

EuroBulkSystems

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

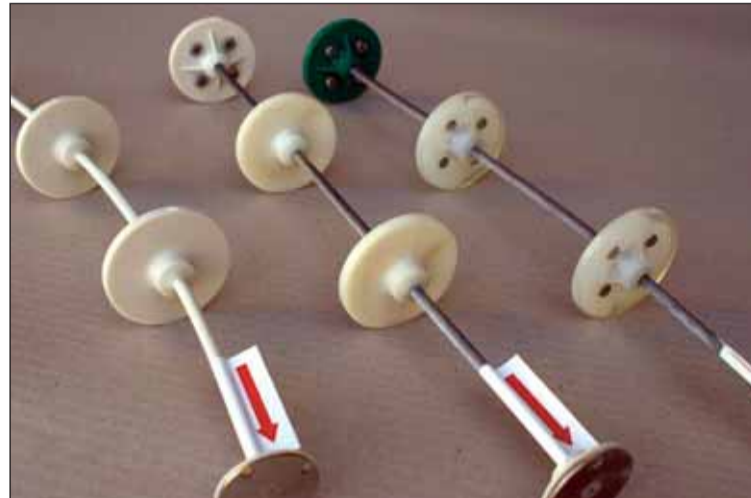
INTERNATIONAL NEWS • PEOPLE • PRODUCTS

NOVEMBER/DECEMBER 2009

ISSUE 12



Following the merger in September between Chronos Richardson and Bag Treatment Holland to form Chronos BTH, we talk to André Noreau of Premier Tech who was responsible for bringing the two companies together. On p8 he outlines his plans for the new significantly enlarged company which is now a world leader in bagging technology.



Selection of rope assemblies available from Australia's Floveyor Pty Ltd, inventor of the aero-mechanical conveyor (from the left): moulded discs on polymer-coated wire, moulded discs on wire rope, and riveted discs on wire rope. The rope assembly constitutes both the key element and the Achilles heel of this type of conveyor, as described on p12.



Essa Europe, Germany, has chosen the occasion of the easyFairs SOLIDS exhibition which takes place in Rotterdam in late November, to provide the worldwide launch of its novel Lab Wizz sample preparation mill which comes with a wide selection of grinding balls and jars (pictured). See p7 for further details.



Correctly reinforced pipe bends (picture courtesy of GVF Components, Italy) are just one aspect of an efficiently engineered pneumatic conveying system for abrasive products. On p13 we examine some recent technical advances in pneumatic conveying components.



Following its recent acquisition of Magnet Applications Ltd, Bunting Magnetics of the USA is poised for major expansion in Europe. It plans to introduce into the European market its advanced and competitively priced magnetic separation systems, including metal detectors such as the unit pictured left at Paramount Farms, California, the world's largest processor of pistachio nuts. Latest Bunting innovations to protect food-grade products, as well as those from several European magnetic separator/metal detector manufacturers, are outline on p10.

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BELARUS

The **Zhabinkovsky** sugar factory plans to erect two new sugar silos by end of this year. They will each have a capacity of 25,000t, allowing the company to store about half of its annual output. The plant has a daily beet processing capacity of 7000t and there are plans to install a new pulp drying and granulating line with a total daily capacity of 200t.

BELGIUM

BASF has announced plans to close its 115,000t/yr maleic anhydride (MA) production plant at Feluy, Belgium. The facility, part of **BASF Antwerpen**, is scheduled to stop production at the end of 2009 with the loss of 133 jobs.

BULGARIA

Kraft has invested €20M in two chocolate and sweets production lines at its Svoge, Bulgaria, plant. Until now this has catered for the domestic market but following the latest investment it plans also to export to Turkey, Hungary and Ukraine. A third line is scheduled to come on stream by end of this year which will be capable of producing around 100,000 chocolate bars a day.

CZECH REPUBLIC

By second quarter of 2010 **Unilever** plans to close its production unit at Nelahozeves, just north-west of the capital Prague. This will result in over 600 job losses.

DENMARK

Animal feeds, seeds and fertiliser suppliers **SAB** and **Danish Agro** are to merge, trading as a new company under the latter name. SAB will transfer all its operations to Danish Agro.

FRANCE

Lafarge has launched a €42M investment programme to increase plasterboard production capacity at its Auneuil, northern France, site by 40%. This will allow it to reach a capacity of 52 million square metres by 2011.

FRANCE

Arkema plans to build a carbon nanotube pilot production plant at its Mont site, Pyrénées-Atlantiques, France. With a projected capacity of 400t/yr, it is scheduled to become operational in 2011.

GERMANY

Gekra Getreide + Kraftfutter has recently inaugurated its new feed

mill in Querfurt, Germany. Following a €10M investment the total production of the plant now stands at 300,000t, double the previous figure. As a result of the increase, parent company **Agravis** now has a total mixed feed production capacity of 2.7Mt/yr.

GERMANY

Evonik Industries has commissioned a plant at The Marl Chemical Park, Germany, for production of the plasticizer alcohol 2-propyl heptanol (2-PH). The facility will have an annual capacity of 60,000t. 2-PH is used as a raw material for the production of a PVC plasticizer to transform PVC, a naturally brittle plastic, into a flexible material.

IRELAND

Following its acquisition by Italian chemical-pharmaceutical group **Medinco CFM**, the former **Helsinn Chemicals Ireland** operation in Mulhuddart is now trading as **Clarochem Ireland**.

ITALY

The **Rockwood Color Pigments** plant in, Turin, Italy, which came on stream earlier this year, has become the world's first cGMP

(Good Manufacturing Practice-certified) facility for production of pharmaceutical-grade iron oxide, following an audit by the **DQS Group** of Frankfurt, Germany.

ITALY

Solvay reports that its extended facility at Rosignano, Italy, for production of sodium bicarbonate has been successfully commissioned. It will become the world's largest sodium bicarbonate manufacturing plant in the world with an annual capacity of 250,000t.

NETHERLANDS

Ineos Nova plans to close permanently a polystyrene plant at Breda, the Netherlands, with the loss of 50 jobs. It has a capacity of 90,000t/yr. Ineos Nova is a joint-venture between **Nova Chemicals** and **Ineos**.

ROMANIA

Cargill is in the process of expanding its feed mill in Sura Mica, Romania. The investment includes the construction of a complete-feed production line within the existing premix facility. Work is expected to be completed by summer of 2010.

A new pelleting line will allow it to produce pelleted feed in both bagged and bulk form and the project is expected to result in a 50,000t/yr capacity increase.

RUSSIA

Solvay has signed an agreement with holding company **Sodium Group Investments (SGI)** to acquire SGI's majority stake in **OAO Bereznikovski Sodovy Zavod**, a producer of soda ash at Berezniki, Russia. The plant has a capacity for 500,000t/yr of soda ash and is one of three major soda ash producers in Russia.

RUSSIA

Prodimes plans to raise the daily processing capacity of its **Oikhovatsky** sugar factory to 13,000t by 2015 from the current figure of 8000t. Last year the plant processed 520,000t of beet, producing 83,000t of sugar.

RUSSIA

Mars has opened a US\$47M pet food plant in the Volga city of Ulyanovsk. The first production line's projected annual capacity will be in the region of 45,000t.

RUSSIA

Italian confectionery giant **Ferrero** is to open a new plant in Russia later this year in the Vladimir region. The €200M factory will employ about 1500 staff and has capacity to produce 25,000t of confectionery a year.

RUSSIA

The **Yokohama Rubber Co** recently announced that it has agreed with **Itochu Corp** to establish an 80-20 joint-venture company to make and sell tyres in Russia. It will have an annual capacity of 1.4 million passenger car tyres and will be located in the state of Lipetsk, 500km south of Moscow. Involving an investment of €105M, the plant is scheduled to be operational in September 2011.

SPAIN

Pending approval from Spanish antitrust authorities, **Grupo Sira** has purchased three bakery plants from **Sara Lee International**, increasing its workforce to around 3100. The sites are located in Burgos, Malaga and Gran Canaria. Sara Lee's Spanish bakery business will now consist of eight production facilities.

SPAIN

Dow Powder Coatings is planning to relocate its production facility and warehouse by the end of this year to a brand new site in Onda, Castellón, some 15km from its present location at Almazora, Spain.

UK

Lyondell Basell is to close its LDPE production unit at Carrington, UK, and focus its European LDPE production on Wesseling, Germany, and Berre, France. With a capacity of just 185,000t/yr, the UK unit is one of the group's smallest production facilities. The company stated that the 210,000t capacity PP plant at the same site would not be affected by the closure.

UK

Cabot plans to close carbon black production facilities at Stanlow, UK, and Berre l'Etang, France. A **Cabot Plastics** inorganic pigments plant at Dukinfield, UK, will also close.

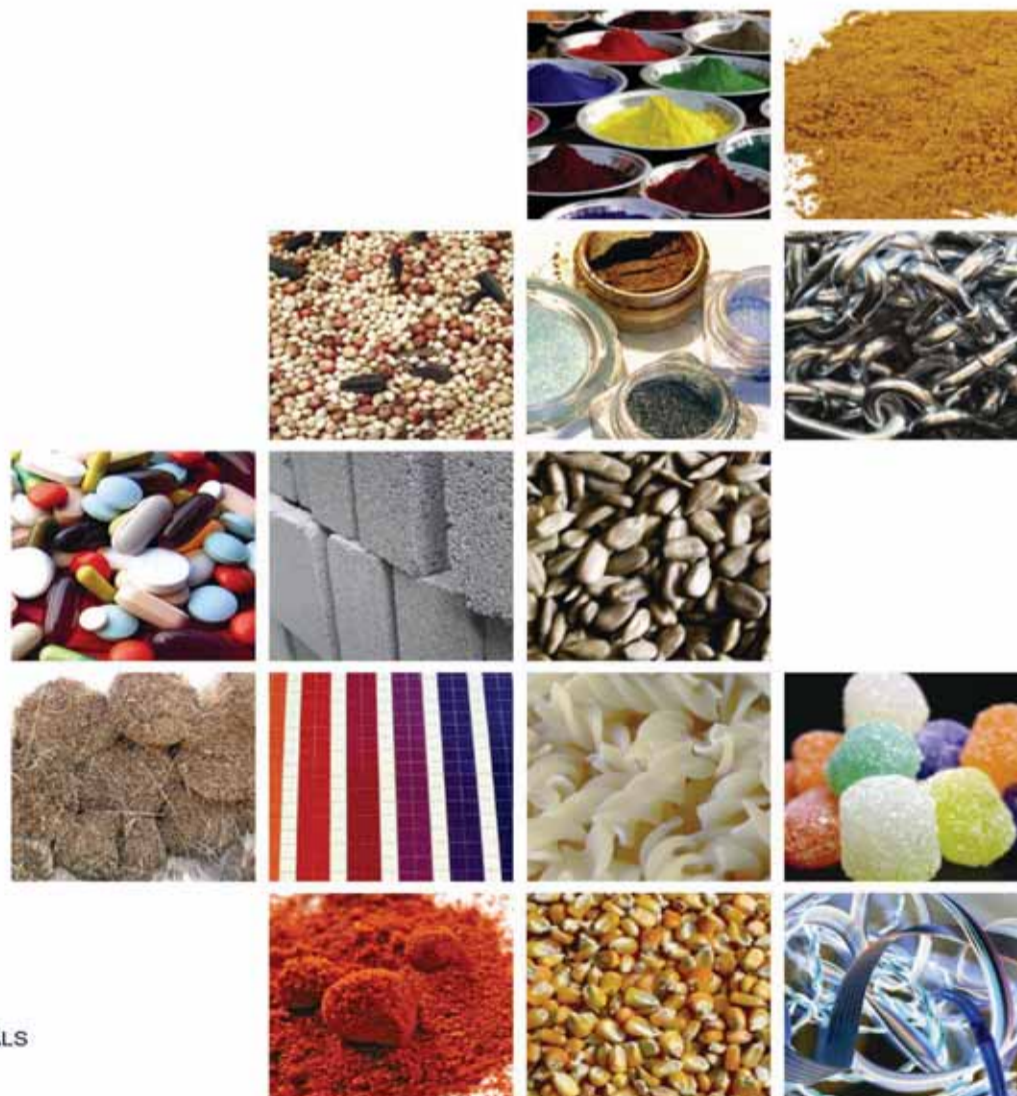


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Brabender offers free product information to all

Brabender Technologie, Duisburg, Germany, has introduced a completely revised version of its interactive information CD which is available free of charge and with immediate effect. The compact disc presents the company's total programme for bulk ingredient feeding, weighing, discharging and flow metering in an easily understandable manner and with self-explanatory navigation. Users will need an internet browser but not internet access.

The CD provides a "digital working manual", providing comprehensive information on gravimetric and volumetric metering feeders, discharge aids and flow meters for bulk ingredients together with individual machine descriptions, capacity charts, section guides, data sheets and application examples.

This latest version of the CD has been substantially improved, with

regard to ease of use and navigation as well as compatibility with different browsers. Equipment descriptions, capacity charts for individual models and relevant links for downloading corresponding data sheets in PDF format are all clearly arranged on one and the same page, from where eventual links lead to further information. The entire CD has been coded in XHTML format in strict compliance with W3C (World Wide Web Consortium) directives so as to be accessible via all standard browsers.

Readers who wish to receive a free copy of the CD by post should email Klaus Donsbach (kdonsbach@brabender-technologie.com) quoting "BT Info CD" and supplying their delivery address. Alternatively the information can be transmitted online using the appropriate form at

www.brabender-technologie.com.

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Dense phase conveying and sifting business for Gericke

Gericke, Regensdorf-Zürich, Switzerland, reports that it has recently successfully installed and commissioned dense phase pneumatic conveying systems for cocoa beans and fish feed granules. In both systems the product is gently conveyed as plugs through the pipeline. The first system transfers beans at 5t/h over a distance of 60m by means of a single plug conveyor type PTA 650. The fish feed installation achieves a capacity of 35t/h and because of the 120m distance a PTA PL system with external bypass air was specified.

Meanwhile the company's UK subsidiary Gericke Ltd based in Ashton-under-Lyne recently helped a leading Danish provider of animal proteins made from dried milled pig skin to upgrade its production line. Knowing that it would not be possible to simulate the precise processing conditions at its fully equipped test plant in the UK, the company sent an expert technician to site, along with a Model CSM-722 sifter and a variety of screens. The trial sifter was installed in-line and tested with both nylon and perforated plate screens to determine the optimum set up and achievable capacity for this high fat product with a bulk density of only 0.27kg/litre passing at a temperature of 51°C. Following the trials Gericke recommended its Model CSM-1542 twin sifter with a 4mm square perforated plate screen, which was supplied via the company's local distributor in less than six weeks. The unit is now in production working at the required process rate of 6000kg/h.

The Gericke parent company this year commemorates its 115th

year of successful trading. Founded in 1894 by Walter H Gericke in Zurich, Switzerland, the company initially focused on the flour milling sector. It currently offers a wide range of products including pneumatic conveying systems, feeders, mixers, sifters and size reduction equipment as well as turnkey engineering capability serving food,

pharmaceutical, chemical and related industries. The most recently launched equipment ranges incorporate state-of-the-art technology combined with quick and easy cleaning features. The Gericke Group, which now includes subsidiaries in Europe, Asia and Latin America, is headed by fourth-generation Markus H Gericke.

www.gericke.net



Gericke CSM-722 sifter carrying out trials at the Danish factory.

Payper features latest measurement & control equipment at EXPOSOLIDOS

Payper, the leading Spanish manufacturer of bagging systems, has chosen to showcase recently introduced allied weighing equipment on Stand 325 at EXPOSOLIDOS, Barcelona, 17-19 November. Prominent among the equipment on display is the PN-90 high-speed net scale and the MCB+ electronic weight controller specifically designed to be used in association with bagging scales.

The PN-90 has a servo-driven dosing gate and can handle up to 2200 bags/h. It is highly accurate, with an average deviation of 5g and standard deviation within the range 10-15g.

The MCB+ offers 6000 scale

intervals starting from as low as 1g. There is a choice of interfaces including RS232, RS422 and Ethernet. The operator is provided with a

user-friendly touch screen and several scales can be controlled from just a single screen. The unit has been certified in accordance with the new European MID regulations (see IN BRIEF on this page).

www.payper.com



Payper's PN-90 (left) and MCB+.

Industry Updates – Every Week

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

- New Products •
- Technical Innovations •
- Latest Orders •

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

www.eurobulksystems.com

Management buy-out at ChargePoint Technology

At the end of September ChargePoint Technology of Liverpool, UK, was purchased from its previous owner Powder Systems Ltd (PSL) with financial backing for the management buy-out provided by Co-operative Bank and 3i. The new company ChargePoint Technology Ltd plans to expand further in the specialist pharmaceutical containment and powder handling sector. Chris Eccles will continue to head the company as managing director along with the existing team of experienced sales, engineering and

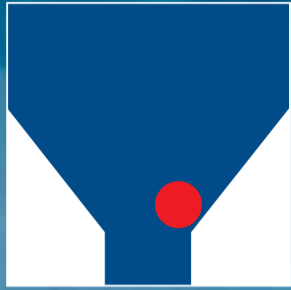
production staff which is currently being expanded.

Commenting on the buy-out Eccles said: "ChargePoint is an internationally renowned brand in the pharmaceutical containment and powder handling arena with a large and loyal customer base and a reputation for high-quality and excellent customer service. We are therefore in a prime position to support our customers' growth as the demand for innovative contained powder handling solutions continues to develop."

www.thechargepoint.com

Note the dates!

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SHAPA conference well received despite poor turnout of members

The one-day Knowledge Conference organised by SHAPA (Solids Handling and Processing Association) which took place 5 October at Loughborough University, UK, was judged to have been a success.

The well chosen programme of presentations offered UK users of solids handling equipment the opportunity to keep up-to-date with latest regulatory issues, their interpretation and implementation, ways to minimise cost and maximise profit and latest thinking on different aspects of solids handling and processing technology.

The Loughborough venue, easily accessible from the motorway network, was well chosen and the facilities (conference rooms, catering, etc) were excellent. A particularly attractive feature was the way presentations were arranged into two parallel sessions, one dealing with commercial and compliance topics while the other focused on specific areas of solids handling. This allowed

delegates to move between the two themed sessions, selecting individual presentations which interested them the most.

Although SHAPA seminars take place only infrequently and this was the first ever Knowledge Conference of its type, the vast majority of the Association's members (more than 80%) could not muster sufficient enthusiasm to show up on the day. This may be an indication of their

apathy or reflect the fact that previous SHAPA events of this type had not been worth attending.

However, whatever the reason, this year's conference certainly deserves to have had a larger audience, especially as a great deal of thought and hard work had clearly gone into its planning. Undeterred, SHAPA is planning to stage another of its Knowledge Conferences in 2010.

www.shapa.co.uk



One of the commercial steam sessions at October's SHAPA conference.

Enhanced after-sales service from Niro

In response to the findings of a major survey, in which it interviewed customers throughout the world, Denmark-based GEA Niro has significantly enhanced its provision of after-sales service. The survey identified the need for fast response and delivery, local presence, and good technical support. Accordingly the company, part of GEA Process Engineering, has taken the following steps: strengthening service

organisations throughout most of Asia; providing service in Australasia and North America; upgrading capabilities in most of Western Europe to include service technicians and workshops, and providing a thorough on-site service programme in Germany. The company has also expanded its local stocks of spare parts in China and North America, Australasia, Japan, France, Netherlands and Denmark.

In early November GEA Niro announced that its popular SANICIP bag filters have undergone additional recent development, which further extends their performance and service life. SANICIP is a system of "CIP-able" (capable of being cleaned in place) bag filters for spray driers. They employ reverse jet pulsing technology to ensure that powder is removed from every part of the bag.

www.niro.com

K-Tech appointed Pelletron distributor for British Isles

Pelletron Corp of Lancaster, PA, has selected K-Tech Plastics of Langley, Cheshire, as sole distributor in the UK and Ireland for its range of dedusting and pneumatic conveying equipment. The Pelletron portfolio includes the DeDuster, available in a range of capacities, for removing dust and angel hair from plastic granules and other bulk materials; wear-resistant pipe bends (the Pellbow); rotary valves; and various positive-pressure conveying components.

Karl Shields, sales director of

K-Tech, said: "We installed several Pelletron DeDuster systems and found that the results were exceptional. When the granules exit the DeDuster they look like they have been washed! Following these excellent results we approached Pelletron and agreed on a partnership to distribute these units in the UK."

Pelletron DeDusters are available in capacities from 50kg/h up to 100,000kg/h (see also pages 13 and 14).

www.ktechplastics.co.uk



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Powder rheometer helps characterise APIs

Clarochem (Ireland) Ltd, part of CFM Group (CoFarmaceutica Milanese), has during the past four years been using an FT4 powder rheometer supplied by UK-based Freeman Technology to help measure the properties of various pharmaceutical powders and bulk ingredients that it handles on a day-to-day basis. The production facility formulates active pharmaceutical ingredients (APIs) for use in both group and third party products.

The FT4 device provides automated, rapid and consistent characterisation of powders, such as the APIs and advanced intermediates that Clarochem produces, enabling the manufacturing team to incorporate some fundamental aspects of material science into their crystallisation work. The rheometer provides the capabilities of a universal powder tester, offering three complementary approaches in a single instrument: measurement of bulk properties

including permeability, bulk density and compressibility; shear property determination with automated shear cells; and dynamic flowability using patented methodology. This integrated testing approach facilitates the characterisation and understanding of powders in industrially relevant ways.

Colm Campbell, process implementation manager at Clarochem (Ireland), explained: "It has helped enhance our crystallisation and powder characterisation know-how. Not only has this contributed to a greater appreciation by our partners of the added value of our expertise, it also helps to differentiate us from our competitors."

In a separate initiative, Freeman Technology, in partnership with Gericke and Glatt Air Techniques, is sponsoring a new three-day course presented by Mixing Consultants, Inc. on the subject of blending and flow of pharmaceutical powders. The course will take place at Graz University of Technology, Austria, from 9-11 December 2009, and it is scheduled to be repeated in February 2010 at Pearl River, New York. Each of these two events will feature high-level presentations given by academic experts from Rutgers University and by industry specialists including Tim Freeman, director of operations for Freeman Technology (further details can be found by visiting www.mixingconsultants.com). www.freemantech.co.uk

Pneumatic pipeline sampling of titanium dioxide

UK-based Wrights Dowson Group has again been successful in winning an order to supply an InterSystems sampler to Zakłady Chemiczne "POLICE" (ZChP), Poland's only major processor of titanium dioxide. The original tender specification required the collection of a composite sample of about 1.2kg over a period of 5-6 hours from the conveying line operating at 2 barg pressure. A six-station, automatic sample collection system incorporating 1.89 litre capacity jars also formed part of the order.

Titanium dioxide can vary in density within the range 400-800kg/m³ and has a maximum water content of 0.5%. An earlier sampler supplied by Wrights Dowson was located where it would be most likely to provide the most accurate

results. This is in a vertical section of a pneumatic conveying line on the outside of the bend where the direction of flow is upwards.

www.dowsongroup.com



InterSystems sampler supplied by Wrights Dowson to ZChP monitors titanium dioxide at the upward bend of a pneumatic conveying line.

Integra bag filling technology now in North America



Haver engineers successfully assemble the USA's first Integra.

Haver Filling Systems, Inc., the US subsidiary of Germany-based Haver & Boecker, is building a facility at its Conyers, GA, plant which will allow local manufacture and assembly of the company's recently launched Integra fully enclosed bag filling system. This extension to the production plant is expected to be fully operational by end of January. The Integra concept ensures that the main

bagging components including filling machine, valve closing system, bag applicator, control system, operating terminal and discharge conveyor are housed within a dustproof enclosure. Haver Filling Systems plans to offer further new Haver & Boecker machine types within its production facilities as demand increases.

www.haverboecker.com

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Some SOLIDS Rotterdam highlights

easyFairs SOLIDS exhibition takes place at the Ahoy, Rotterdam, 25-26 November. Here are brief details of just a few of the products which will be on show.

Bakker Magnetics BV

Stand: 1086

A variety of metal separation systems will be featured including magnetic grids, outer core magnets, liquid filters and cascade magnets (see also p10).

www.bakkermagnetics.com

Van Beek BV

Stand: 1092

This company will be showing examples of its stainless steel screw conveyors which are sold globally. They are often specified to a very high-quality surface finish, especially for chemical, pharmaceutical and food industries. Van Beek will be sharing the stand with its associate company Celsius (see below).

www.van-beek.nl



Typical Van Beek screw conveyor assembly.

Celsius BV

Stand: 1092

A division of Van Beek (see above), Celsius manufactures screw type heat exchangers. These allow bulk products to be heated, dried or cooled in a continuous process.

www.celsius.nl

Delft Solids Solutions BV

Stand: 1148

Delft Solids Solutions is now offering its clients Hosokawa powder tests as a means of measuring the flow properties of a range of dry bulk products. This service is in addition to the company's regular characterisation of powders for parameters such as particle size, porosity and density. The Hosokawa powder tester makes use of empirical methods that mimic the behaviour of powders during handling and transport. Tests can be carried out in accordance with the ASTM D 6393 standard and provide insight into a number of parameters forming the basis of Carr indices.

www.solids-solutions.com

Ellimetal NV

Stand: 1002

Claiming to be Europe's number one silo manufacturer, Ellimetal has the capability of manufacturing all types of metal silo (carbon steel, stainless steel or aluminium) up to the highest capacities. They are suitable for storage of all types of bulk solids and powders. The company has recently developed a new silo system which is very quick to install (see previous issue of this magazine).

www.ellimetal.com

Essa Benefralux BV

Stand: 1028



Essa's new Lab Wizz.

Essa's brand new Lab Wizz will be given its worldwide debut at the show. This is a high-precision mill engineered for rapid sample preparation procedures including dry and wet grinding, ultra-fine grinding, turbulent blending and liquid-liquid dispersion. The unit can handle simultaneously two or more samples from 0.2ml up to 160ml.

Offering extremely short processing times and designed for high sample throughput, it comes with a wide range of grinding jars and grinding balls. Stainless steel Micro Vials and used for cryogenic grinding of small sample amounts such as soil or grain using a steel or tungsten carbide bead.

The grinding chamber, easy-clamp system as well as the swinging arm are made from high-specification stainless steel to meet all food and pharmaceutical requirements (see also picture on front cover).

www.essaeurope.com

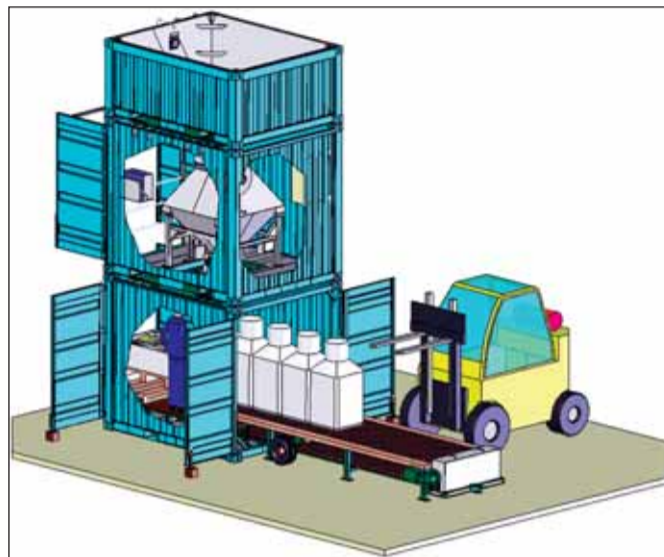
European Machine Trading

Stand: 1137

European Machine Trading has introduced a new portable bulk bag filling machine. Called Triple Big Bag Line, the machine can

be disassembled and moved by a conventional forklift. It consists of three freight containers placed one on top of the other. The top container is used for product storage, the middle one houses all electronics and the weighing system, while inside the bottom container bulk bags are filled and removed by belt conveyor. The machine can fill 70t/h with a weighing capacity of 200-1200kg per FIBC.

www.e-m-t.nl



Triple Big Bag Line from European Machine Trading.

Fike Europe Bvba

Stand: 1076



Fike explosion diverter

Prominently featured will be Fike's explosion diverter which is designed to provide passive explosion isolation. An explosion diverter limits the effects of explosions propagating through pipes from one vessel to other connected vessels to an acceptable and safe level. Other products on show will include explosion vents type Sani-V, Sani-V-S and EleGuard, as well as flameless explosion venting devices such as FlamQuench II, FlamQuench II SQ and EleQuench.

www.fike.be

Krohne Messtechnik GmbH

Stand: 1105

Krohne will be showing its non-contact FMCW (frequency modulated continuous-wave) radar level measuring device called OPTIWAVE 6300 C which has been designed for use with bulk solids. It measures distance and volume as well as level. Thanks to its continuous wave generation and the small radar beam angle, the device does not require antenna aiming. Its innovative drop antenna made of plastic (PP or PTFE) makes purging systems obsolete and ensures that the unit is maintenance free.

When it comes to dusty applications and uneven surfaces, the powerful signal of the 24...26 GHz FMCW radar demonstrates its superiority. Its advanced dynamics guarantee enhanced measuring accuracy and no special equipment is needed to adjust the antenna.

www.krohne.de

Penko Engineering BV

Stand: 1016

On show will be a new type Flex-bw weighing controller with continuous totalising capability. With this instrument the operator knows exactly how much product has been transferred as well as how much is passing per unit of time. Both can be adjusted. Measuring results can be read out directly, in graphics and characters. If required, the information can be made available for a supervisory computing system as well.

The high-speed measuring guarantees precise accuracy in dynamic weighing applications. This state-of-the-art instrument fulfils the function of a flexible controller as well as a touch screen operator panel.

www.penko.com

All readers are welcome to visit the EuroBulkSystems Stand:1135.

VDL Industrial Products BV

Stand: 1007



Fire and explosion protection systems from VDL Industrial Products.

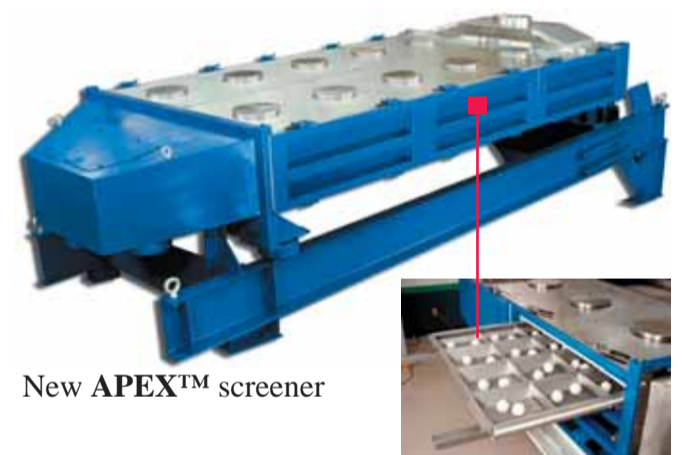
Focus here will be on explosion safety and process fire protection. The company's goal is to develop client-oriented solutions to ensure optimum fire and explosion protection for both existing and new plant installations. The aim is to fulfil the highest demands while causing minimum impact to the process itself.

Novel products such as the hot water suppression system and the food-grade quick closing valve are widely used in the food industry. All such equipment has been designed to ensure maximum safety to personnel as well as protecting plant and equipment.

www.vdl-ip.com



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Creation of a global packaging giant

In mid-September Premier Tech of Canada, parent company of Chronos Richardson, announced that it had acquired the Dutch packaging equipment manufacturer Bag Treatment Holland BV (BTH), combining the two internationally respected companies to form Chronos BTH. EuroBulkSystems managing editor Richard Miller talks to André Noreau, president of Premier Tech's Industrial Equipment Group, who masterminded the merger of the two bagging equipment manufacturers. He outlines how the significantly enlarged Chronos BTH will operate and hints at further developments and expansion plans likely to happen well before 2015.



André Noreau, 46, president of Premier Tech's Industrial Equipment Group.

RM: Although the new company is called Chronos BTH, will you still continue to use the "Chronos Richardson" and "BTH (Bag Treatment Holland)" names in those regions where one or other brand name is better known? (For example, BTH is better known in the Benelux).

AN: In a sense yes, but no longer as company names but more as brands. Premier Tech decided to change the name of the different companies in Europe for Chronos BTH to reflect the acquisition and the union of two major players. But we know that both original brands are very strong in different market sectors and different countries, and even Premier Tech itself is a strong brand in the organic market in Europe. Therefore Chronos BTH will be the commercial vehicle in Europe, Middle East and Africa, and Chronos BTH will sell Chronos Richardson equipment, BTH equipment, Premier Tech equipment and also Richard Simon equipment which was also acquired in 2002 and which is still very popular in some regions.

There is bound to be some overlap and duplication between the Chronos Richardson and BTH product ranges. Will this be allowed to continue, or will there be some degree of rationalisation?

For sure there will be rationalisation in the product portfolio. Both organisations had a very good product portfolio and there is indeed in some areas some duplication. However, by doing that we will make sure to integrate everything in order to come up with the best technological platforms in the market place and offer our clients the most extensive and complete product portfolio in Europe.

With regard to manufacturing facilities, I gather there will be some rationalisation here as well. Where in future will be your

main manufacturing sites in Europe? Do you also plan to manufacture in other regions of the world?

Actually there will not be rationalisation, but rather a segmentation of the markets. Chronos BTH will operate from two business units in Europe. There will be Chronos BTH Europe which will cover most of Europe and having its headquarters in Eersel, the Netherlands, along with two satellite commercial offices in Nottingham, UK, and Hennef, Germany. There will be also Chronos BTH Mediterranean which will cover all Latin countries or countries around the Mediterranean sea and having its headquarters in Parma, Italy, along with a satellite office in Paris, France. The European group is a part of a global group having operations also in North America (headquarters in Canada) and in Asia (headquarters in Thailand).

The parent company Premier Tech in Canada also makes bagging systems and palletisers. Is there likely to be some technology transfer between Canada and Europe and, if so, in which direction?

Certainly this will happen – and in both directions. This acquisition was strategic for Premier Tech because BTH will be filling a missing gap in the North American product portfolio and *vice versa* for Europe. So within the next months both organisations will start the technological transfer process touching the different weighing, bagging, palletising and hooding technologies and we shall start to see the results of that sometime in 2010.

At present there is some duplication in sales offices (for example in the UK both Chronos Richardson and BTH previously had separate addresses). When Chronos BTH has become fully integrated, I imagine there is bound to be some office closures



The Chronos BTH headquarters at Eersel, the Netherlands, houses administrative offices, a test plant and extensive state-of-the-art manufacturing facilities.

and staff redundancies. Could you please supply some more details here?

BTH UK is an independent organisation so we are currently working at finding the best solutions for the future. But there are no reductions in staff that are foreseen since the two organisations in the UK are independent and both are successful.

The same I imagine applies to both companies' agents and distributors in various companies around the world?

Actually this will not be the case and for the same reason as above. We are planning to integrate all the commercial partners in our new Chronos BTH sales network. Chronos BTH, like all the other business units of Premier Tech, must become more and more global with a local reach so this new network will be in a position to serve the customers even better by being closer.

Chronos BTH must now be among the world's top manufacturers of bagging systems and related equipment. Perhaps you are already the world No 1 in this field? How do you see your company's present position compared with your immediate competitors?

Premier Tech through its Industrial Equipment Group is now the worldwide leader in most of the market sectors related to industrial flexible packaging and is aiming at becoming the worldwide market leader of all market sectors in a few years. As you probably know our competition comes mainly from Germany and if we want to reach our goal we shall have to strengthen our position in the construction materials and petrochemical markets. We already have a few strategies at this level, and you should see the results of these mid-term.

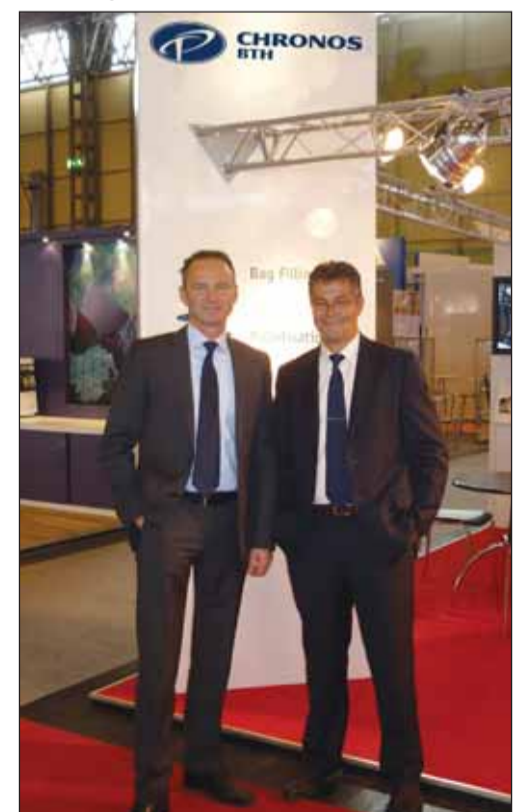
What are your plans over the next 3-5 years? Perhaps you will aim to become even stronger in the bagging sector, or

perhaps you may diversify into other areas of bulk solids handling?

As a matter of fact, and following our five-year vision plan we have started to invest in new business sectors but always related to our core business which is the handling of bulk solids and also packaging technologies in general. The industrial packaging segment is actually a very small portion of the global packaging market. So based on the success we had in achieving horizontal development in industrial packaging, we are now starting to apply the same approach into collateral packaging sectors and it is already starting to generate results in North America. The ultimate goal is to be in a position to offer



This food-grade bagging line unveiled by BTH earlier this year sets new standards in cleanliness and dust-free operation.



Chronos BTH Europe will be run jointly by Ingo Jonas (left) and Frans Maas

complete solutions to our customers involved in different markets, with equipment designed and manufactured all under the same roof.

If there is to be any further expansion, do you expect this to take the form of organic growth or further acquisitions?

Our growth for the first 10 years has been mainly organic. The last 10 years have been a mix of both organic and acquisition growth. Premier Tech is an innovative company and invests each year several millions in research & development and will certainly continue to do so in the future. But at the same time it is obvious that we have reached within the last few years a critical mass that allows us to think about acquisition when it fits our vision. So you can expect that the next 10 years will again be a mix of organic and acquisition growth.

Chronos BTH is seen primarily as being a major manufacturer of bagging systems, so when an important new materials handling/processing facility is to be built your company is in a strong position to supply the bagging lines. Do you have any plans to take matters a stage further with the aim of providing overall turnkey responsibility for a new plant, choosing other subcontractors to supply conveyors, silo systems, instrumentation, etc?

If you can get involve at the early stage with a customer, you increase your chance of doing more business with that company. Taking care of general construction work and bulk handling & processing in general certainly is a way to achieve that objective. We are doing that in all the organic markets where we can take care of a complete turnkey installation because our background derives originally from our origins working in the horticulture business with our sister company. The Industrial Equipment Group has already delivered more than 50 complete turnkey projects since its inception in 1989. This strategy is very important and is definitely a part of our vision.



Premier Tech's Rivière-du-Loup, Canada, head office.



Chronos Richardson's CHRONO-FILL PTK 1700 is among the world's fastest filling lines for open-mouth bags, with a capacity of 1500 bags/h or 2400 bags/h in twin spout version.

CHRONOS BTH at a glance

- European head office:** Meerheide 40, NL-5521 DZ Eersel, the Netherlands
Tel: + 31 (0)497 514 988
info@chronosbth.com
www.chronosbth.com
- General managers:** Ingo Jonas (previously general manager of Chronos Richardson Systems GmbH, Hennef, Germany) and Frans Maas (previously owner and general manager of BTH).
- Office locations:** Netherlands, Germany, Italy, UK, France and Thailand (supported by a network of agents and distributors throughout Europe, Middle East, Africa and Asia).
- Europe-based employees:** 190 (backed up by 700-plus worldwide staff working for Premier Tech's Industrial Equipment Group which has a €95-100M turnover)
- Areas of expertise:** Bagging systems with customised packaging solutions for open-mouth bags, valve bags, FFS technology, FIBCs as well as mobile bagging equipment; palletising (conventional and robotic systems); stretch hooding and wrapping; associated state-of-the-art weighing and control systems.
- Main industries served:** Foodstuffs, including bakery materials, flour, milk powder and frozen foods; pet foods, animal and fish feed; chemicals; sand, gravel and building materials; potting composts, bark, peat, seeds, etc; industrial minerals: fertilisers; plastics/polymers.
- Parent company:** Premier Tech, Rivière-du-Loup (Québec), Canada
www.premiertech.com

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Putting a stop to metal contaminants

Some recent advances in magnetic separation and metal detection equipment, with special reference to protection of food-grade products.

The European market for magnetic separation and metal detection equipment is at present largely shared between around 20 specialist manufacturers, all of them based in Europe. This comparatively placid and not especially fast moving sector looks set for a shake-up – especially in the field of food-grade/higher-value powder, granules and liquids monitoring – with the arrival on the scene of US-based Bunting Magnetics Co., a world leader in this specialist discipline.

As reported in our previous issue (see September/October *EuroBulkSystems* p8) Bunting Magnetics in April of last year purchased UK-based Magnet Applications Ltd (MAL), a long established and well respected provider of a wide range of magnetic solutions for customers in Europe, North America and other parts of the world. Charles Collier, who previously ran MAL, continues to head the company under the new Bunting ownership while at the same time assuming responsibility for sales of Bunting equipment within Europe. He told EBS that a Europe-wide network of agents and distributors is currently being established to market Bunting Magnetics products. At the same time manufacturing facilities at MAL's Berkhamsted, UK, headquarters are currently being expanded to provide for local manufacture of Bunting equipment.

In North America Bunting Magnetics remains in the forefront of metal separation technology for foodstuffs. "We offer the only USDA-approved magnetic separation products available. Our food and sanitary grade grate magnets and other magnetic separation equipment have no equal in the industry" claimed Rick Bigham, the company's product manager – magnetic separation. This food safety engineering expertise is now available in Europe.

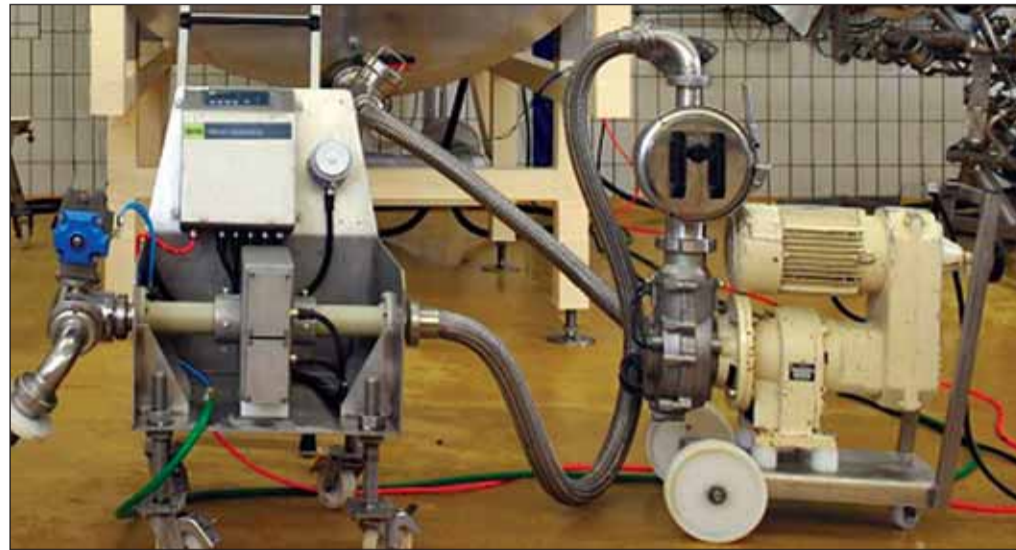
US technology comes to Europe

Within the past year Bunting has introduced several innovative new models to its range of magnetic separation and metal detection equipment. These include the Quicktron 05 RH which is designed to detect and reject metal contaminants from free-falling bulk materials without interruption to production; a new pneumatic continuous-cleaning HF Drawer Magnet which has been designed to fully extend the magnetic cartridges outside the housing and to clean 'on-the-fly' with no disruption to product flow; an expanded range of options in the ValueMag off-the-shelf equipment range; and a new high-temperature, machine-mounted all-metal separator (MMS) for applications in the plastics industry where the unit can be mounted in the throat of extruders as well as injection and blow moulders. Here follows further information about these four new products:

- The Quicktron 05 RH is said to be especially suitable for powder applications requiring food-grade contact surfaces. It features open framework construction with a round reject mechanism without edges to avoid dust and dirt settlement. All product contact parts are made from food-grade materials such as stainless steel, polypropylene, silicone and Teflon. The metal detector coil is enclosed by multiple anti-static



SpyMet Metal Locator from Eriez Magnetics Europe.



Safeguarding fruit preparations at Bagusat: since S+S's LIQUIMAG magnetic separator (right) traps all magnetic metals, and the downstream LIQUISCAN inductive metal separator (left) only has to separate non-magnetic metal particles, loss of good material is minimal.

layers and integrated interference shield to ensure complete immunity from external interference. This novel design feature allows for reliable identification of all metals such as ferrous, bronze alloys and stainless steel, providing detection of free as well as encapsulated metal contaminants. Thanks to the fast reacting and powerful pneumatic drive on the reject gate, there is minimal loss of good material.

- The new HF Drawer Magnet is capable of providing magnetic protection during the entire production process by allowing the magnets to be self-cleaned while product is still flowing. As the tube assemblies travel outside the housing, grommets wipe the tubes clean all the way to their non-magnetic tapered ends. This ensures that each cartridge is fully wiped and prevents captured tramp iron from re-entering the housings. The HF Drawer Magnet is available in two-row format as standard, but three- and four-row versions are also available. The unit, which is available in a choice of magnetic strengths, features Bunting's exclusive 'dense wall' construction which can withstand rigorous use, reportedly outlasting competitive thin-wall drawer magnets.

- Bunting's ValueMag range now includes magnetic cartridges, plate magnets, grate magnets, liquid line traps, two-drawer grate-in-housing magnets and sight glass magnets. Some of these units, which are available for immediate delivery, cost less than \$30 and a 3% discount is available when ordering online by credit card. Further details are available from www.value-mag.com.

The new MMS has been specially designed for choke-feed applications where the product is at a high temperature (up to 350°F). Providing efficient rejection of both ferrous and non-ferrous metal contaminants, it bolts directly to the infeed of processing equipment and is capable of supporting the weight of hoppers and other auxiliary equipment. A fast pneumatic rejection mechanism combined with precise timing results in accurate cycling and conservation of good material.

Some innovations made in Europe

New from Bakker Magnetics of the Netherlands is a drum magnet in housing which the company anticipates will prove popular in food and feed industries. Also referred to as a separation drum, this unit incorporates a magnetic and a non-magnetic sector and can be easily retrofitted to existing installations. Component parts which are exposed to product flows are fabricated from extremely wear-resistant materials. This makes the system especially suitable for removing ferrous contaminants from abrasive materials.

As reported previously, Goudsmit Magnetic Systems, also based in the Netherlands, recently introduced an All-Metal-Catcher which combines a magnetic separator and a metal detector in a

single system. It has been designed to ensure removal of both ferrous and non-ferrous particles (above 25 microns and 0.6mm, respectively) from flows of food-grade materials. Magnetic pre-sorting ensures that considerably less product is lost than with detection alone. With a strong magnetic force of 12,000 Gauss, the All-Metal-Catcher is said to be particularly suitable for use with materials such as coffee, cocoa and tea as well as plastics and chemicals.

The latest product from UK-based Eriez Magnetics Europe is the SpyMet Metal Locator, which can be used as an accessory to a metal detector system for tracking and locating tramp metal on a conveyor belt. It can be operated either automatically or manually. Its main advantage over conventional rejection/marketing devices, which rely on the speed of the conveyor belt to be constant, is that it can track multiple positions and quantities of metal contaminants on a variable-speed belt.

SpyMet can be used in conjunction with any metal detector and can be employed to operate associated devices such as a reject arm, ink jet marker or air blast system. Accuracy of the system is said to be plus or minus half the metal detector sensor depth and it is capable of tracking up to 20 separate metal pieces simultaneously.

In October S+S Separation and Sorting Technology, Schönberg, Germany, unveiled a new metal separation system called Presep at the FAKUMA international plastics fair. The unit, which has been designed for easy cleaning, can

be installed in conveyors to monitor the purity of plastic granulate or as a stand-alone unit to analyse grinding stock, regenerated or rejected material. First the granulate passes a magnetic system with neodymium magnets, designed to capture all ferrous particles, via vibrator chutes used for grading. In the second stage the material passes the Rapid Vario metal separator which removes all non-magnetic metal contaminants even if these are buried within the product.

Metal-free fruit preparations

With regard to monitoring of foodstuffs suspended in liquids or syrups, S+S reports that one of its customers Gebrüder Bagusat has in recent years successfully employed a LIQUIMAG magnet separator working in conjunction with a LIQUISCAN PL metal separator. This company is one of Germany's leading producers of fruit preparations including fruit purees, fruit in alcohol and fruit salads. The extremely high magnetic forces of the LIQUIMAG effectively remove even slightly magnetised stainless steel particles from the product flows. It provides for quick and easy cleaning thanks to its well proven EASY CLEAN feature. Owing to the variable production sequences which require frequent changeovers combined with space restrictions, the unit operates as a mobile system at Bagusat.

Downstream of the magnetic separator there is a LIQUISCAN PL inductive metal separator that separates non-magnetic metal particles, deflecting them into a collecting vessel. The ball valve employed here is especially suited for fruit preparations containing large pieces. The metal separator can be easily integrated into the existing pipework and state-of-the-art microelectronics combined with a Product Auto Teach function are said to guarantee outstanding ease of operation.

Bakker Magnetics
www.bakkermagnetics.com

Bunting Magnetics Co.
www.buntingmagnetics.com

Eriez Magnetics Europe
www.eriez.com

Goudsmit Magnetic Systems
www.goudsmit-magnetics.nl

Magnet Applications Ltd
www.magnetuk.com

S+S Separation and Sorting Technology
www.se-so-tec.com



Some recent innovations from Bunting Magnetics (top left clockwise): Quicktron 05 RH; high-temperature machine-mounted all-metal separator; extended range of ValueMag off-the-shelf units and pneumatic continuous-cleaning HF Drawer Magnet.

Delivering enhanced separating performance

Screening technology continues to advance in terms of improved versatility and greater precision, with wider application of ultrasonic deblinding systems making an important contribution in this latter area; we report latest innovations from four leading European suppliers of screening equipment, as well as how several challenging separation problems were successfully overcome.

At the beginning of this year Sweco Europe based in Nivelles, Belgium, introduced the MX Separator to the European market. This latest generation machine has been designed to provide increased safety, while improving clean-up and maintenance requirements. A totally enclosed weight guard prevents the risk of "reach in" injuries and complies with European CE standards. The machine also complies with ATEX standards when the appropriate choice of motor is selected.

The open base construction of the MX allows for cleaning underneath the unit, thereby preventing dirt and product build-up from occurring. Additionally, its base design eliminates all gussets and external crevices where there is a likelihood for product to become trapped while allowing for total external polishing of the machine. These features provide for a more hygienic design, while the open construction permits easier inspection and cleaning of the underside.

Another recent Sweco innovation is its Fusion Screen, in which the screen mesh is 'fused' to the tension ring. This system has been designed to eliminate the use of adhesive, epoxy or silicone resulting in a unitary construction which minimises risk of contamination. Added benefits include precise repeatable tensioning and engineered uniform integral strain relief created from the complex robotic manufacturing process.



Sweco's new composite screen, the Fusion Screen (versions are also available with a centre aperture).

Six fractions sorted by one machine

Sweco Europe reports that one of its French customers is employing multi-deck versions of its machines to screen corundum and alumina employed to make grinding wheels. What makes these screeners special is that they have five decks. Previously in each line this customer had been using two competitive machines in series. Because of their complex design and excessive weight, it required two people half a day to change the screens. A further drawback was that their footprint was very large, wasting valuable floor space.

Now a single Sweco Round Separator with a diameter of 1000mm has replaced two competitive machines. Initially there were doubts whether the new replacement machine would be able to cope with the workload. However, tests were run and everyone was fully satisfied. Thanks to the Non-Vibrating QuickChange feature, only one operator is required when screen changes are necessary. The machine uses screens with an opening of between 350 and 43 microns. Deblinding is accomplished by means of a self-cleaning assembly with mini-balls and sliders. Thanks to the compact dimensions of the Sweco machines it has been possible to increase the number of production lines from four to five without occupying any more space. Other advantages include reduced spillage with greater precision of cuts.

Screening minerals and glass

A recent technical development from Rotex Europe, also based in Belgium, is the Mineral Separator (MS) which has been specifically designed to meet the demanding screening requirements of high-volume applications. Capable of processing materials at 200 °C, it provides a patented cam lift rail system to facilitate fast screen changing and features sleeveless inlet/outlet connections. The MS range has been developed in order to meet latest requirements of the mineral processing sector, and notably the potash industry.

Rotex recently supplied a series of screening machines to a customer in the glass recycling industry. The challenge was to sort various grades of crushed glass ranging from 5mm to 250

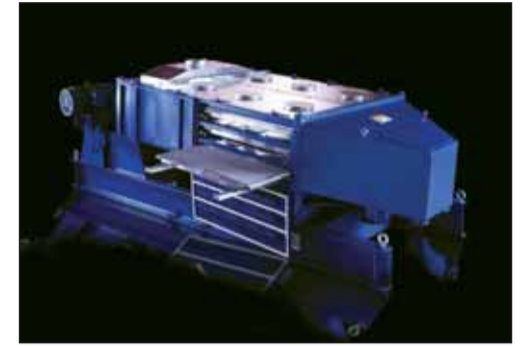
microns. The solution proposed by the Wavre-based company included a series of screeners, conveyors and feeders, as follows:

- One DD type screener to sort initial crushed glass and remove oversize and foreign bodies.
- Three Apex screeners providing seven grades of product overall.
- Three electromagnetic feeders to transfer product at a controlled rate from holding hoppers to other transfer equipment.
- One DD type cooling conveyor to take hot dried glass and assist in cooling during transfer to the conveyor system.

The decision to opt for three screeners was based on the fact that the grades of glass range from mid size to very small. Whilst the first large three-deck screen can cope with the mid sizes at a reasonable volume, the undersize discharge from this screener goes forward for further grading at finer apertures. Because it was physically impossible for one subsequent machine to handle the fine-aperture volumes that came from the first screener, Rotex supplied two identical three-deck secondary screeners arranged side by side, each taking 50% of the volume. All equipment is said to be working to the desired parameters and satisfaction of the customer.

Digital ultrasonic sieving

UK screening equipment supplier Farleygreene has just been appointed British Isles distributor for a new ultrasonic sieving system developed by Artech Systems of Switzerland. This latest generation of digital ultrasonics uses frequency variation, whereby a continuously varying wave is applied to the mesh screen. According to Farleygreene, older systems use a single wave



Rotex's Apex screener.

frequency which commonly leads to heating and hot spots which can result in premature mesh failure. These types also require each screen to be tuned to allow the system to work correctly.

Sonotech does not require this as the generator finds its own frequency and uniformly washes over the entire screen. Another major benefit is that the ultrasonic converter is situated outside the internal sieving area. This eliminates problems of material caking on the converter and makes the mesh frame much easier to clean. The system is also available in a simple, single analogue version which can be used on small laboratory meshes, with the special clip-on attachment, as well as on vibratory screen areas up to 550mm diameter. The digital system can be used on screens as large as 2500mm diameter.

Sonotech can be fitted easily to all of Farleygreene's Sievmaster range of screening machines, including its rotary centrifugal sifters. It can also be retrofitted on to other manufacturers' existing ultrasonic mesh frames. Units are available for demonstration at the company's test facility.

As previously reported, Rhewum of Remscheid, Germany, is now offering its cross flow sifter which can be retrofitted to any of its screening machines to provide additional separation of fine particles. The company states that separations in the range 100-500 microns can be routinely achieved and separation efficiencies of between 60 and 80% are possible without any additional equipment. Moreover, the separation cut can be changed during operation.



One of the compact Sweco Round Separators delivered to a French customer which proved capable of performing the task of two previously installed competitive machines.



Jurgen Kising (left) from Artech Systems with Farleygreene managing director Alan Hare demonstrate Sonotech ultrasonic technology at the UK's PPMA Show earlier this autumn.

Farleygreene	www.farleygreene.com
Rhewum	www.rhewum.com
Rotex Europe	www.rotex.com
Sweco Europe	www.sweco.com

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Ways to ensure longer service life

Aero-mechanical conveyors (AMCs) provide an extremely cost-efficient means of transferring a wide variety of bulk products gently and in an enclosed, dustfree manner over medium distances. The rope-and-disc assembly, which moves at speed to create air displacement which in turn fluidises the product being conveyed, represents the key element – and the one which is most likely to fail prematurely if not correctly operated and maintained.

Here we put rope assemblies under the spotlight by asking four leading and internationally respected suppliers of this category of conveyor for their comments and advice.

Floveyor Pty Ltd: This Australian company (previously Production Machinery Co.) developed the first AMCs in the early 1960s and remains the only company in the world to specialise exclusively in the development and manufacture of aero-mechanical conveyors.

www.floveyor.com

Spiroflow Ltd: With manufacturing facilities in the UK and USA, this company also makes flexible spiral conveyors, as a result of which it has amassed considerable expertise across a broad spectrum of in-plant conveying.

www.spiroflow.com

UniTrak Corporation: This Canadian manufacturer together with its European associate company, UK-based **UniTrak Powderflight Ltd**, manufactures bucket elevators as well as AMCs, which likewise helps provide both companies with widespread knowledge in all areas of in-plant bulk conveying: horizontal, inclined and vertical.

www.unitrak.com; www.unitrak.co.uk

Wysetech Ltd: This UK company specialises in AMCs and has in-depth experience of this type of conveyor going back several decades. The company works in close association with its US manufacturing partner Young Industries, which is among the world's foremost manufacturers of AMCs.

www.wysetech.com



Spiroflow conveyor handling tin oxide.

What is the choice of rope categories that you can offer?

Floveyor: Galvanised rope (economical); T304 stainless steel (the standard rope for many applications); T316 stainless steel (used for low end food products and in corrosive environments); polymer-coated rope (a fully coated rope to ensure no cracks for food and other similar products to be caught in).

Spiroflow: Carbon steel and stainless steel.

UniTrak: We produce 37 different types and sizes of aero-mechanical ropes. We offer rope assemblies with either galvanised rope or stainless steel, non-coated or coated. Ropes are available in 6mm and 8mm.

Wysetech: Galvanised steel, 304 stainless steel and each type of rope is available with a nylon coating over the exterior of the rope. Working closely with our US associates, we have found that nylon-coated rope assemblies with proper maintenance can provide longer service life,

sometimes by as much as 50%. This is because a typical AMC employs sprocket rims that are carbon steel or stainless steel. When using standard, non-coated rope on these rims there is direct metal-to-metal contact between rim and rope. By adding nylon coating to the rope assembly, the nylon provides a barrier between the metal rim and the rope. In association with our US partners, we are currently investigating some alternatives to wire rope, but this will need a lot of development and testing before it is made available.



Wysetech and its US manufacturing partner are working on the preliminary design of a sprocket that will extend the life of the rope assembly by providing a more reliable surface for the rope to ride on.

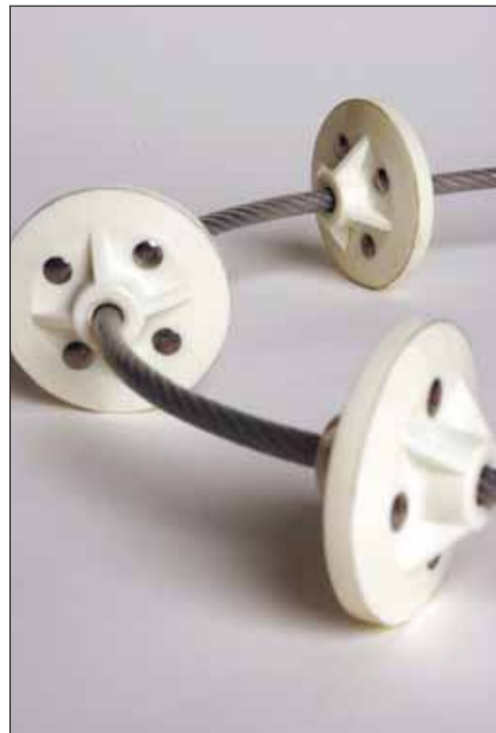
What is the choice of disc types?

Floveyor: Polypropylene (an economical material where light, non-food, non-abrasive products are handled); polyurethane (used in the majority of applications owing to its hard wearing capabilities – manufactured from FDA and EU food-approved materials); polyurethane 2 (the latest material to be tested on our polymer-coated rope assemblies to give greater flexibility and durable wear characteristics – again, made from FDA and EU food-approved materials).

Spiroflow: They are all moulded on to the rope: food-grade polyurethane for up to 80°C and 'Hytrel' discs for high temperatures up to 200°C.

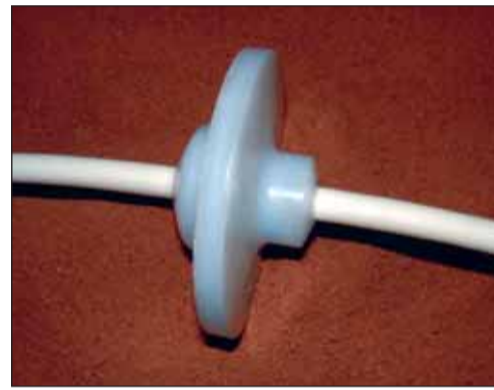
UniTrak: Nylon, polyurethane and our own special PF disc.

Wysetech: Nylon, polyurethane, static-dissipating carbon filled polypropylene, UHMW polyethylene and nylon/metal-detectable plastics. There are some applications that require a very specific plastic for the disc material due mostly to



Wysetech nylon-coated rope assembly with polyurethane discs.

chemical compatibility. We sometimes provide leather discs for applications requiring especially gentle handling.



Floveyor's new polymer-coated rope assembly (PCPU).

Do you offer nylon-coated ropes or other special rope formulations?

Floveyor: Polymer-coated rope assemblies (PCPU) are the latest design improvement we have developed. The rope is completely enclosed by moulding polyurethane on to the wire in the same operation as the moulding of the disc. This allows for complete sealing of the wires, as a result of which there is no exposure of the wires to the product being handled.

Advantages to our PCPU rope assemblies include: reduced stretch (about half that of standard wire rope assemblies); the coating and discs are moulded together which leads to no crevices; and extended service life.

Spiroflow: No.

UniTrak: Yes. More options are currently under development.

Wysetech: Yes. See earlier answer.



UniTrak conveyor with mobile base.

Are you able to provide static-dissipating rope assemblies for use in potentially explosive atmospheres?

Floveyor: Our new PCPU rope assembly is suitable for ATEX 22 and ATEX 21 environments. Due to the design, special antistatic discs are NOT required.

Spiroflow: No, there is usually no need because the surface area of the discs relative to the volume in which they operate is within safe limits and the rope on to which they are bonded is continuously earthed.

UniTrak: Yes.

Wysetech: Yes. Our static-dissipating rope assemblies offer a safety factor for handling explosive products. We can supply special grounding and bonding as well as inert gas blanketing where required.

Assuming rope assemblies are correctly tensioned and are employed to handle material which is not especially abrasive in a medium-length conveyor, approximately how long a service life can the user expect before the rope assembly fails or needs to be replaced?

Floveyor: There are many factors that affect the life of a rope assembly.

- **Maintenance regime:** The tension of the rope assembly should be checked on a regular basis, especially in the first week of operation. If the tension is too loose, the disc will wear prematurely on the perimeter. If the tension is too tight, then excessive wear on the disc boss will occur, and the wire rope will fatigue more quickly.

- **Sprocket condition:** Fitting a new rope assembly to a worn sprocket will decrease the life of a rope assembly, in the same way that a new chain will wear quickly on worn chain sprockets. If there is any wear on a sprocket, either on the rim or the brackets, then replacement should be considered to give optimal rope assembly life.

The life of the new PCPU rope assembly ranges from a few hundred hours for sand and other very abrasive products to over 16,000h for potato flake and flour type products.

Spiroflow: The answer to that is as long as the rope itself. We have one example of a rope lasting eight years before replacement, one lasting 14 years before failure and another 14 year old rope that has still not failed. This rope has been running on brown sugar for 2 x 10h shifts a day, which means that if this customer only operates the machine five days a week, that's around 220 working days a year. It is fair to say that most of our ropes will run well in excess of 3000h, as that is only 1.7 years if the rope runs for 8h over 220 days.

UniTrak: Usually between 3000 to 4000 hours.

Wysetech: In excess of 3000 hours. Rope assemblies are tested before, during and after the manufacturing process. This consistent testing ensures that when the rope is completed it is within all specifications required. If it fails at any of the multiple tests carried out during manufacture, that particular piece is rejected and the reason for non-compliance defined so it can be corrected. Assuming a 3000h service life, this means that each disc will enter a sprocket rim several million times in its life. Most of the wear on the rope is associated with the rope itself fatiguing at the points where it contacts each notch in the sprocket. In this respect, flexibility is a more desirable quality than outright strength.

We should like to thank the following for their cooperation and comments: John Herzfeld, general manager, Floveyor Pty Ltd; Keith Simpson, marketing manager, Spiroflow Ltd; Marie Lytle, marketing team leader, UniTrak Corporation; Duncan Ford-Young, managing director, Wysetech Ltd.

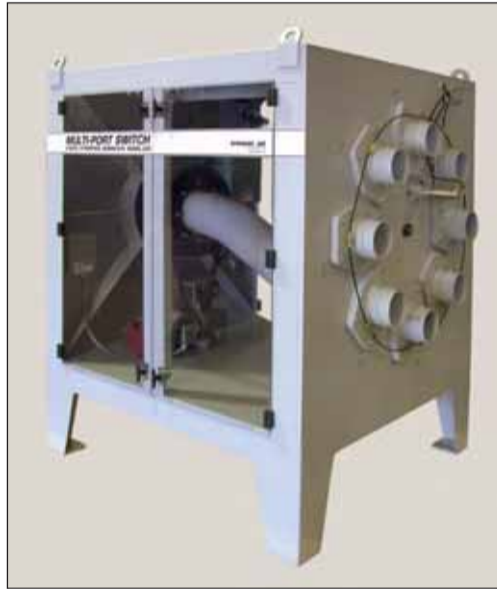


Floveyor road powder tanker loader.

Component advances drive progress

The overall effectiveness of a pneumatic conveying system depends on the efficiency of its component parts – and in this respect rotary valves are often perceived as being a weak link. We report several major new developments including an innovative multi-port switch, an advanced series of low-leakage rotary valves, a device which prevents internal damage to rotary valves, and a dense phase system which operates effectively without the need for rotary valves.

Dynamic Air has introduced a newly designed ceramic-lined multi-port switch which automatically diverts abrasive granular materials in a dense phase pneumatic conveying system, to as many as 15 different bins or hoppers. The full-bore design permits unrestricted material flow so as to minimise material degradation and pressure drop to make conveying easier, with less consumption of energy. The company states that even cohesive hard-to-handle, abrasive materials can be conveyed with better results. The multi-port switch is said to be ideal for applications where cross-contamination is a major concern.



Ceramic-lined multi-port switch from Dynamic Air.

Primary components of the ceramic multi-port switch are the inflatable seals which provide a sealing pressure up to 100 PSIG. The seals are located at the lower pivot point and at each outlet port connection. When the swing tube indexes to the desired port, both the top and bottom seals inflate, squeezing the swing tube from both directions to form a dust-tight pressure seal. The blind or unused ports are similarly sealed when the swing tube is not moving, so hoppers and bins are not exposed to the atmosphere. To index the swing tube to a new position, the seals are deflated, giving the swing tube clearance to rotate freely 360 degrees around the centre support shaft with minimal friction and effort. The heavy-duty centre shaft and bearing assembly supports the swing tube.

New from Pelletron is a series of patented low-leakage rotary valves designed for pneumatic conveying of granular products. The company has developed a new rotor design with expanded tips at the end of the rotor blades. Expanded vanes at the ends result in lower air leakage. In combination with the special rotor design, it has been possible to increase the number of rotor blades as well, which also contributes to a lower leakage rate.

More vanes also provide more pockets, and result in an improved continuous product flow at



Pelletron's GQM version of the new valve, designed for quick cleaning of adhesive products or between product changeovers.



GRH high-pressure, low-leakage rotary valve from Pelletron.

higher filling rates. In addition, the air vent has been completely redesigned for optimised venting. Thanks to the strong structural rotor design, the clearance of the rotor in the housing could be reduced to a minimum. This combination of features has resulted in a heavy-duty rotary valve with the lowest possible leakage of air, continuous product flow and high filling efficiency.

These new rotary valves are available for various pressure applications, from a medium differential pressure of 1.5 bar (GRM series) to a high-pressure version for 3.5 bar (GRH series). They are available for capacities within the range 2-100t/h, depending on the bulk density of the product. A quick-clean version for adhesive



Rota Val's RotaSafe RM2.

products, or for easy cleaning during product changeover, is also available (called GQM series)

Rota Val, Chippenham, UK, has just developed the RotaSafe RM2 system which is designed to stop a rotary valve instantly if it detects rotor-to-housing contact, thus avoiding valve damage and consequent product contamination. Its detection circuit is intrinsically safe and therefore suitable for all ATEX zones. Thanks to innovative control electronics, the patent-pending system can effectively filter unwanted electrical noise from sources that produce false signals. It thus avoids false tripping, a problem often encountered with this type of equipment.

Even relatively minor internal valve damage is likely to invalidate ATEX certification requirements by opening a flame path. Significant reduction of this problem can save major expenditure in repair or replacement of affected valves. The new system is unique in that



Gericke dense phase conveying system Type PTAD 20 with twin mini pressure vessels.

it can be adjusted to measure contact resistance at very low values, to reliably distinguish between a genuine fault contact such as product or CIP fluid conductivity.

Gericke, Regensburg, Switzerland, has developed a dense phase conveying system which employs mini pressure vessels in place of rotary valves which are susceptible to air leakage. A major advantage of the new system over

conventional lean phase conveying with rotary valves, is that no part rotates in the product stream. In lean phase conveying there is the risk that the continuously rotating rotary valve could cause fine metallic attrition when coming into contact with the housing and thereby contaminate the product.

In addition to the traditional advantages of gentle conveying, low segregation, reduced wear, and low air and energy consumption associated with plug conveying, the new system requires minimal headroom. Two 20-litre pressure vessels guarantee continuous operation and require an installation height of no more than 750mm. Depending on the choice of tube diameter and the nature of the product, capacities of 4-10m³/h can be achieved.

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Small-scale feeder

Gericke, Regensdorf, Switzerland, has introduced the DIW-PE-GLD87 feeder for adding minor ingredients to a process. It is designed to achieve extremely precise feeding results thanks to the use of latest weighing system technology based on the principle of electromagnetic strength compensation. It is easy to clean and can achieve high accuracy even with sluggish products, assisted by the fine adjustment possibilities of the Easydos Pro controller.

In order to reduce the risk of feeding accuracy being adversely affected by external influences, the unit can be supplied with wind shields, special connecting sleeves and vibration cushions. Gericke points out that daily production challenges become more critical where particularly low feed rates are required. This can be either due to the high cost of some ingredients, or to the significance of



DIW-PE-GLD87 small ingredient feeder from Gericke.

accurate addition of small quantities of ingredients with regard to the final product.

www.gericke.net

Improved de-duster features central cone wash deck

Pelletron of Lancaster, PA, has launched the RC-Series DeDuster with CentraCone technology which has been designed to supersede its successful P1 and P5 series, hundreds of which are said to have been sold worldwide. In answer to customer demand for a single unit capable of handling just a few kg/h as well as larger quantities, the RC-Series can cope effectively with flow rates in the range 5-250kg/h while efficiently removing dust particles as small as one micron.

The well proven electromagnetic coil feature remains unchanged. Here an electromagnetic field breaks the static bond between the electrostatically charged plastic pellets and small dust particles. New is an adjustable inlet funnel that distributes the product evenly to the central conical wash deck (CentraCone). Wash air, generated by a high-efficiency fan, is pushed through holes and slots in the wash deck for efficient removal of dust and streamers. From the round wash

deck, the material flows through the circular venturi zone surrounding the wash deck. This area is designed to remove long angel hair and heavier dust particles. Air flow velocity passing the venturi zone can be regulated by adjusting the air volume, with dust and angel hair being carried to the circular dust air channel.

This combination of design modifications and air flow improvements is said to have resulted in higher cleaning efficiency and reduced carry-over. The DeDuster system includes a dust collector/fan combination and is also available as a stand-alone compact unit on a mobile frame.

Designed primarily for plastic processing companies, the RC-Series is also well suited for all types of granular products that need to be cleaned before processing or packaging. It is available in Europe from MoMaTech. Pelletron offers a broad range of DeDusters with capacities up to around 100t/h.



Pelletron's RC-Series DeDuster with CentraCone technology.

www.pelletroncorp.com;
www.momatech.de

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Solids handling hoses for ultra-high temperatures



Norres CP HiTex model 486 solids handling hose can withstand temperatures of 650°C.

Norres Schlauchtechnik, Gelsenkirchen, Germany, has extended its range of clamp profile hoses with the introduction of two new highly flexible high-temperature products. The CP HiTex models 485 and 486 can be used at temperatures of up to 500° and 650°C, respectively. They are also robust, compressible, multi-layered and can accommodate slight overpressure. They are suitable as suction and blast hoses for transporting aggressive dusts,

powders and fibres and harsh gaseous media such as vapours and smoke.

The multi-layer wall of both hoses has an interior and exterior lining made of special coated glass fabric in a patented CP design to ensure highest levels of security and durability. The model 486 additionally has a thermal insulation layer. They are both available with a choice of inner diameters within the range 100-1000mm.

www.norres.com

Inline sampler is especially reliable

Keresting of Brilon, Germany, has recently introduced the SamFreeglide, a new design of inline sampler which when launched one year ago was originally intended just for food and pharmaceutical applications. Featuring smooth, easily cleaned surfaces, the device is fabricated to the highest hygiene standards, which adds significantly to its price. However, thanks to its unique design and extreme level of reliability, this new sampler is proving popular in other industrial sectors, such as cement, where hygiene is not a primary requirement. Product manager Felix Obermeyer commented: "The SamFreeglide simply always works with all solids, powders or granules and it never jams."

www.probehmer.de



SamFreeglide from Keresting (showing the complete unit as well as how it is typically installed) has been designed for total reliability.

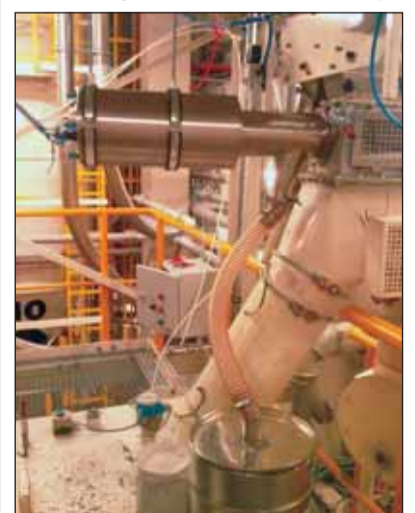
Size reduction of heat-sensitive products

The UK division of Hosokawa Micron located in Runcorn, Cheshire, reports that new design developments to its Mikro ACM mills make them especially suitable for processing heat-sensitive products such as high-grade cocoa powder or chocolate crumb. These impact mills are capable of fine grinding many problematic food materials thanks to their high air throughput, material flow and gentle comminution. The ground product has a steep particle size distribution curve and this can be tailored to suit the application by adjustment of grinding conditions and the air classifier speed.

www.hosokawa.co.uk



Hosokawa Micron's ACM mill.



Compact mixer offers enhanced capacity/liquids capability

Dinnissen of Sevenum, the Netherlands, has launched a new version of its Pegasus mixer which offers significant benefits in terms of increased capacity, energy savings of 30-40% and the facility for adding up to 18 different liquids very precisely in all possible combinations and quantities to dry materials such

as powders and granules. The liquids can be oil-, water-, or acid-based and can be used to modify the handling characteristics as well as chemical properties of the products concerned. Compared to previous models, the machine can achieve a capacity increase of 15-20% per hour.

www.dinnissen.nl



Latest Pegasus mixer from Dinnissen offers significant energy savings.

Air jet sieve for low-density materials

Retsch of Haan, Germany, has launched the AS 200 air jet sieve which is said to be especially suitable for low-density materials with particle sizes in the lower micron range. It is recommended for use with 203mm sieves of 10 microns mesh size or above. An industrial vacuum cleaner generates a jet of air which disperses the particles on the sieve through a slotted nozzle. Material which passes through the sieve is transported to the negative-pressure cleaner or to a cyclone for recovery. The procedure is reported to be very gentle on the material, average sieving time taking only 2-3min.



AS 200 air jet sieve from Retsch can cope effectively with very fine, low-density particles.

www.retsch.com

Bulk bag connector with integrated filter

Hecht Technologie, Pfaffenhofen, Germany, points out that during discharge of bulk bags an overpressure may occur which can be neutralised by taking measures for pressure compensation. To date, the outlet connection system has been in dual-chamber design, the dusty compressed air being removed via an external filter. A better solution, according to the company, is a patented further development consisting of a ring-shaped filter integrated into the outlet connection system. The filter is cleaned by a jet of compressed air, the dust being fed back into the product flow. In this way it is possible to eliminate the need for an additional filter.



Hecht's latest outlet connection system with ring-shaped filter.

www.hecht.eu

ON OTHER PAGES...

Lab Wizz high-precision mill for rapid sample preparation (see p7)



Triple Big Bag Line containerised FIBC filler (see p7)



Weighing controller with continuous totalising capability (see p7)



New designs of food-grade magnetic separation and metal detection instruments (see p10)



Digital ultrasonic sieving system (see p11)



New pneumatic conveying components (see p13)

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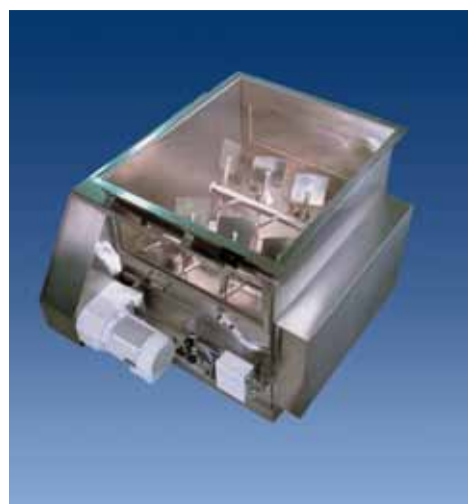
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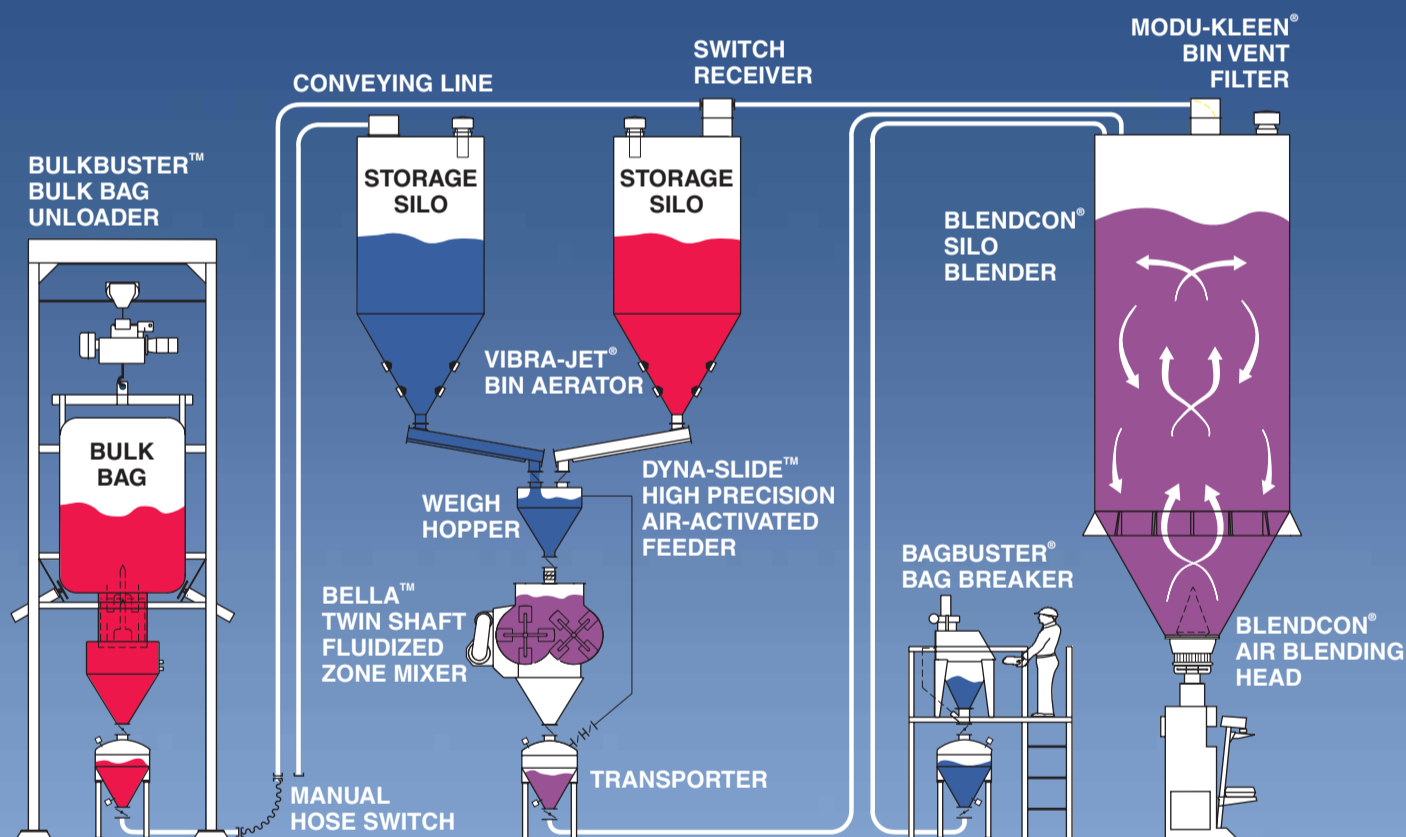
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