatex Europe, said: "Utilising Linatex premium rubber as standard in Linatex valve liners ensures a genuine performance point of difference. Linatex has moulded liners with proven superior wear, that for the customer, results in longer life and lower replacement costs."

www.linatex.com



Linatex pneumatic pinch valves installed on delivery lines conveying cement powder to storage silos. The valves are very well suited to high frequencies of opening and closing, added to which the premium rubber liners protect against abrasion damage and their low-friction properties prevent risk of blockage.

EuroBulkSystems

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Payper wins further Indian petchem bagging business

Payper, the leading Spanish manufacturer of bagging technology, is poised to achieve a major breakthrough into the Indian petrochemical sector. It has been awarded contracts to deliver a total of five of its latest CSA100 automatic bagging lines to Gail (India) Ltd and to



Payper automatic bagging line of the type being delivered to India.

HMEL (HPCL-Mittal Energy Ltd), a joint venture between Hindustan Petroleum Corp and Mittal Energy Investment Pte Ltd, Singapore. Several similar automatic bagging lines have already been installed by Payper on the subcontinent. The high-performance CSA100 series offers advantages of compactness, light weight, low power consumption and the capability of bagging a wide range of granular materials.

www.payper.com

Hillenbrand set to acquire K-Tron

Hillenbrand, Inc, the holding company for Batesville Casket Company, a North American leader in the sale of funeral service products including burial caskets and urns, has agreed in principle the purchase of K-Tron International, whose Process Group is headquartered in Pitman, NJ, with European head office in Niederlenz, Switzerland. The transaction is expected to be finalised at the end of March. Batesville Casket and K-Tron will operate as separate business units. "Although K-Tron's products differ from ours, we are both manufacturing companies that share similar processes and core operational values", commented Kenneth A Camp, Hillenbrand's president and CEO.

www.hillenbrandinc.com

www.ktron.com

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Ebbecke plans European expansion

Contract bulk material processing specialist Ebbecke Verfahrenstechnik, Frankfurt-am-Main, Germany, has recently appointed Claas Kursawa as head of the company's sales, marketing and internal distribution departments. A qualified lawyer, he holds a postgraduate marketing diploma and has recent experience in chemical and pharmaceutical sales. One of his first responsibilities will be to establish a comprehensive European sales network, focusing especially on partnerships in the Benelux, Scandinavia, UK, Spain, France, Italy and Switzerland.

www.ebbecke-verfahrenstechnik.de



Claas Kursawa

PORTABULK brings further success for Goodtech



Three PORTABULK automatic FIBC filling lines installed by Goodtech at Ewos.

Goodtech Packaging Systems, Norway, has during the past two years commissioned fully automated, robot-operated PORTABULK® bulk bag filling lines to Yara's technical ammonium nitrate line at Koeping (Sweden); to Felleskjøpet - the leading Norwegian agricultural cooperative - at its Norwegian seed plant at Holstad, and for fish feed at the Ewos AS plant in Florø, located on the Norwegian west coast. New projects, many of which

also include fully integrated track and trace technology adapted to industrial IT solutions, are scheduled for implementation in the next 12 months. These include another Norwegian fish-feed major - Biomar - as part of its development at Myre; an extensive Felleskjøpet project, at the company's Kambo site, as well as contracts awarded by Ammophos, a Russian fertiliser conglomerate and the Romanian fertiliser supplier Azomures.

www.goodtech.no

New management at Siemens mechanical drives business unit

Manfred Egelwisse, CEO of A Friedrich Flender AG, will be resigning at the end of March at his own request. He expects to maintain close and amicable future relations with the company. He has been with Flender for more than 20 years and when the company was acquired by Siemens in 2005 he actively managed its step-by-step integration into the global Siemens organisation,

a process which will be completed in the coming months. With effect from beginning April, Dipl.-Ing. Theo Maas, 52, takes charge of the new Siemens mechanical drives business unit. This forms part of the Siemens Drive Technologies Division which has some 36,000 employees worldwide and achieved sales of €7.5 billion in fiscal year 2009.

www.siemens.com/drivetechnologies

Top management change at Starlinger

With effect from 1 November Sven Wolf, 43, has been appointed managing director of Starlinger & Co GmbH, Austria, the world market leader in the field of machinery and complete lines for woven plastic bag production as well as PET recycling and refinement. He assumes responsibility for the technical management of the company, taking over from Richard Müssler who after five years in the post has decided to resign for personal reasons. Angelika

Huemer, the company's managing partner, said: "Richard Müssler laid an excellent foundation during these years for Starlinger's future growth and the achievement of our global aims. We are grateful for his contribution, but we have to accept his decision." He remained with the company until end of the year to ensure a smooth transition in technical management. Starlinger regularly achieves an export quota of more than 99.5%.

www.starlinger.com

Unloader/screener automates pharmaceutical powder handling

UK-based Kason Europe reports a recent unusual application involving a circular vibratory screener supplied by its parent, Kason Corp of Milburn, NJ, for processing pharmaceutical powders. The ingenious, automated system which was conceived by IEDCO (Industrial Equipment and Design Company) of Turnersville, NJ, involves a special bulk bag unloading rig. The combined system scalps oversize granules, and then meters a predetermined amount of on-size material into a container.

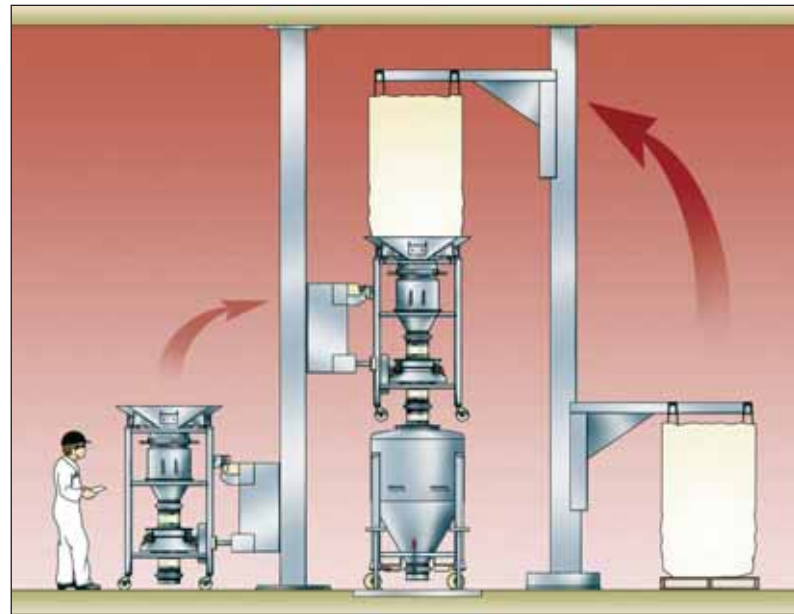
Two lifts raise the bulk bag containing dextrate and dock it with a screener-unloader cart, allowing the powders to gravity feed through a 760mm diameter low-profile Kason screener that scalps oversize product while on-size powder fills a container

below. Connections between bag, cart and container restrict dust. The 762mm diameter FLO-THRU VIBROSCREEN uses multi-plane inertial vibration to separate oversize particles from the rest of the material.

The low-profile unit features two gyratory motors mounted externally on opposite sides of the screening chamber. Besides minimising height requirements, the design positions the bottom outlet directly below the inlet, allowing material to fall vertically through the screener and into the container in a straight-through path at high rates. "The design would have been very cumbersome, as well as taller, had we used a standard circular vibratory screener with side-mounted discharge," said Ed Heller, president of IEDCO.



Unloader/screener cart incorporating the low-profile Kason machine.



Twin lifts position the bulk bag over the unloader/screener cart for powders to gravity feed from the bag through the screener into the container below. Dust is contained by flexible connections between bag and cart and between cart and container.

All the screener's material contact surfaces are 316 stainless steel or of other FDA-approved materials. To achieve consistency with screens used in other plant operations, the pharmaceutical company specified a 30-mesh screen for the FLO-THRU unit. To prevent screen blinding, IEDCO added a Kason ultrasonic anti-blinding device in the centre of the screening deck, which transmits ultrasonic frequencies that dislodge near-size particles from screen apertures.

The automated system increases capacity while eliminating risk of injury arising from manual drum handling. Previously workers scooped powder on to the surface of a rectangular screener, a manual process that required lifting, generated dust and was significantly less productive. "Now they don't have to lift anything or do any type of manual work," said Heller. "They just press a button and everything happens automatically."

www.kason.com

Successful Gericke seminar at new Regensdorf test plant

At the end of January Gericke organised a three-day seminar on the theme of bulk material technology and processing at which 120 customers participated. The event, held in two languages and staged at the company's new test facility alongside its Swiss headquarters, proved so popular that not all those wishing to take part could be accommodated. For this reason Gericke is planning to organise further similar seminars in the near future.

Subject areas covered in depth included mixing, feeding and pneumatic conveying with special reference to chemical, food and building materials industries. A balanced combination between theory and practice made a favourable impression on the participants. Gericke's development and application engineers presented not only trends but practical solutions as well.

Unlike typical seminars held

elsewhere on these subjects, where there is often a lack of practical relevance, the explanations provided by the engineers were then followed by practical demonstrations in the test centre which is equipped with state-of-the-art technology for handling and processing bulk products. The test plant offers individual items of equipment such as conveying systems, feeders and mixers integrated into a working system. This meant that participants had the opportunity to study in detail how the individual items function, both on their own and in conjunction with other equipment forming part of a full-scale operational test plant.

One topic investigated during the course of the seminar was a comparison of various solutions for gentle handling of high-quality raw materials and formulations. Alongside this, Gericke - a recognised pioneer in the field of powder handling - presented a new design of hygienic feeder which is expected to provide groundbreaking advantages for certain demanding processes, notably in food and pharmaceutical sectors. These feeders are equipped with advanced weighing technology and can be disassembled in a matter of seconds for easy cleaning.

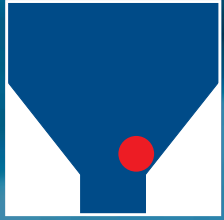
See also the article on p9 where Gericke engineers describe recent advanced research, carried out in association with academic institutions, into reliable feeder performance.

www.gericke.net



Attendees at the Gericke seminar witness a pneumatic conveying demonstration at the Regensdorf test centre (see also front cover picture).

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NÜRNBERG MESSE



Penko officially opens new head office

In a ceremony attended by over 200 people, high-speed weighing and measuring technology specialist Penko Engineering on 27 January officially opened its new headquarters and manufacturing facility in Ede, the Netherlands.

Fred Foster (see front cover picture), CEO of parent company ETC Inc, gave a speech setting out Penko's objectives and expectations, underlining the importance of this major investment in such a difficult economic climate. This was preceded by an opening address from Anita van den Ende, the Dutch government minister who is director of European affairs, competition and consumer



Dutch government minister Anita van den Ende delivers a speech at the Penko opening ceremony.

policy of the Ministry of Economics. She explained the government's industrial policy and how Penko fits into its plans, concluding by warmly welcoming ETC's investment in the Netherlands.

In early November Penko had moved to its new head office which is located some 10km from its previous base in Veenendaal. The two-storey building, representing an investment of more than €5M by US parent company ETC, includes 3370m² of factory space and 1280m² of office accommodation.

The new warehouse will be updated with a sophisticated barcode scanning system and cycle counting procedure later this spring, with materials being stocked within the production lines to improve efficiency and handling. General manager Pekka Sundstedt commented: "The emphasis on improved materials handling and routing will help us increase production efficiency, with better storage for component and finished stocks. This will help us meet our manufacturing commitments following the launch of our FLEX range of instrumentation earlier in 2009, which has been an instant success with dealers and end users."

The new address is: Schutterweg 35, NL-6718 XC Ede, the Netherlands (tel: +31 318 525630)

www.penko.com

Appointments at Beumer



Regina Schnathmann.

Beumer Group of Beckum, Germany, the leading international manufacturer of intralogistic systems in the fields of conveying, loading, palletising, packaging and sortation, has recently appointed Regina Schnathmann as director of communications and public relations. She holds a degree in economics from the University of Bamberg and has previous experience of global marketing communications and PR with major international companies.

Earlier Beumer had named Dr Thomas Borghoff, 42, as managing director sales. Prior to joining the company he was CEO Central Europe for Siemens Dematic, having previously headed the company's UK operations. He studied electrical engineering at TU Braunschweig, going on to receive a doctorate in business management.

Beumer has around 2000 staff and a turnover of some €350M.

www.beumer.com

SCE sets up British Isles distributorship

Lincolnshire-based GAME Engineering has been appointed UK and Ireland distributor for SCE NV, Silo Construction and Engineering of Lichtervelde, Belgium. Its rectangular, modular, self-supporting steel silo systems are supplied worldwide for storage of a wide range of bulk materials, including animal feeds and foodstuffs. Advantages include highly efficient use of available space, the possibility to house administration/control rooms within the total silo structure and capability for inexpensive expansion at a later date. GAME, established in 1986, has turnkey plant engineering experience with special reference to animal feed, pet food and grain industries.

www.sce.be;
www.game-engineering.com



Working with GAME Engineering, SCE in 2009 installed this silo system for Wagg Foods in the UK.

Launch of Pelletroneurope

Pelletron Corp of Lancaster, PA, a world leader in dedusting systems, has set up Pelletroneurope GmbH in Vogt/Allgäu, Germany. Peter Siebentritt, a former representative of the Pelletron agency MoMaTech GmbH, has been appointed managing director of the new company. Further managing directors include Heinz Schneider and Paul Wagner. MoMaTech will remain sales

representative for Pelletron in southern Germany, Switzerland and parts of Austria. Pelletroneurope will assume responsibility for sales and service in Europe and will assemble DeDusters, components and Pellbow abrasion-resistant pneumatic conveying pipe elbows at its new facility which is currently under construction.

www.pelletroncorp.com;
www.pelletroneurope.com

Malvern invests in India and China

On 10 February UK-based materials characterisation expert Malvern Instruments inaugurated a third 'centre of excellence' in India, established through its joint venture company Malvern Aimil Instruments. Located in Delhi and intended to serve customers in north and north-east India, the new facility houses laboratories that are equipped with a range of

Malvern systems and staffed by a full-time applications team. They will provide training, applications and technical support, as well as undertaking sample analysis. Headquartered in Mumbai, Malvern Aimil Instruments has eight offices around India as well as test centres in Bangalore and Baroda to complement the latest Delhi facility.



Terry Liu will work from Malvern's Shanghai office.

Meanwhile Malvern has expanded its team serving the particle characterisation market in China with the appointment of Terry Liu. He will work from the company's Shanghai office supporting customers across a range of industries in their implementation of Insitac solutions for particle size measurement and process optimisation. A graduate of Nanjing University of Technology, he has a degree in instrumentation and automation.

www.malvern.com



Guests at the opening of the new Malvern test plant in Delhi.



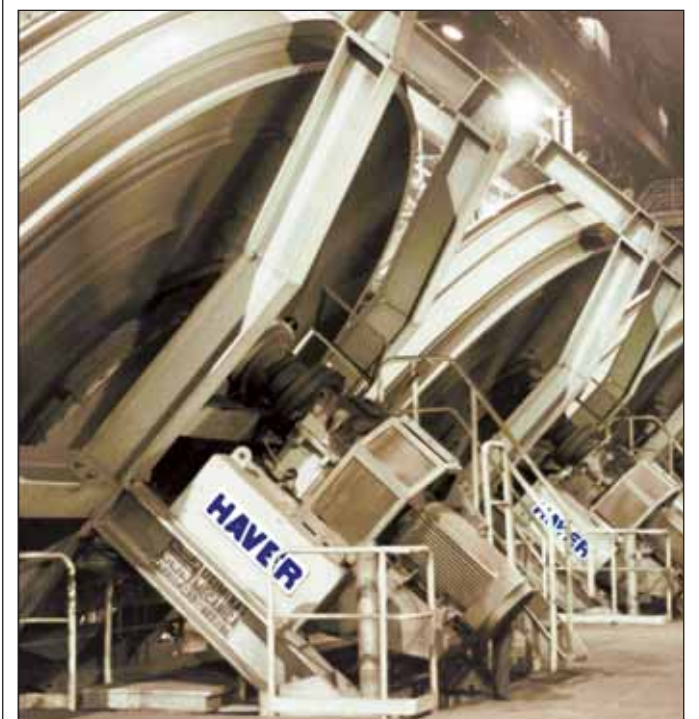
From the left: Peter Siebentritt, Heinz Schneider and Paul Wagner.

Automatic pelletising of iron particles and other fine materials

Haver Screening Group, a collaboration between Haver & Boecker Latinoamericana, W S Tyler Canada, and Haver & Boecker Machinery Division of Muenster, Germany, has developed a giant pelletising plate which has a diameter of 7.5m and a capacity of

150t/h. It has been specifically designed for pelletising fine iron particles and mineral powders, but can also be used for other applications such as granulating fertiliser. It will be shown at this year's Bauma exhibition (Hall B2, Stand 131/232).

www.haverboecker.com



Haver & Boecker giant pelletising plates.

www.q-rohr.com

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Key Technology strengthens French presence, extends conveyor warranty

Key Technology, the leading manufacturer of automated electro-optical inspection and sorting systems, conveying and processing equipment, has appointed Patrick Marmet as area sales manager for France. He will be based near Lyon. "With several years of experience selling high-quality equipment to food processing companies in France, he already knows many of Key's customers" said Andreas Hofman, sales director Europe, Middle East and Africa for Key Technology BV, Beusichem, the Netherlands.

In a separate initiative Key has introduced a new five-year warranty on its range of Smart Shaker vibratory



Patrick Marmet. conveyors. The same applies to its Iso-Flo vibratory shakers and Impulse

electromagnetic shakers. During the first year of the new warranty, the company is prepared to provide full coverage of major components such as the pan, frame and supports, as well as all wear parts including replacement or repair labour for the pan and frame. In years two through to five, it provides coverage of major components, including replacement or repair labour for the pan and frame. This guarantee is conditional on the machine having been run within design specifications and maintained according to manufacturer's recommendations.

www.key.net

Bunting gears up for international expansion

Paul Scott has joined Bunting Magnetics Co., headquartered in Newton, KS, as a design engineer for its materials handling product line. His primary focus will be to design bespoke materials handling equipment for specific customer applications. He will also assist in automation of the design process through the expanded use of software applications.

Having already worked for Bunting earlier in his career, his background includes design and engineering for the automotive, magnetic material and aerospace industries. He holds a bachelor of science degree in mechanical engineering from Kansas State University and is a member of the Society of Automotive Engineers.

In a separate move which reflects the company's growing international presence, Robert Turner has been promoted to financial

director of Magnet Applications Ltd (MAL), the Berkhamsted, UK, subsidiary of Bunting Magnetics Co. Meanwhile at the parent company's Newton, KS, head office Molly Taiclet has been elevated to the position of division controller, having previously been accounting manager. In her new role she will increasingly focus on integrating the accounting operations of the recent acquisitions made by Bunting.

Turner, a Chartered Accountant and graduate of Nottingham University, will concentrate on regulatory and financial reporting for Bunting's UK operations. "As we move forward to completing the merger between the two companies, I will rely heavily on Robert to make it seamless", commented Douglas E Donaghue, chief financial officer for Bunting Magnetics Co.

www.buntingmagnetics.com



Paul Scott, Robert Turner and Molly Taiclet.

Road tanker loader fully evaluated prior to purchase

Vollers Belgium has purchased a Dino DR300 SilverLine mobile loader manufactured by Van Beek of the Netherlands for transferring plastic granulate from bulk bags into road tankers as part of its Antwerp-based third-party storage, blending and transloading operations. Before signing the order the company had rented the machine from Van Beek for a period of six months to allow extensive testing

to be carried out. The unit, which is available from stock, has a basic capacity of 40m³/h (or alternatively 80m³/h). It fully meets CE standards and health & safety legislation, including labour protection regulations.

www.dino.nl/silverline.php

Van Beek Dino DR300 SilverLine mobile loader supplied to Vollers Belgium.



Internal photography facilitates Allied Bakeries silo maintenance

Braby of Bristol, the leading UK manufacturer of stainless steel and aluminium silos, recently completed maintenance work on a 30ft flour silo at the Cardiff, South Wales, facility of Allied Bakeries. Braby Service, the company's Lincolnshire-based silo cleaning and maintenance division which was established some 12 months ago, was contracted

by OCS to carry out a full inspection and thorough dry clean of the internal walls of the silo. Specialist photographic techniques were employed to ascertain the internal condition of the vessel and a full report was made to OCS and Allied Bakeries. The entire cleaning and maintenance project was completed in five days.

www.brabyservice.co.uk



Some of the Braby Service team.

Dust suppression during railcar loading controlled by ultrasonics

Pulsar Process Measurement of Malvern, UK, has supplied non-contacting ultrasonic equipment to initiate and switch off dust suppression systems at a rail loadout site and nearby conveyor transfer point operated by Lafarge Aggregates in Leicestershire. A number of methods had been tried previously, ranging from load sensors on the conveyor to optical systems on the railcars. None had proved sufficiently reliable or accurate. On the railcars Pulsar supplied a blackbox control unit with a dB10 transducer providing a measurement range of up to 10m. During loading, as soon as a railcar has reached the "full" level a relay signal initiates the spray system and the top layer of stone is doused with the liquid dust suppressant formulation.



Pulsar ultrasonic device (right) controls railcar dust suppressant spray.

The ultrasonic unit will not allow the stone to be sprayed until it sees a full level, and it also switches off the spray between cars.

www.pulsar-pm.com

Cooling screws for thermal cleaning of tar asphalt

Celsius, of Drunen, the Netherlands, has designed and produced several screw-type heat exchangers for Van Bentum's Rotterdam recycling facility. The units are required to cool tar asphalt in a continuous process from 600° to 50°C. Tar is removed from the asphalt by heating to a high temperature. The noxious gases are also cleaned. This leaves a residue of clean sand, gravel and filler. To ensure a long service life, the heat exchangers incorporate extremely wear-resistant materials.

Capacities vary between 4000 and 5000kg/h.

www.celsius.nl



Celsius cooling screw of the type supplied to Van Bentum.

Enhancements to powder ingredients handling at Reckitt Benckiser

Braby, Bristol, UK, has successfully completed a project to expand production capacity and improve handling efficiency at the Hull plant of Reckitt Benckiser. The requirement was to improve accuracy and consistency of batch measurement of powder ingredients used in the production of Gaviscon indigestion tablets, whilst maintaining stringent levels of

traceability required in pharmaceutical manufacturing. Individual materials are now separated for weighing and combined with the entire batch for vacuum transfer. IBatch software integrates with mechanical capabilities to collect process data and monitor strict industry requirements for control and accountability.

www.braby.co.uk

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Meet us at Powtech 2010 in Nürnberg Hall 9, booth 359

Whirlwind advance: valve supplier takes Europe by storm

Vortex Valves Europe is that rare entity: a UK-based equipment supplier that has successfully established itself in mainland Europe, though admittedly with support and marketing guidance from its US parent. Since its formation in 2006, the company has doubled its turnover every year and with the 2010 opening of a sales and administrative office in Switzerland, backed up by a motivated team of agents, it seems poised for further rapid expansion throughout the Continent.

EuroBulkSystems managing editor Richard Miller talks to Jon Naylor, managing director of Vortex Valves Europe, about the reasons behind his company's success and his future plans.

RM: Vortex Valves Europe has just set up a European office in Switzerland. What were your main reasons for doing this?

JN: When establishing the business we approached future development throughout Europe with a completely open mind. In some countries we appointed representatives and distributors that have proven to be very successful, in others a completely different approach was necessary. The French and German markets are of interest to us with a good potential for business but after detailed investigation it became apparent that the only way to be truly successful was to establish a local office. With both its geographical location and multilingual population, Switzerland was the obvious choice. The icing on the cake was finding Oliver Küng who has 17 years of experience working with Buhler, a major player in the industry.

In future will your agents in various European countries report directly to the new Swiss office or to the Vortex Valves Europe head office in Darlington, UK? What will be the chain of command between the different agents, the new Swiss office and the Darlington office?

We have a well established agent in Italy - Normicom Srl and they will be supported on a day-to-day basis by the Swiss office. This will give us our central European territory comprising France, Germany, Switzerland, Italy and Austria. I shall be responsible for both the Swiss and UK based offices myself, reporting back to the head office in Salina, Kansas, USA. Darlington is and will remain our technical support and commercial centre for the whole of Europe.

Do you plan to appoint any more European agents in the near future?

Absolutely! We are always looking for companies with the right background and core values to add to our growing network! In the last few weeks Iberfluid, Spain, have joined us to look after the Iberian Peninsula. Once we have the central European office established in Switzerland, I shall be turning my attention to parts of Scandinavia and the Eastern Bloc.



In 2008 Vortex Valves Europe installed a specially modified HDP (heavy duty, pressure) slide gate valve at Cadbury's gum base plant at Tallaght, Dublin, which produces chewing gum. Previous supplied pneumatic slide valves had tended to become jammed when trying to handle the extremely sticky gum pellet ingredients, but Vortex triumphed by painstakingly analysing the fundamental problem and coming up with a specifically engineered solution.



Vortex pneumatic conveying slide gate: the company's valves are widely used for handling dry bulk solids in gravity, vacuum, dilute or dense phase applications.

What is the working relationship between Vortex Valves Europe and Vortex Valves North America/Salina Vortex Corporation, and also between Vortex Valves Europe and the other subsidiaries - Vortex Valves Asia-Pacific and Vortex Valves Latin America?

Well, that depends on what you mean by "relationship". At a people level, we have the Vortex family - a term used by many US companies but in the case of Vortex it really is like one big family! From Tony Zhang in our Shanghai office to Carlos looking after our interests in South America we are all a close-knit team with one common goal - the rapid international growth of Vortex Valves. I genuinely consider these guys good friends as well as colleagues! I'm very lucky in that respect.

If you are talking about the mechanics of it all, then we have the Salina Vortex Corporation based in Salina, Kansas. Under this, ably looked after by Travis Young our vice president of international business development, is the international network comprising three subdivisions: Latin America, Asia Pacific and Europe, incorporating Africa and the Middle East.

At present are all Vortex valves and their component parts manufactured in North America? Do you have any plans for local fabrication in Europe?

We currently manufacture all our products at our purpose-built plant in Salina, Kansas. The plant was opened around three years ago and represented the massive investment required to ready the company for international growth. The dollar exchange rate allows us to be competitive over here and the cutting-edge manufacturing systems mean we can process orders quickly offering delivery to site throughout the world in just 4-6 weeks.

As for the future - as is the Vortex way - we are completely open-minded and will consider whatever moves are necessary to ensure we can continue to offer our top notch service to our worldwide clients.

Are valves fabricated to different gauges to meet both North American dimensions (inches, feet, etc) and metric sizes for the European market?

Hit one of those important nails on the head there, Richard! Even before I joined in 2006 Vortex were already well advanced with developing a truly metric range to complement their imperial one, in preparation for the world markets. When I say "truly metric" what I mean

is it isn't a tweaked imperial design. All fasteners, dimensions, etc are actually metric. Along with ATEX approval, CE marking, etc, this was a must to be successful over here.

If there is uniformity in manufacture does this mean, for example, that a Vortex valve sold in China will be of identical specification to one sold in the UK?

Exactly! A worldwide client can buy the same model valve in China, the UK or from the US factory and the dimensions and specification will be exactly the same. It gives the multinationals the confidence they need to include Vortex on their worldwide supplier list and in their new plants, irrespective as to where they are located in the world. It also means on the rare occasion that spare parts are required (Vortex valves need next to no maintenance) they are readily available.

What quality assurance accreditations does Vortex hold concerning its valve manufacturing procedures and what warranties are you prepared to offer customers with regard to the valves' service life and reliability?

I'll split this answer into two parts, if I may.

Vortex Valves Europe acquired accreditation to ISO9001:2000 in 2007 so we could demonstrate to European clients that we had systems and procedures in place to assure a high level of quality of product and service. Salina Vortex Corp in the USA have also now acquired the same accreditation, so our customers can be confident that we have two tiers of quality assurance.

The Vortex range is designed to offer lengthy service life with minimal intervention. We literally have valves out there in flour mills, etc, that have been in service for 15, 20 even 25 years with little or no maintenance.

When it comes to those tougher applications, we have acquired a reputation in the industry for our dogged determination, revisiting an application on many occasions until the client is fully satisfied. Many of your readers will have seen the story about Cadbury Dublin who



Jon Naylor, 44, has spent most of his working life in business to business sales, and more recently in business development/senior management roles. As with Vortex, his previous employer was an American-based organisation for which he was likewise in charge of European operations.



Vortex diverters, which are primarily designed for use in pneumatic conveying systems, are capable of directing bulk material from a single source to multiple destinations, or conversely can ensure that it converges from various sources to a single destination.

manufacture chewing gum. We quite literally helped them out of a sticky situation (sorry for the pun), but it took a fair few visits and trial sample valves to get it right.

We offer a 12-month warranty on materials, etc, but in reality the customer is king and our one goal is to make sure he is completely satisfied every time!

Vortex valves have shown themselves to be highly effective with 'difficult' bulk solids, including powders and granulates which are extremely abrasive, cohesive and even very sticky. To what extent are they also suitable for ultra-hygienic applications in food or pharmaceutical industries?

We pride ourselves on being straight with our customers and admitting right at the onset when something is outside our field of expertise.

A vast proportion of our valves are supplied for food and animal feed usage but when it comes



Vortex 2-way Quantum Wye Line: the company specialises exclusively in bulk solids handling valves which are engineered for dependability, durability and easy maintenance.



The company's mobile display units (MDUs) equipped with working examples of state-of-the-art valve technology have proved to be a highly effective marketing tool, calling at dry bulk processing facilities throughout Europe for product demonstrations and training sessions as well as allowing potential new customers to gain hands-on experience of what Vortex valves can offer. Each trailer has its independent pneumatic power source and 220V electric supplies, allowing all products to be demonstrated in full working order. Similar MDUs are widely deployed in other parts of the world, most recently in China.

to ultra-hygienic pharma applications we gratefully decline, leaving that to the experts.

I understand that your valves are designed to provide quick and easy cleaning and servicing by the customer. Does Vortex Valves Europe also provide an after-sales and maintenance service?

You're right. Maintenance is very easy on the Vortex range. They are specifically designed so that the operator can do the majority of general maintenance with the valve still in the system rather than on the bench. The savings in downtime because of these clever designs is considerable and this is how our valves have become so popular in the USA. They cannot match the initial cost of a butterfly or cheap knife



Vortex Valves' UK-based team which operates from the European head office in Darlington (from the left): administrative assistant, Jade McDonald; regional sales manager for UK and Ireland, Laurence Millington; vice president of international business development, Travis Young (American); Jon Naylor; and technical sales manager, Jason Peterson (American).

gate but once you look at the lifetime cost taking into consideration lost production, etc, Vortex is an absolute bargain and one less headache for the busy production manager.

Are your valves sold mainly 'off the shelf' or can they also be customised? To what degree are you able or willing to offer bespoke solutions to challenging or unusual solids flow problems?

I can almost throw that question on its head for you! Vortex is not your typical valve manufacturer. We have very little 'on the shelf' stock at all.

What we offer the customer is that final solution once and for all to the leaking, unreliable weak link in the production chain that is a typical butterfly or knife gate valve. We do this by asking lots of questions, fully understanding the application, then applying our extensive knowledge to designing the final solution based upon our basic standard range.

For this reason well over 50% of our US sales are 'specials' and it's more like 80% over here in Europe right now. Once we see more and more repeat business from happy customers, the figure will drop but it will always be around 50/50.

Do you have any plans in the foreseeable future to diversify into producing valves for liquids or slurries?

Back to sticking at what you are good at on this one. No, Vortex valves are designed specifically for handling dry solids in bulk. We have many years experience in the field and have developed a range of valves and diverters that are unrivalled for their efficiency and longevity. The last thing we would want to do is (sorry another pun!) dilute our skills by trying to diversify into gasses and liquids.

Having said that, of course if anybody out there has a weird or wonderful dry solids application that they just cannot sort out and which has been driving them mad for years, then Vortex are certainly the guys for the job! We can provide a valve-shaped paracetamol that will get rid of that headache once and for all!



The Vortex Valves global head office in Salina, Kansas, USA.

Optimisation of continuous metering systems with regard to metering accuracy

By Dr-Ing. Matthias Kruse and Steffen Böhmer, Gericke GmbH



Matthias Kruse



Steffen Böhmer

Summary

Precise continuous metering of products with medium to poor flow properties poses a major challenge. On the one hand, demands made on accuracy, even when metering products with poor flow behaviour and low throughput rates, are increasing. On the other hand, the weigh feeders must be integrated into the overall processes, some of which are complex, in an optimal way.

Quite often process-related pressure differences and particular operating methods as well as external interfering factors have to be observed and taken into consideration. This article not only looks at the theoretical basic principles of metering accuracy and their technical limitations, but also takes a look at constructive solutions when dealing with bulk products with poor flow properties.

At present, measurements of accuracy and general information concerning the same are generally given with reference to the recommendations in accordance with the NAMUR NA40 [1] work sheet. According to this, metering constancy S_k (= fluctuation of the actual value based on the effective average value) and metering accuracy $S_{s,i}$ (= systematic deviation of the average value of the actual value from the specified value) are calculated on the basis of 30 measurements of 1 min each. It is, however, possible that – on account of a short residence time ($< < 1$ min) of the bulk material in a process downstream from the weigh feeder – the reference period for the measuring of metering accuracy has to be reduced. This necessitates the use of high-precision check weighers with short reaction times and fast data acquisition when measuring the accuracy of the process. If demands made on metering constancy and metering accuracy become more critical, demands placed on accuracy as a whole may rise considerably.

When discussing a project, it is therefore necessary to clarify which accuracies at which points of an overall process are really required. As a rule, higher demands on accuracy lead to a technically more complex design and therefore in turn to higher prices (sometimes referred to as "over-engineering").

Higher demands made on industry as a whole, in connection with metering accuracy in continuous processes, prompted the Gericke metering team to examine various factors which influence accuracy in more detail. By doing so, we gained further important insight into the factors instrumental in leading to an increase in metering accuracy.



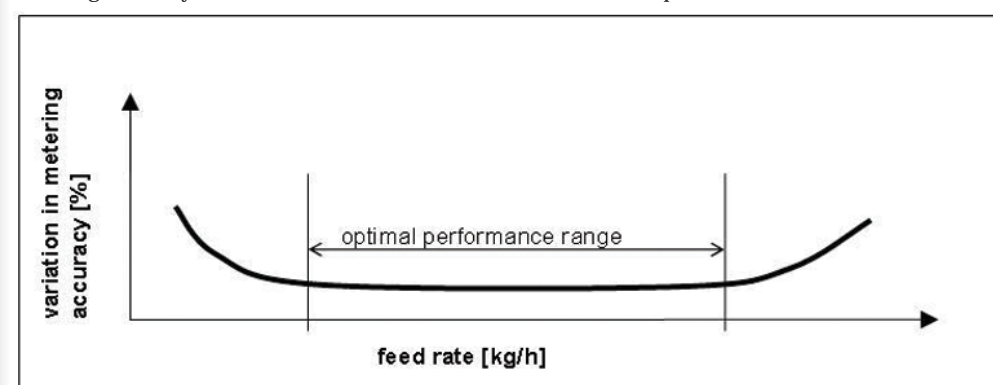
Loss-in-weight feeder DIW-3E-GDU451-200.

Optimal range of feed rate with loss-in-weight feeders

If the feed rate of a gravimetric metering system is too low, the weighing technology of the metering controller may not be able to register any significant decrease in weight. This in turn can lead to there being no input parameters available to the controller.

If the feed rate is at the upper end of the performance range, the weighing hopper needs refilling after a comparatively short phase of gravimetric feeding. During refilling no weighing is carried out and the metering system is only in volumetric mode as a result.

The higher the feed rate, the longer the phases in which the speed of the feeder cannot be



Qualitative course of metering fluctuation within the range of performance when using continuous loss-in-weight feeders.

VORTEX VALVES EUROPE at a glance

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vortex.eu@vortexvalves.com
www.vortexvalveseurope.com

Established: 2006, as a subsidiary of Salina Vortex Corporation.

Main valve types: A wide range of slide gate valves, diverter valves, iris valves and specially engineered valves, all purpose-designed to handle dry bulk solids effectively – including highly abrasive, cohesive, sticky and corrosive materials.

Europe representation: Vortex Valves Europe GmbH, a newly established subsidiary located close to Zurich, Switzerland, which will cover French, German, Austrian and Swiss markets. Distributors for the Benelux (Its- Industrial Technical Supplies), Italy (Normicom), Iberian Peninsula (Iberfluid Instruments), Turkey (Toztech), Ireland (PPS – Powder Process Systems) and Scotland (Hearne Quinton) as well as less formalised connections with companies in Greece, Poland, Israel and north-west England.

Staff: 135 direct staff worldwide, but more like 300 including agents and distributors. Five employees are based in the UK with another in Switzerland, backed up by a further 20 or more people working for the company in European distributorships.

Parent Company: Salina Vortex Corp, Salina, USA

adjusted. Further to this, instabilities incurred on account of the frequent number of refills, can impair the metering result.

Conclusion: In the case of gravimetric feeding and with the given volume of the hopper, there is an optimal range of performance in which accuracy is virtually constant. At the upper and lower ends of the range of performance the degree of accuracy drops for the reasons already indicated.

Influence of vibrations on the weighing system

In cooperation with Constance University of Applied Sciences, research was carried out into the influence of vibrations on a loss-in-weight feeder. Vibrations occur particularly in production plants and they can generate many different types of horizontal and vertical oscillations in a large variety of frequency ranges caused by the drives of the integrated machines. The metering result is influenced decisively by the vibration severity measured in the form of acceleration of the vibrations. The question being looked at is: "How well do the weigh feeders compensate defined intensities of vibration?" Research carried out in cooperation with the above university showed that an acceleration of vibration up to 0.5m/s^2 did not affect the metering accuracy of the Gericke hybrid weighing technology. In addition to electronic damping, it emerged that mechanical damping in particular plays an important role here. The tests made it clear that the reduction of transference of vibrations to the system (as a whole) was not achievable by using heavy weights (e.g. heavy base platforms) nor were simple rubber feet suitable as vibration dampers for significant reduction of the effects of vibrations. On the contrary, results showed that additional vibrating of the system can occur and then lead to metering inaccuracy. Sand cushions the vibrations perfectly. It is, however, not practical for design and hygiene reasons.

Constance University of Applied Sciences appraised the Gericke Hybrid Loss-in-Weight Feeder, equipped with a mechanical vibration damper system and tare compensation, as being the optimal system. It compensates adverse effects caused by vibrations coming from the plant or the volumetric feeding system itself.

A well-known European pharmaceutical company has been familiar with these advantages in connection with our weighing mechanics for decades. It processes very light and cohesive products like titanium dioxide, Ca_2CO_3 , kaolin and various salts in its new gravimetric metering plant (hybrid weigh feeders) in connection with producing enzymes (as part of the process of producing enzymes). These products require a high feed rate and high metering accuracy.



DIWE GAC233F-550VR loss-in-weight feeder (hybrid construction) with tare compensation and mechanical dampers.

Influence of the resolution of the load cell and the reaction time

Weighing and evaluation technologies know no bounds. In addition to questions regarding resolution of load cells in connection with weighing mechanics, more importance is being attached to reaction times of load cells and the controlling side as a whole when optimising short-term accuracy. Measuring intervals of 1s are a daily occurrence. They cause inertia problems, affecting the load cells in particular as



Metering controller Gericke Easydos Pro.

they work according to the principle of the vibrating wire. The only thing that helps here is so-called gliding averaging which means the actual weighing signal is embellished electronically and released with a certain time lag. The weighing technology implemented by Gericke works fast enough also to be able to meet the high demands made in the short time area when used together with the Gericke Easydos Pro metering controller. Plants, where loss-in-weight feeders operate together with continuous mixers and/or packing machines as integrated network, require very fast changes in feed rate without even the slightest of delays. This is no problem whatsoever with the Easydos-Pro.



Loss-in-weight feeder DIW PE-GLD87-2.

For some years now, low feed rates have not only been required in the pharmaceutical industry. Using various types of weigh feeders, rates in the range of up to 0.1kg/h can be metered successfully gravimetrically in the normal course of industrial processes.

Here one relies on the modern concept of electromagnetic force compensation with leading manufacturers of load cells regarding this as being the best possible principle for the future.

"Electro-magnetic force compensation is a weighing principle by which the weight of the product to be weighed is countered by a weight of the same size which is generated by means of an electro-dynamic converter. An electronic regulating system, which reacts to the deflection of the load cell, ensures that the compensating current is adjusted in such a way that the imbalance of forces caused by loading and deloading is rectified." [2]

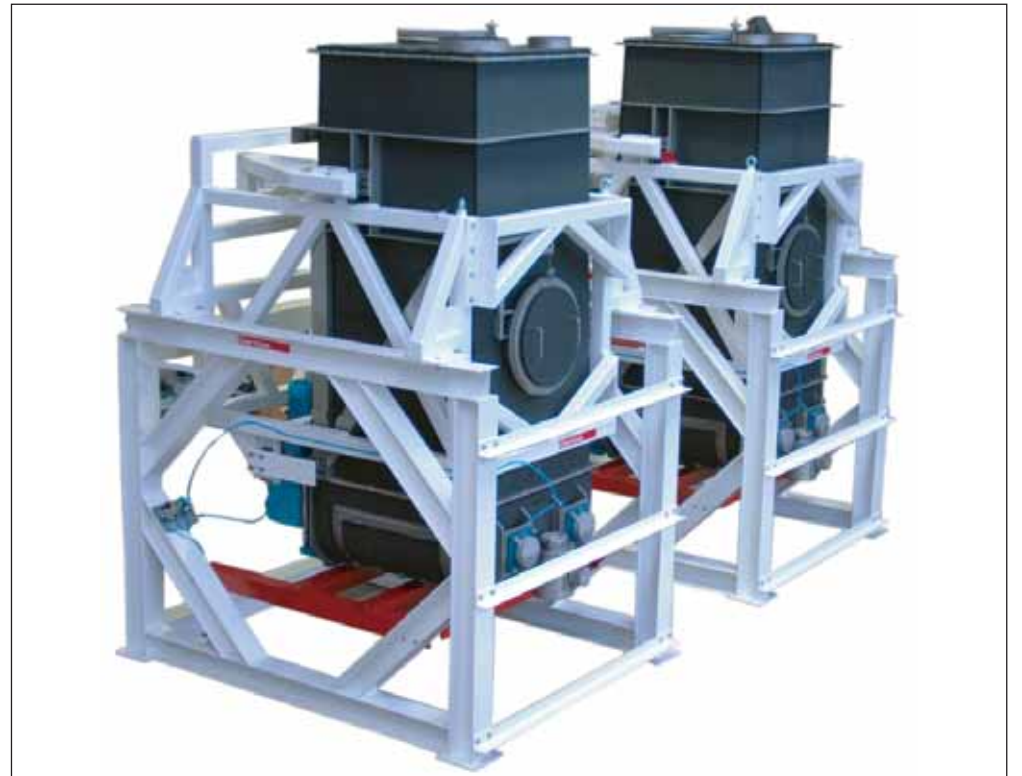
The following advantages have led to this principle being put into practice nowadays when metering small quantities:

- The so-called EMFR weighing sensors achieve extremely high accuracy with a resolution of up to 50 million divisions compared to the wire cells with 300,000 divisions.
- The electro-magnetic force compensation principle makes for effective compensation of interferences incurred on account of vibrations, shocks, etc.
- Insensitivity to temperature and high resistance to overload, on account of the robust monobloc construction, mean there are definite advantages when using these sensors.

The combination of reliable and durable feeders and the latest weighing and control technology makes it possible to achieve excellent gravimetric metering results when dealing with small amounts. High demands on accuracy can be realised when using Gericke metering systems.

Influence of the geometry of the screw

When trials were carried out in the recently opened Gericke test centre in Regensburg, interesting findings were confirmed which will have an influence on the metering systems for



Loss-in-weight feeder DIW-E SAD 1200-3000.

various fields of activity. In cooperation with Rutgers University (USA), various bulk materials with adverse flow properties were tested in several feeders with specific metering settings. A considerable number of the discharge devices have a tendency only to extract bulk material from the back of the discharge opening. A dead zone often forms in the section near the opening where product is being discharged. The reason for this is that the screw helix, which already fills up with material at the back, conveys the bulk material through the front section. This can be avoided by setting up the geometry of the screw in such a way that the conveying capacity increases in the direction of the flow. The metering screw is configured in such a way that it can carry bulk material throughout the whole infeed section.

Tests show that even bulk materials with adverse flow properties, which slowly clog up the spaces of the screw helices, can be metered with good results in long-time tests if a variety of different screw geometries are used. By optimising the agitator, it was possible to achieve metering results with better metering accuracy and only slight standard deviation.

Influence of agitator, length of metering nozzle and particle size

The metering of moist, sticky bulk materials which can be compressed like snowballs is a task with high engineering requirements. This task is made more complicated by the fact that these materials may have a tendency to consolidate if not kept in motion over a certain length of time. This task is downstream from the centrifuges which are used to pre-dry bulk materials after completion of a production process. The bulk materials are discharged from the centrifuge and possibly then conveyed to another drying section. For tasks of this nature, the SAD-feeder is particularly suitable as it possesses two agitators above the metering screw.

These ensure satisfactory break-up of the product on the one hand and constant filling of



Loss-in-weight feeder DIW3E GDU 801-500.

the metering screw on the other. The construction of the agitators and the drive capacities are adapted to the bulk material being metered as the resistance forces during processing can vary considerably from one product to the next. Use of particularly short metering nozzles prevented product from again becoming compressed.

Measurements of metering accuracy in the system as a whole confirmed a very slight standard deviation. Additional bridge breakers, which result, in particular, in a shift of gravity (e.g. devices with flexible walls), were found to have an adverse effect on metering accuracy.

As opposed to bulk materials with good free-flowing properties, which allow continuous, hardly pulsating discharging of product out of the metering nozzle, one can measure a very high standard deviation when dealing with very fine cohesive materials with a tendency to agglomerate when coming out of the nozzle. In order to counteract this process, special fixtures, small screens or other reduction tools on the discharge nozzle were successful in diminishing the lumps in the product coming out of the nozzle. This brought about a considerable reduction of the standard deviation.

Optimal integration of the metering technology into the process as a whole

As a specialist for metering and systems technology with experience acquired in connection with a variety of applications in all kinds of industrial activities, Gericke has developed a high degree of know-how enabling its staff to advise customers in all matters concerning the integration of a feeder into a process.

In this connection, it is a great advantage that we have a wide spectrum of machines and processes at our command which means that staff are well informed, regarding the functioning and operating modes of the machines installed down- and upstream from the Gericke feeders. Even if a customer 'only' requires one weigh feeder, advice is offered in connection with successful integration of the Gericke product into the system as a whole. The customer can profit in particular if a continuous metering and mixing system is equipped with the Gericke GCM mixer because functionality and controlling of all the components can be matched to one another. This is a great advantage particularly with regard to starting and closing down the system.

Thanks to the recently built Gericke test centre (see front cover picture), we can provide customers with even better service, production processes on site can be optimised and factors of all kinds which influence the process can be assessed more precisely.

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- [2] (Wägelexikon, Braunschweig und Zürich 2008, Roland Nater, Arthur Reichmuth, Roman Schwartz, Michael Borys, Panagiotis Zervos)

Towards stricter hygiene standards

Enhanced sanitary design features plus easier/faster cleaning nowadays are a top priority with leading mixer manufacturers. Here we provide five such examples along with other latest innovations.

Prototype mixer can accommodate ultrasonic injection

Lindor, Dordrecht, the Netherlands, has developed the L100 US food-grade mixer with a product capacity of 100 litres which has been specially designed to accept ultrasonic injection. As there is plenty of space on one side of the drum, many additional options can also be mounted. Ultrasonic liquid injection allows a minimum amount of spraying with volumes as low as 0.05ml/s up to 6.0ml/s, with precise control of droplet size and flow. Not only is it possible to add a minimal amount of liquid, but this can be precisely controlled so that exactly the amount needed is evenly distributed to the product without loss.

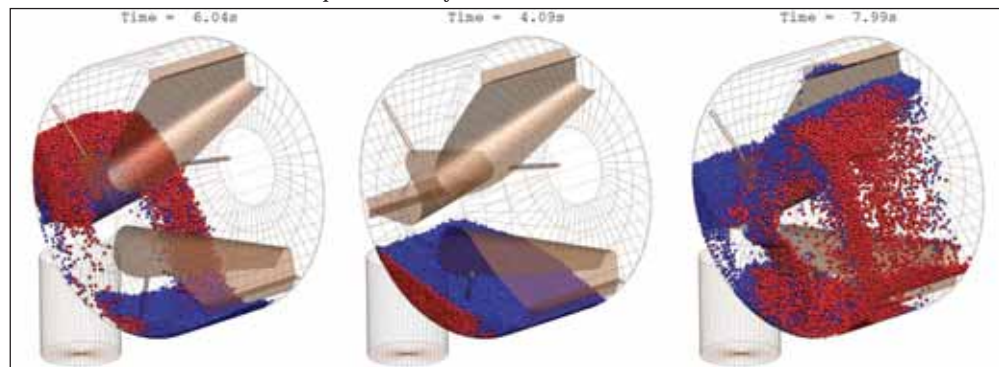
Lindor has also developed a prototype of a new mixer (pictured on the front cover) with demountable inlet and outlet for quick and easy

cleaning for applications where ultra-hygienic standards apply.

The company's machines provide a uniquely gentle mixing action, as a result of which they are especially suitable for processing high-value and/or fragile products.

Several of these latest developments will be shown at Powtech. Also during the exhibition a presentation will be made by JProf. Dr-Ing. Andre Katterfeld from the University of Magdeburg and Prof. Dr S Luding from the University of Twente on a 3D DEM simulation of the mixing process in a Lindor mixer. Their findings will be presented at the World Congress on Particle Technology (WCPT6) which takes place concurrently with Powtech.

www.lindor.nl



3D DEM simulations of the mixing process of a typical Lindor mixer.

Rotating mixer is loaded and discharged through the same opening

Latest development from Forberg International of Larvik, Norway, is the rotating twin-shaft paddle batch mixer. Special features include gentle handling of delicate products, low energy consumption, high capacity and compact dimensions. Average retention time is no more than about one minute. Designated F-RM, the machine has one inlet valve at the top through which product is loaded. After the mixing cycle

has finished, the entire unit is rotated upside down and the product is discharged through the same opening. It is then rotated back through 180 degrees ready for the next load. Special features include automatic washing and drying of the mixer and it is also possible to mix under vacuum or under an inert atmosphere to avoid oxidation of highly sensitive products.

www.forberg.no



F-RM rotating twin-shaft paddle batch mixer from Forberg International showing loading (left) and discharge positions.

Dry-clean-in-place for mixing systems



Dinnissen is now offering dry-cleaning-in-place.

Dinnissen Process Technology, Sevenum, the Netherlands, has developed a fully automatic dry-cleaning-in-place concept which employs compressed air, for use with mixers and conveying systems. The blow-cleaning process, which delivers powerful air pulses via special nozzles installed at critical locations in the mixing system, is designed to remove 99.9% of all residual material. The cleaning sequence progresses step by step and is controlled by an interval timer. After it has been cleaned, each compartment is automatically closed by means of cut-off valves to prevent any particles finding their way back to the cleaned areas. A suction system transfers dirt and other residues to a hermetically sealed section.

Other recent Dinnissen innovations include a new variant of the Pandora End of Line Mixing system, jointly developed with K-Tron, and a new compact version of its Pegasus mixer, both initiatives being fully reported previously in this publication.

www.dinnissen.nl

GMS Multiflux mixer with cantilevered shafts

Gericke has launched a variant of its successful GMS Multiflux mixer called GMS.C. The "C" stands for cantilevered and refers to the two shafts that are cantilevered, an innovation that offers several advantages. Not only is half the number of seals required but, thanks to the modified construction, the front side of the mixer can be opened entirely. With the high-specification version, designated GMS ECD, the operator can even remove the complete drive and mixing shafts from the main body. Large lateral doors offer easy access to the mixing chamber. This latest design shortens the time needed for inspection, dismantling and cleaning, thereby making the machine more productive. This latest version retains the traditional advantages of the GMS Multiflux mixer, which creates a fluidised bed by means of its two horizontal, overlapping mixing rotors. Its mixing action is said to be very efficient in terms of energy savings while also ensuring gentle handling of the products being mixed. Tests have shown it to be capable of blending additives and minor components quickly and reliably.

www.gericke.net



Gericke's Multiflux GMS.C mixer.

Further refinements introduced to Bella mixer line

Dynamic Air, based in St. Paul, MN, and with its main European office in the UK, has recently introduced into its Bella line of mixers a new method of adding liquids which eliminates the tendency for the liquid to stick to the walls of the mixing chamber when being added while mixing is in progress. A special series of nozzles is utilised which inject the liquid directly and only into the fluidising zone. Where required the liquid addition nozzles can be quickly and easily removed, thereby improving the liquid-addition process, making it more efficient and reducing maintenance requirements.

A further enhancement has been the introduction of newly designed access doors to facilitate fast, easy and simple cleaning of the mixer from either side when required. Newly designed multiple air induction nozzles for drying

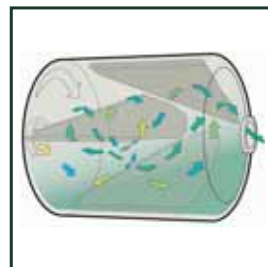
during mixing have also been introduced to minimise drying time and improve efficiency.

www.dynamicair.com



10,000-litre Bella mixer from Dynamic Air.

Lindor The gentle touch in mixing



special mixers
for sensitive
products

powders
granulates
natural products

food
pharma
chemicals

short mix time
low shear
no breakage

mixing
impregnation
heating/cooling

batch size:
10 – 25000 liter
3 – 15000 kg

www.lindor.nl
+31 786550655
mixers@lindor.nl

Some advantages of thinking positive

Pneumatic conveying divides into two basic categories: positive-pressure and negative-pressure (vacuum) systems. Here three expert practitioners in the field of positive-pressure technology outline the main advantages offered by this mode of pneumatic transfer, as well as providing examples of recent installations. In our March/April issue negative-pressure exponents will be given their say.

Presenting the case for positive pressure

Gericke of Switzerland states that positive-pressure pneumatic conveying systems are preferred in all conveying installations that require transport of material from one starting point to several reception points. The conveying path and thus the receiver at the end of the line can easily be selected by means of pipe diverter valves.

Since in the receiver the gas and product flow are separated at more or less ambient conditions (no high over-pressure or vacuum) the hopper and filter design can be quite simple and also allows a simple product discharge out of the hopper.

The conditioning of the gas medium (dryness and cleanliness) is more simple and efficient in positive pressure pneumatic systems than in negative pressure systems. This is especially true in dense phase conveying systems with high pressurised gases (> 4 bar g) which can be very well conditioned at high pressures. Also the inertisation of the system, for example with nitrogen, is easier with positive pressure systems and also the intake of gases or material into the process if there is a leakage is prevented since the gas is flowing "outwards".

However, according to Gericke, the biggest advantage of positive pressure systems lies in the fact that the gas can be compressed to more or less any pressure that is required for the task (usually between 4 – 6 bar g). This allows for a high conveying pressure to be used with these systems. In negative pressure systems only a maximum pressure difference of 1 bar can be used for conveying purposes, before absolute vacuum is reached. Therefore for positive-pressure systems dense phase conveying systems are possible that always create a large conveying pressure to cope adequately with the high solids loading. Apart of the fact that special slow and gentle conveying systems are possible with positive pressure systems, also the material can be transported over a much longer distance compared to vacuum conveying systems which are usually limited to a maximum distance of no more than about 100m. Moreover, in vacuum applications the pipe diameter for the same throughput provided by a positive-pressure system is always larger, which therefore requires a larger blower and filter.

According to Air-Tec system of Italy, the applicational flexibility and the capability to safeguard the quality of fragile material during transport are the main advantages of positive-pressure over negative-pressure conveying. The company points out that positive-pressure conveying systems are suitable for long distances and for complex circuits with perpendicular pipeline layouts and restricted spaces. Positive pressure, Air-Tec system suggests, is the best solution for transporting delicate products such as rice and coffee, ensuring minimal damage while in transit.

Dynamic Air, headquartered in St. Paul, Minnesota and with its European head office in Milton Keynes, UK, has over the years developed 16 different pneumatic conveying concepts: 12 employing positive pressure and four vacuum conveying systems. The company emphasises that each of these systems has its own unique set of operating characteristics for pressure, conveying line velocity, efficiency and



Dynamic Air HDP 4000 Full Line Concept dense phase system handles vermiculite for NOV ReedHycalog.

performance.

Because each and every material to be conveyed reacts differently under a given set of operating conditions, Dynamic Air stresses that it is extremely critical to match the system operating characteristics to the material to be conveyed in order to achieve the most desired conveying performance and to provide the best value for the customer. The company has advanced full-scale test facilities, in the USA and the UK, where the following factors can be accurately determined: conveyability, material-to-air ratios, material velocities, hygroscopic effects, build-up tendencies, dust collector requirements, degradation, segregation, filling times, conveying times, optimum conveying pressures, air volumes, aerated bulk densities and any other test data that might be required. Little is left to chance.

Latest technical advances

Gericke: For very long conveying distances or for products with problematic flow characteristics the company has developed under the brand name pneuwork® (see below) special conveying systems consisting of a pressure vessel and a discharge screw which provide very constant product infeed to the pipeline.

Last summer it re-opened its upgraded test centre in Regensdorf where full trials can be performed with positive and negative, dilute and dense phase conveying systems. Several different pipe sizes are available, allowing tests with throughput rates up to 25t/h and distances up to 200m. Different analytical instruments are available to test impact of the conveying on the product.

Air-Tec system: During the last two years the company's R&D department has undertaken considerable research to optimise the yield coefficient of its pneumatic conveying systems. Working in collaboration with the University of Bologna it has developed mathematical models to improve efficiency and drastically reduce energy consumption. Recent installations, apart from the one described below, have included a

pet food conveying system for Nestlé and a system supplied to Siemens for conveying dehydrated, pelletised mud.

Dynamic Air: The company states that because it specialises in pneumatic conveying systems and each customer has different needs, it designs and builds its systems to meet these needs. In this respect, technical developments are constantly being introduced.

Its UK operation, Dynamic Air Ltd, recently relocated to a newly renovated sales and production facility that has been specifically designed to serve the needs of customers throughout the UK and Europe. A state-of-the-art test facility has been built where full pneumatic conveying tests can be performed.

Cement transferred from rail tankcars to silo storage

In the summer of 2009, Gericke successfully commissioned a positive-pressure pneuwork® pneumatic cement unloading system, at Transportbeton GmbH & Co. KG in Vienna, Austria. The requirement was to unload the tankcars containing cement and convey the material from the unloading point about 200m to two existing silos at an output of 50-55t/h.

A total of five tankcars can be parked in series at a fixed unloading point at the customer site and unloaded using a common conveying pipeline. The cars consist of four pressure containers each of 13 m³ capacity and are designed for a maximum unloading pressure of 2.0 bar. The containers are equipped with an aerated bottom and have lateral discharge. For each car with four containers, two docking points are provided in the pipeline installed alongside the rail track. The docking points have a shut off valve and are connected to the lateral discharge spout of the tankcar pressure vessel using a flexible hose. The air supply line which delivers compressed air to five connecting points for each tankcar is also laid parallel to the conveying pipeline. The conveying air is provided by a screw compressor that achieves a maximum end pressure of 3 bar installed next to the track. Depending on the container, the unloading pressure varies between 1 and 2 bar and energy consumption is at about 1.9 kW per tonne of conveyed material. To distribute the cement to the two silos, a diverter valve with two slide gate valves were also provided. Furthermore a special silo inlet station was delivered to divert the cement gently and with low wear into the selected silo.

Refined sugar handled with minimum damage

Air-Tec system recently completed a positive-pressure installation at the Lemarco sugar refinery in Bucharest, Romania. Key objectives were to safeguard the quality of the refined sugar during transfer to the packaging machines by using compressed air. Productivity also needed to be improved by speeding handling times.

Lemarco opted for a full line TPA system with a capacity of 14t/h. Sugar flows continuously into the pipes which have total length of 150m. The Air-Tec system transporter (see front cover picture) was fabricated in Romania by MecanoTek and allows Lemarco to move the refined sugar more efficiently, with significantly faster loading of the whole line and minimal damage to the sugar particles during transit.

Vermiculite moved first by positive, then by negative pressure

Dynamic Air was recently approached by NOV ReedHycalog of Conroe, Texas, to help provide a low-maintenance conveying system that would be clean, maintain vermiculite particle size to maximise its reuse, and also minimise downtime. This company needs to transfer an insulating material, vermiculite, into separate chambers for cooling drill bits to control the cooling rate of its product. After the product is cooled, the company then needs to vacuum the vermiculite out of each chamber.

NOV ReedHycalog previously employed a



Dynamic Air's new test facility in Milton Keynes, UK.

mechanical conveying system that delivered the vermiculite to the cooling chambers. However, this caused dust nuisance and also proved to be very high in maintenance. The mechanical delivery system required the operator to physically push a drop chute in place above the chamber and visually check how material was charged into it. Often this resulted in too much or too little material being delivered, which had the effect of varying the cooling rate of the drill bits. Additionally, the vacuum system previously employed to convey the vermiculite back to the product bin caused the large-particle-size material to degrade and no longer be useful.

Dynamic Air provided a bulk bag unloading station that fed directly into one of its HDP 4000 Full Line Concept dense phase pressure systems. This conveys the vermiculite at low velocities to move the material gently to each of four receiving bins, minimising any particle attrition.

The material volume to be charged into the cooling chamber is controlled by level indication in the receiving bins, eliminating any need for the operator to inspect the amount of material to be used. A preset amount of vermiculite is dropped into each chamber to envelope the hot drill bit mould. The charging chute is able to be pneumatically rotated into position above each chamber, minimising any need for manual intervention.

After the drill bit mould has been cooled to a preset temperature, the operator initiates vacuum conveying utilising Dynamic Air's LDV 4000 Vacuum Concept dilute phase vacuum system that uses its patented DC-5 Air Saver technology. The material is then vacuumed out of the chambers in approximately 25% the time taken by the previous conveying system, while minimising product attrition.

After the material is conveyed into the vacuum filter receiver, it is fed through a Kraus vibratory screener feeder. The fines are removed by the screener and fed to a waste drum and the good material is fed back into the dense phase transport system to be conveyed back to the receiving bins once again.

The new Dynamic Air conveying systems have significantly reduced requirement for replacement vermiculite thanks to minimising particle degradation. The new installation has also had the effect of largely removing need for operator interaction with the equipment at the same time also substantially reducing downtime due to maintenance problems.



General view of Air-Tec system's sugar handling installation at Lemarco, Bucharest (see also front cover picture).



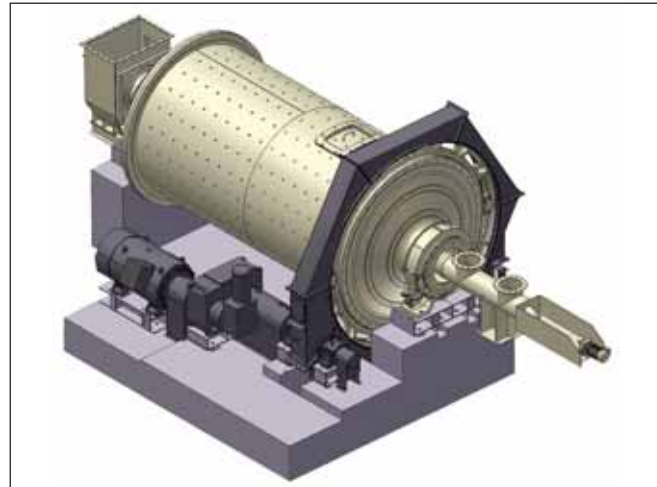
Last year Gericke commissioned a newly developed pneuwork® system at Transportbeton, Austria, for discharging cement from rail tankcars to silo storage.

Air-Tec system www.air-tec.it
Dynamic Air www.dynamicair.com
Gericke www.gericke.net

Ball mill offers ultra-fine grinding for broad range of minerals

Sweco of Florence, KY, a part of MI LLC, has

introduced the KGM, the latest model in the range



Ecutec's KGM ball mill.

of revolutionary ball mills designed by Ecutec, its recently acquired subsidiary headquartered in Barcelona, Spain. This latest mill is of extremely robust construction, making it well suited for fine and ultra-fine grinding of most minerals and ores including calcium carbonate, dolomite, talc, bentonite, barites, coke, calcium oxide, aluminium oxide, silica and zircon oxide. A wide range of finenesses are attainable with top cuts down to less than two microns. Sweco Europe is based in Nivelles, Belgium.

www.ecutec.eu
www.sweco.com

IN BRIEF

Ultra-large bulk boxes

Paper-based packaging specialist Smurfit Kappa UK, which operates from 36 production facilities, has introduced XXXL Packaging, a range of corrugated cases the largest of which could accommodate a small car. The packaging will be available in a choice of lighter weight or heavy-duty designs. Single-wall board can be used to create packaging suitable for light-weight products such as soft furnishings or light engineering, whilst heavy-duty, double-wall board can be used for export shipments as well as for certain bulk chemicals and foodstuffs.

www.smurfitkappa.co.uk

Versatile moisture measurement using advanced microwave technology

Berthold Technologies, Bad Wildbad, Germany, has introduced the Micro-Polar II moisture measurement system which has been specifically developed for bulk materials. It can be easily retrofitted to belt conveyors or chutes, providing online monitoring using non-contacting microwave technology. There is no risk of wear and tear to components as the emitting antenna is mounted below the conveyor belt and the receiving antenna is mounted above it. Consequently no maintenance is required. Thanks to technical improvements in frequency



Micro-Polar II from Berthold Technologies.

and frequency range, the new device is suitable for a wider range of applications which previously had been restricted by bulk density or particle size. Even deep bulk layers can be penetrated thanks to the enhanced dynamics.

www.berthold.com

Mobile screen changing system

Another recent innovation from Sweco is its Mobile QuickChange screen changing system. Like other members of the QuickChange family, the unit reduces screen changing to a one-man operation, eliminating the need to involve maintenance crews. After removing the clamp band of the targeted deck, the Mobile QC is manoeuvred into position next

to the separator. The clamping devices are locked on to the frame brackets, and by means of the hand-operated pump the frames are lifted for easy screen removal. All QC systems are designed to reduce the time needed to change screens by up to 75%. In Europe the Mobile QuickChange is available from Sweco Europe, Nivelles, Belgium.

www.sweco.com



Mobile QuickChange from Sweco can reduce screen changing times by up to 75%.

In-chassis compressor for dry bulk



GHH Rand's CS1200.

GHH Rand of Oberhausen, Germany, has launched the CS1200 InChassis compressor kit which allows a wide margin of installation flexibility to suit most European tractor units used in association with road powder tankers for transport of dry bulk products.

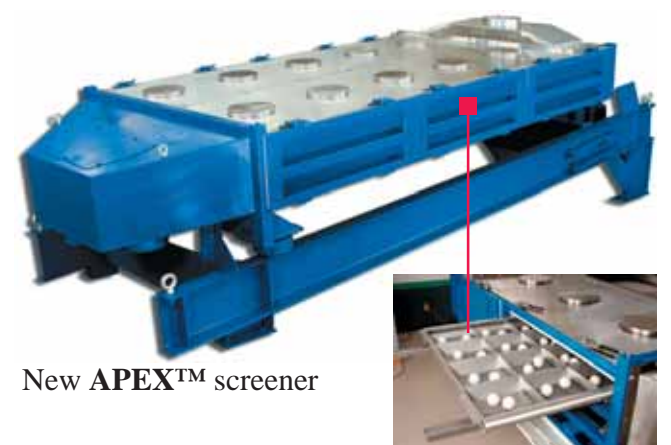
Special features of the CS1200 include a unique and newly developed SILU oil-free screw compressor, the capability to be direct driven in most European three-axle tractors, an ingenious driveline configuration

to reduce drive shaft angle, an optimised rotor profile offering low frequency and low noise operation, a narrow and self-contained air-end with integral oil cooler, corrosion-free rotors which are food industry compliant, and a shear coupling for gearbox protection. As a further protective measure, GHH Rand is able to offer for dry bulk food transport requirements a Silol FG food-grade lubricant which meets the NSF H1 compliance regulation.

www.ghhrand.com

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Dry Screening Reaches New Heights



New APEX™ screener

The new APEX™ Screener from ROTEX is the smart solution for dry screening:

- Increase your production, less down time
- High screening efficiency with gyratory motion
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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.

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- Low torque
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Features

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- Absorbs vibration
- Externally leakproof



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IN BRIEF**Weight controller with network interface**

The HI 4050 general-purpose weight controller made by Hardy Instruments of San Diego, CA, is now available with a ControlNet network interface. This allows fast transfer of time-critical application information to up to 98 additional nodes at distances of 250 to 5000m. The unit, which is only 3in deep, includes WAWERSAVER to eliminate the effects of surrounding vibration for fast, stable weight display. It can be calibrated electronically without need for test weights. In western Europe the company's process weighing products are available in the British Isles from Ixthus Instrumentation of Towcester, UK; in Spain and Portugal from Tecnicos Sistemas y Procesos of Madrid, Spain; and in all other countries from B+L Industrial Measurements of Heidelberg, Germany.

www.hardyinstruments.com

Advanced box/drum tipper

UK-based Flexicon (Europe) has added the Box-Container Dumper to its Tip-Tite range of vessel dischargers. The unit, available in stainless or mild steel versions, can accommodate boxes and bins with lateral measurements from 915 to 1220mm and heights within the range 990-1120mm. The container platform is raised by a single hydraulic cylinder, creating a dust-tight seal between the top edge of a box (or rim of a drum) and the underside of the containment hood. Twin hydraulic cylinders then pivot the platform-hood assembly, together with container, to 45, 60 or 90 degrees beyond horizontal. There is a motion dampening feature at the completion of each tipping cycle.

www.flexicon.co.uk

Management and monitoring of remotely installed process instruments

The new Sitrans RD500 from Siemens Industry Automation Division has been designed to manage and monitor remotely installed instruments including flow, level, pressure, temperature and weight measuring devices. It integrates web access, event handling and data capture in a single device, allowing the user to monitor equipment from anywhere using a standard web browser by computer, PDA or smart phone. The compact unit requires only simple configuration, with no engineering or programming required.

www.siemens.com/sitransrd

Broader applicational scope for GWR level transmitters

Emerson Process Management of St. Louis, Mo, and with European headquarters in Baar, Switzerland, has introduced enhancements to the single-probe versions of its Rosemount 5300 series guided wave radar (GWR) level transmitters suitable for use with liquids, slurries and solids. New options include a thicker rod for longer measurement lengths and a Hastelloy C-276 probe and wetted parts for applications in corrosive, hot and high-pressure environments. The device features Emerson's patented direct switch technology, making it possible to use a single lead probe for particularly challenging applications.

www.emersonprocess.com

Enhanced performance from new design of screener

A new 1524mm diameter Vibroscreen vibratory screener is available from Kason Corporation Europe based in Stoke-on-Trent, UK. It discharges oversize particles 360 degrees around the periphery of the circular screening deck. This feature has been designed to increase capacity, improve efficiency, minimise screen blinding and prolong screen life. The External Cascade deck is intended for wet or dry bulk materials containing a large percentage of oversize

fractions and is said to achieve higher rates than can be attained by conventional screeners.

www.kasoneurope.co.uk



Kason's Vibroscreen with External Cascade deck.

Explosion isolation valve

Fike, Blue Springs, MO, has further extended its range of explosion protection systems with the introduction of a pneumatically operated explosion isolation pinch valve (EIPV). It consists of a heavy-duty cast valve body containing a rugged elastomeric sleeve. Immediately an explosion is detected, compressed air is released at high speed and within milliseconds the sleeve is pinched to full closure, preventing explosion propagation beyond the valve. Extensive testing has shown that the device can reliably block explosion pressures of 3 bar. To achieve this activation, the EIPV uses a new solenoid output version of the company's EPACO control system. Fike Europe is based in Herentals, Belgium.

www.fike.com



Fike's explosion isolation pinch valve.

Force calibration for silos and vessels mounted on load cells

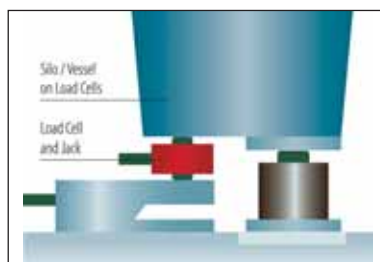
Avery Weigh-Tronix of Smethwick, UK, has introduced force calibration as a quicker and more convenient method to test approve silos which are mounted on load cells. Traditional vessel calibration involves one of two methods: either a minimum of 500kg of test weights need to be delivered to the customer's site, or the vessel is filled with a measured material using a flow meter to achieve

a precise weight. Both options are disruptive and involve significant downtime. Force calibration uses hydraulic pressure instead of weights and normally there is no need to empty the vessel. The method involves applying force to the installed load cells and measuring that force with an independent set of high accuracy reference load cells.

www.averyweigh-tronix.com



Avery Weigh-Tronix force calibration for vessels mounted on load cells.

**Launch of ProGrade magnet range**

In early January Eriez Magnetics Europe based in Caerphilly, South Wales, unveiled its new ProGrade line of magnetic separation equipment which is available for immediate delivery. This includes: grate magnets available in Xtreme rare earth magnetic strength, suitable for all processing industry applications; square, rectangular and round permanent magnetic grates of food-grade finish designed to remove ferrous contamination in hoppers, chutes, floor openings and other areas where free flowing materials are present; an easy-to-clean grate in a housing which consists of two rows of staggered magnets; and the permanently magnetic Hoppagrid low-

strength device designed to remove tramp iron from free flowing powders and granules, notably in the plastics industry.

www.eriez.com

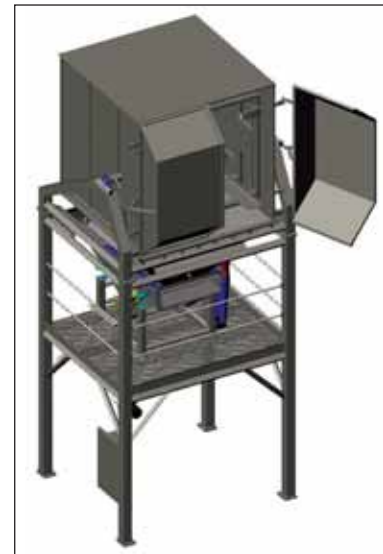


ProGrade round magnet grate from Eriez Magnetics Europe.

Heavy-duty seed tipper ensures 100% discharge with zero residues

NIMO-KG, Kågeröd, Sweden, has just installed a bespoke box turner at the Svalöv plant of

leading Swedish agricultural seed supplier SW Seed. The unit has been designed to handle 3t loads of seed, discharging on to cleaning lines from a height of over 5m. A requirement was that not a single particle of seed should remain after discharging. The design was based on an SK 800 HA machine capable of lifting 1t, but its capacity was tripled to satisfy the requirements of the cleaning line. The unit features hygienic crevice-free surfaces and the unloading angle has been increased to 160 degrees to ensure complete emptying. As the container waits for the next step, the operator can dislodge any residual particles by means of an automatic vibration unit. NIMO-KG regularly supplies some 350 items of lifting and tipping equipment annually worldwide, mainly to food industry customers.



SK 800 HA box turner from NIMO-KG.

www.nimo-kg.se

Tapered-step magnetic liquid trap

Bunting Magnetics, Newton, KS, has introduced within its plate-style series of magnetic liquid traps a new model which features a tapered-step design. It has been structured in this way in order to hold ferrous debris against its solid tapered step, preventing wipe-off of tramp iron and fines even in high-density applications for volumes in excess of 800 litres/min. The unit comes equipped with powerful, high-energy neodymium magnets capable of operating at very high temperatures and is especially suitable for applications where higher-viscosity products require purification. Bunting Magnetics

Europe and its associate company Magnet Applications Ltd are based in Berkhamsted, UK.

www.buntingmagnetics.com;
www.magnetapplications.com



Tapered-step magnetic liquid trap from Bunting Magnetics.

Protection against electrostatic discharge

Kersting Industrieausrüstungen, Brilon, Germany, has introduced the Farado grounding system which is capable of continuously monitoring the correct earthing of road tankers

and other vehicles or items of equipment. It permits unloading only when grounding is shown to have been achieved and there is no risk of electrostatic sparks. The status is monitored by a highly efficient LED panel. Furthermore two relays can be used in order to control other functions, for example valves or pumps or even alarms. The system has two modes (resistive/capacitive and resistive only) and can be calibrated by any authorised operator using a transponder key. A self-retracting cable reel holding 11m of chemical resistant cable is optional.

www.kersting-ind.de



Farado grounding system from kersting.

Teflon probe measures moisture even in cohesive materials

IMKO Micromodultechnik, Ettlingen, Germany, has introduced the SONO-MOVE T moisture probe which is designed to achieve accurate results even with cohesive materials such as calcareous lime sand. It can additionally deliver a radar-based conductance (RbC) value, enabling it to provide enhanced quality control by measuring the mineral content in a material. The probe head is made of Teflon and therefore has excellent anti-stick properties. Thanks to an innovative design feature it can recalibrate itself in the event of

abrasion damage, ensuring longer maintenance intervals and greater accuracy.

www.imko.de



SONO-MOVE T with Teflon probe head from IMKO.

Bulk bag weigh batch eductor system



Flexicon (Europe)'s novel bulk bag weigh batch eductor with dual bag unloaders, each with integral conditioner for loosening compacted material.

UK-based Flexicon (Europe) has introduced a compact combined system designed to loosen material which has become solidified in bulk bags as a result of shipment or prolonged storage, discharging it by weight and blending it into a liquid stream. The unit comprises two bulk bag unloading frames, each with its

own hydraulically powered conditioner. Material is discharged into two surge hoppers equipped with Flexicon flexible screw conveyors. These gravimetrically feed the unloaded product into a central solid-liquid eductor which blends it into a liquid stream in variable ratios set by the user.

www.flexicon.co.uk

Combined shredder and granulator

The advantages of a single-shaft shredder are well known: it is possible to fill a feed hopper which is then gradually emptied by means of a hydraulically operated ram without need for human intervention. However, until now it has not been possible to obtain small granule sizes with these shredders, 15-20mm often being the lower limit. This has resulted in the need for intermediate conveying and a secondary granulator to reduce particle sizes down to 4-8mm. Now Herbold Meckesheim of Germany has introduced the HB Series which combines a feed hopper and hydraulic ram with a granulator. Thanks to the special design of the grinding chamber and the high cutting frequency a

wide range of infeed including plastic hollow bodies such as IBC bottles, pipes and profiles, films, fibres and carpet waste as well as wood can be reliably processed without need for dosed feeding and with no risk of jamming.

www.herbold.com



Herbold's HB Series shredder/granulator.

Bag palletisers with servo control

Ehcolo, Fovling, Denmark, is now offering what are believed to be the world's first bag palletisers with servo control. The system features easily generated pattern software by means of a 15in colour PC touch screen which is very easy to operate. As a result these palletisers are faster and more accurate, although their price

has not increased. Thanks to the soft stop and start feature on all equipment, wear problems have been eliminated and two year warranty is provided as standard. An important green feature is that all braking energy is reused, resulting in significant reduction in overall power consumption.

www.ehcolo.com



Ehcolo bag palletiser with servo control.

IN BRIEF

Extended MES solutions for life science industries

Elan Software Systems, a Siemens subsidiary headquartered in Toulouse, France, which is dedicated to MES (manufacturing execution system) software for life science industries, in January announced the availability of an extended XFP MES version integrated with SIMATIC IT, the Siemens flagship MES platform. This provides production visibility and control throughout pharmaceutical, biotech, cosmetics, fine chemical and related plants by optimising the production cycle from raw material delivery through to end product shipment in compliance with 21CFR part 11 and ISA 88/95.

www.elansoftware.com;
www.siemens.com/Simatic-it

High-volume drying of heat-sensitive products

The UK arm of Hosokawa Micron, based in Runcorn, Cheshire, has

introduced a new 22,000 litre capacity Vrieco Nauta vacuum drier. Designed to provide high-volume, efficient drying of polymers, chemically produced toners, pigments and agrochemicals, the unit is capable of operating at low temperatures and deep vacuum levels to achieve single batch drying with a high degree of product homogeneity and quality control combined with cost reduction.

www.hosokawa.co.uk

Explosion venting in a sanitary environment

Fike Europe, Herentals, Belgium, has gained combined EHEDG (European Hygienic Engineering & Design Group) and 3-A approvals for its Sani-V/A and Sani-VS/A explosion vents. This is the first time ever that such a high level of joint endorsement has been gained for an explosion protection system, providing it with an unrivalled badge of approval to meet challenging applications in food, bio-chemical and pharmaceutical industries where dust explosions can occur. The product provides a fully

ATEX-compliant solution with minimal concerns with regard to contamination-related risks.

www.fike.com

Bulk railcars discharged with greater efficiency and less noise

Field tests show that typical railcar vibrators can loose up to 60% of their vibration transfer force and generate noise levels up to 110dB due to rattling. VIBCO of Wyoming, RI, has introduced the Rail Boss SVRWS-6500AW pneumatic railcar vibrator which has been designed largely to overcome these problems. Thanks to its patent-pending Pressure Lock System, the unit is securely clamped into the railcar pocket to ensure 100% vibration transfer. It is also easy to remove after use. In Europe the device, which retails for around \$1400, is available from various distributors including H & H Process of the UK.

www.vibco.com;
www.handh-process.co.uk

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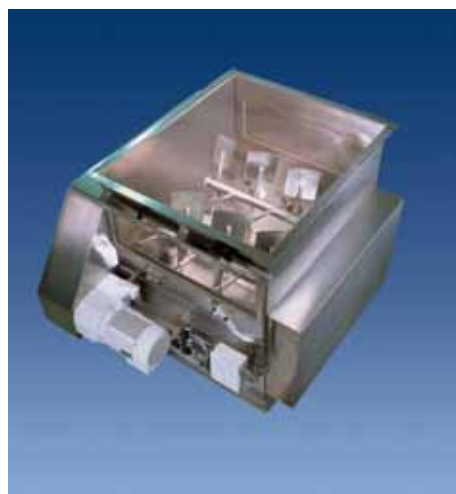
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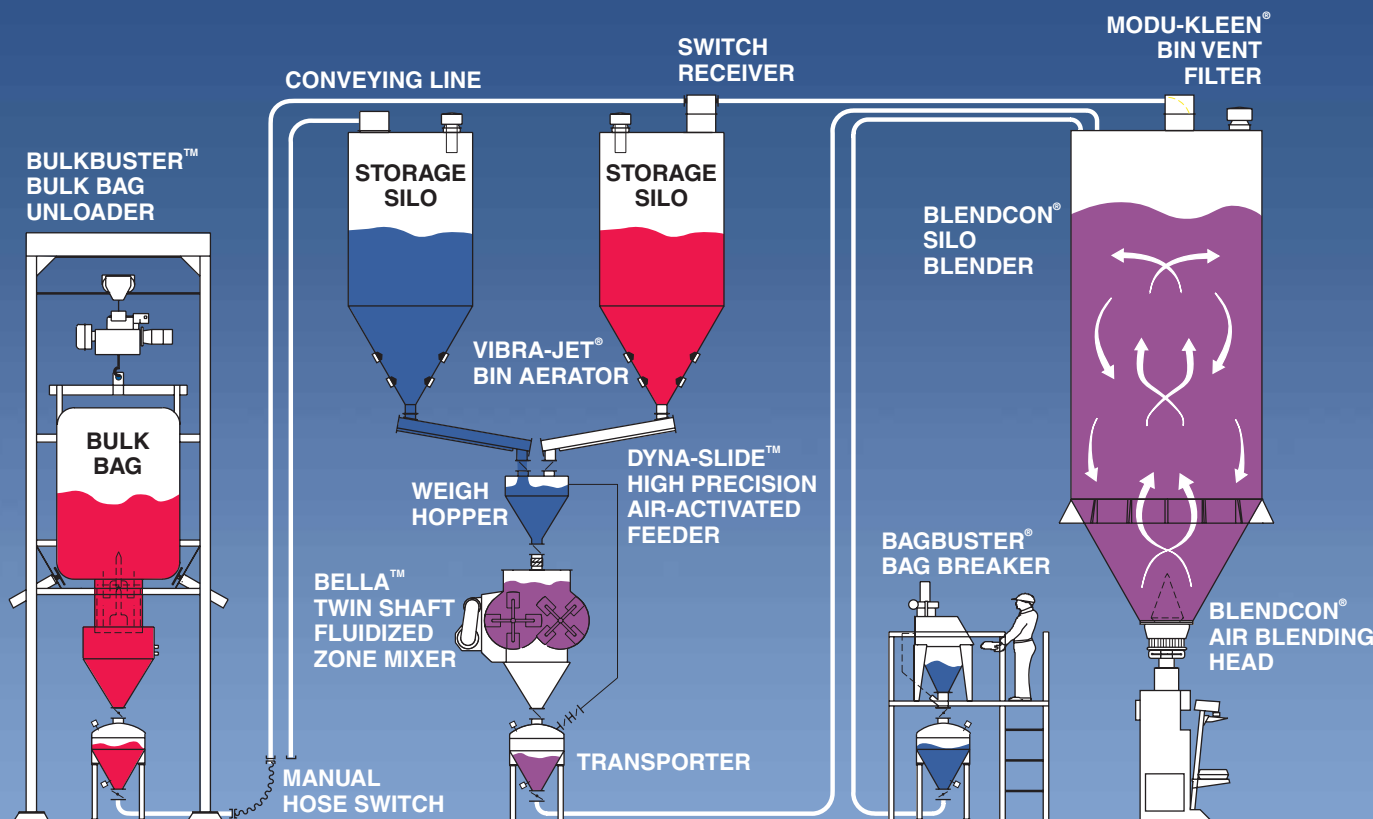
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