1/2020

FLUX

the magazine for bulk ingredients technology

ENERGY TRANSITION

Batteries of the future
Full charge

Ideal daytime lighting
Bright sunshine without heat

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brabender
TECHNOLOGIE

MASTHEAD
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Dear Business Partners and Colleagues,

It is scarce, it is expensive and it is certainly part of our everyday life: energy. How do batteries fit into the picture? E-mobility figures are on the increase and further technical development of the battery is absolutely vital for growth. Our editorial focuses on the advantages and the current status of battery technology. At the same time, we are researching the potential in order to enable production that is economically and ecologically practical. Join us in the exciting world of batteries (from page 4).

Our DSR28 and DDSR20 stirring agitator feeders have been completely redesigned and reworked. In developing the feeders we were guided by the question: What can we improve, particularly in terms of easier handling and fast cleaning? You can read our story on page 13.

Which solutions did Brabender Technologie use on the important themes of the circular economy and recycling when presenting itself at K 2019 in Düsseldorf in October? You can find out on pages 10 and 11.

We hope you enjoy an “energetic” read!

With kind regards,
Bruno Dautzenberg and Günter Kuhlmann

FLUX

› profund

Full charge

Electric Vehicles are a hot topic of discussion today with batteries being one of the most important features that raised many questions. How environmentally friendly is their production? How should the growing demand be met? How is the requirement for raw materials covered? The market is very much in motion: Companies are positioning themselves, research and development are running at full speed, and processes are being refined or even recreated. We are involved in the growth and development of automotive batteries.

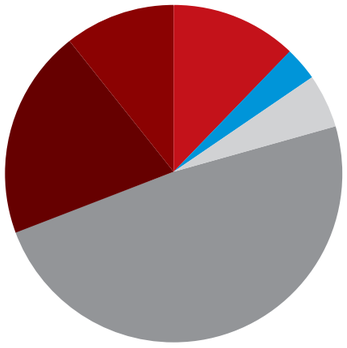
The global demand for lithium-ion batteries (LIB) was estimated by the German Mechanical Engineering Industry Association (VDMA) in the "Roadmap of battery production means 2030" at 150 gigawatt hours in 2018 – with an annual increase in requirements of around 25 per cent. The Fraunhofer Institute for Systems and Innovation Research (ISI) assumes a global battery demand of 1 to 1.5 terawatt hours in 2015 in "Energy storage monitoring 2018". The transition from the niche to the mass market occurs at this point. The Institute anticipates a battery demand of between three and six terawatt hours up to 2030. Production capacity has to be created for these fast-growing markets: A lucrative market for mechanical and plant engineering.

BATTERY SUCCESS FACTOR

A decisive criterion for the long-term success of e-mobility is in the technical further development of the battery as well as being able to produce it economically and ecologically. There is currently competition for the best battery production technology. It focuses on the current lithium-ion generations one to three, which are already being manufactured on an industrial scale. The fourth generation (all-solid-state and lithium-sulphur) as well as the fifth generation (lithium-air) are currently at the development stage. Processes will have to be adapted for these changes.

In this trend scenario, requirement and demand for lithium-ion batteries will diverge greatly in Europe in the future.

LIB PRODUCTION BY LOCATION IN 2025 (IN THE TREND SCENARIO)



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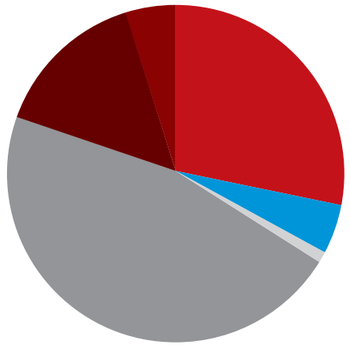


Source: Energy storage roadmap, Fraunhofer Institute for Systems and Innovation Research

Europe is positioning itself

Cell production for batteries is currently in the hands of China, Japan and Korea. Europe does not play a part and investments in the European market are made mainly by Asian players. In its study, the Fraunhofer Institute sees considerable efforts being required for that to change: "If Germany or Europe want to be successful in the battery cell business in the long term, medium-term investments of at least ten billion euros will be necessary in production-related research and development as well as in the development of cell production. The industry will have to finance the majority of this and invest amounts in the realm of 100 billion euros in the long term."

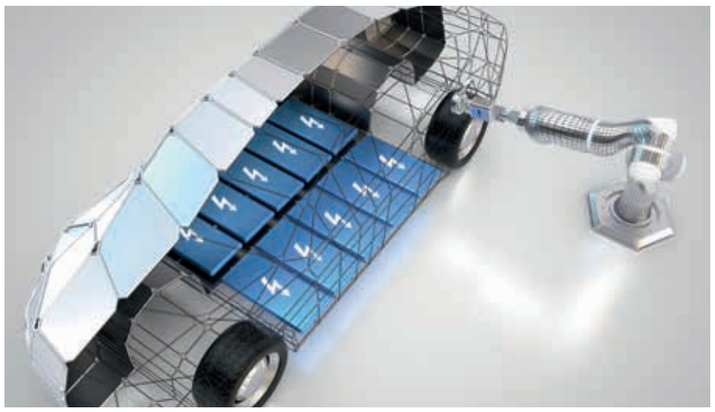
Initial steps have already been taken in this direction. Volkswagen in Salzgitter opened a pilot line for battery cells in September 2019. In a joint venture with the Swedish battery manufacturer Northvolt, a giga-factory is to be opened in the same place at the same location in 2023/24. The group expects to make investments of one billion euros – the pilot line alone was more than 100 million euros. At the opening, Dr. Stefan Sommer, member of the board of management of Volkswagen responsible for Purchasing, emphasised the significance of the battery for the e-offensive of the group: "With the pooling of skills at the site, we ensure that we are driving forward the further development of battery cells as key components of electrification itself, developing new standards and that we are able to move quickly into series production."

The largest source of lithium in the world is in Chile (Salar de Atacama/image), China, Argentina and Australia.

Recycling to counter the raw materials dilemma

Volkswagen names the following goals: increasing the capacity for greater coverage, reducing its raw materials and optimising sustainable production processes up to the recycling of battery systems. As Europe does not have the relevant raw materials, recycling is not just an ecological but also an economic necessity. For this reason, the German company BASF (chemicals), the French Suez group (resource management) and Eramet (mining and metallurgy) as well as the European raw materials consortium EIT Raw Materials announced the ReLieVe project in September 2019: Recycling of lithium-ion batteries for electric vehicles. The objective is to develop an innovative closed circulation system including the creation of an integrated industrial sector, from the collection of old batteries to the production of new electrode materials. The European players are also positioning themselves here for the impending competition here.
The VDMA is in the race for future production sites in terms of various factors: transport costs, for example, can be reduced by having a location that is close to where sales take place; energy and employment costs (which only represent a few percent of the production costs, however); infrastructure (which can be shaped a great ›

Further development of battery cells: the key components of e-mobility.



Scarce raw materials: the recycling of battery systems is crucial and an ecological and economic necessity

deal by the policy). Besides this, VDMA sees automation and thus the material and process quality as an important leveller for batteries – European mechanical engineering may have a decisive locational advantage here.

Complex process design

The processes in battery production are extremely complex and in many ways dependent upon one another. When it comes to automation and digitisation an objective must be to make the battery into a smart product: such products gather data during their own manufacturing process, and this influences the next processing steps. And finally the in-house recycling process too. This has long been a vision. However, these future production processes hold the potential for resource and energy efficiency as well as intelligent production with as little waste as possible.

Why is a company such as Brabender Technologie concerned with this topic? CEO Bruno Dautzenberg explains: "On the one hand it is our profound belief that innovations and disruptive technologies must always be on our agenda. On the other hand, feeders from Brabender Technologie have a natural place in battery production: In electrode production, active materials such as graphite as well as additives like conductive carbon black and binding agents have to be fed into the mixing process. A liquid solvent is added at the next stage which is dispersed. This process is one of the challenges when it comes to speed as well as the quality of the slurry produced."

Battery production with Brabender Technologie

For some time, Brabender production lines have been used in batch processes as well as, more recently, in continuous processes in the battery producing industry. Batch processing is suitable for larger volumes and particularly for ready-mixed products with better flow characteristics, for example, twin screw feeders of the types DDSR60 to DDSR100 and FlexWall® versions 80 to 155. In a continuous process, Brabender Technologie offers a production line consisting largely of space-saving horizontally agitated devices such as those in series DDSR20 to DDSR60 and DSR28 to 103. Customers can therefore produce more in less time.

In battery production, various sometimes hazardous materials are involved: Graphite, lithium-metal oxides, additives, cobalt sulphate compounds for the cathodes, and graphite, binders and lithium-titanate for the anodes. All feeders used by Brabender Technologie ensure the dustproofing characteristics and precision required for battery manufacturing. The devices have also been developed to deal with challenging products that have difficult characteristics, for example, stickiness. Bruno Dautzenberg concludes: "Our customers from plant engineering benefit from our many years of experience in the pharmaceutical industry, which makes similarly high demands in terms of dustproofing and precision." ■

The explosion-protected design of the DDSR20 among other things, is used in the battery manufacturing industry.

Practical: a visual check can be made through the viewing window.

Brabender Technologie provided the partner ENTEX with a complete "feeder system".

Summit meeting for our core market

No other market is as important for Brabender Technologie as the plastics industry. It is therefore unsurprising that the K trade fair is special for the company.

When plastics specialists from all over the world meet in Düsseldorf it is "K" time. The trade show takes place every three years, and in 2019 it revolved around the circular economy and recycling. "Environmental topics have become critical in the world of plastic", confirms Antonio Seising, Head of Sales at Brabender Technologie. This was also a topic in the show booth, for example for the feeding of recycle, film edge or shredded carpet. "We have been fully prepared for such requests for a long time."

Besides a broad spectrum of feeders (read the following pages about the innovative new feeder solutions), Brabender Technologie brought many ingredient samples to Düsseldorf. In the material corner were glasses with a variety of ingredients which demonstrated the various difficulties involved in feeding: tangled fibres that move in clumps, extremely fine powder behaving like a liquid when in motion, and others that become electrostatically charged and adhere to the glass. Antonio Seising explains the trade show concept: "We were able to pick up on customers' concerns here and then explain to them in front of the device how to deal with specific challenges".

A wide portfolio on show

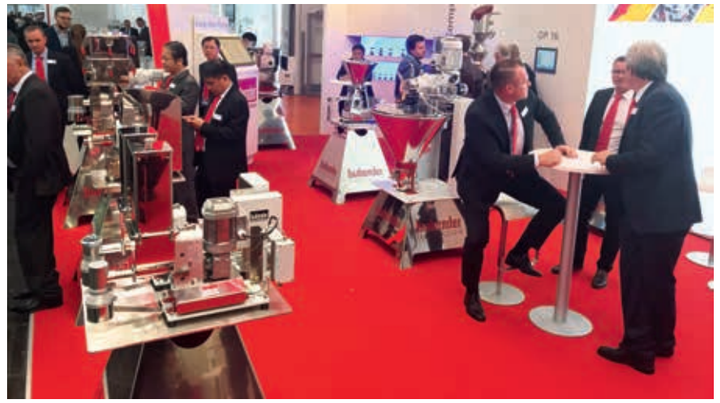
The range of feeders left no stone unturned: the universal FlexWall®, the new stirring agitator feeders, the FiberXpert fibre feeder, a vibrating tray feeder, a fluid feeder and the new DS feeders were on display. Some with special features: a DSR28 with FlexWall® as a refill unit was on show, along with the DS feeder with vacuum conveyor and the new user operator interface in the OP 16. "Refilling processes are one of the central concerns of our customers and represent a main theme of the trade fair", reports Günter Kuhlmann, CEO of Brabender Technologie. Another main emphasis was control of the feeder via a web server (we present both in detail on the following pages).

Service staff were available for visitors with specific application questions about their equipment or the upgrading of individual feeders. The service staff were able to respond based on their application experience and were sought-after contacts for technical special solutions. There were no language barriers at the Brabender Technologie stand: colleagues from all over the world added to the German team and were able to give answers in many languages.

Feeder in use

But their feeders were not only to be found on the Brabender Technologie stand itself: one complete feeder system (three powder and one liquids feeder) were on show with the business partner ENTEX which uses Brabender for feeding in their new laboratory Planetary Roller Extruder. The Bochum company demonstrated at the stand how a colourful dough is extruded from water, flour and colour additives. "At ENTEX, our customers could see the new DDSR20 dual screw feeder in hygienic design in use for flour, and the standard single screw feeder for the colour additive", reports Klaus Plien, head of sales for the food division. "That was a small bonus for us of course, since it was even easier to explain how the loss in weight feeder works". ■

The product portfolio displays a variety of devices.



VIDEO

Experience all the trade fair highlights in the video review for K 2019.

DDSR20 and DSR28: redesigned and reworked

At Brabender Technologie, the standard products are regularly reviewed for improvement. In 2019, it was the turn of the stirring agitator feeders DSR28 and DDSR20: What could be improved, particularly from the perspectives of quick ingredient changes and ease of cleaning?

"Essentially both feeders are new developments", Jürgen Knez, head of the development department at Brabender Technologie summarises the relaunch of the devices. Gears, caps, containers, lids, seals, outlet, flex connection, motors, load cells, cable routing and screws have changed in the 2019 models, and the connection dimensions have also been standardised. The new features will mean a whole range of improvements for future users.

For customers to see for the first time: DSR28 and DDSR20 after their relaunch at K 2019.

New drive concept

One important difference is in the new splitter gearbox for the screw and agitator drive. Clearly, with the removal of the baseplate, the gearbox sits directly on the load cell. The DSR28 is now a complete assembly unit with toothed belt technology, so that there is no need for a chain, chain guard, bearing block, intermediate plate and coupling. A four-lip seal made of PTFE ensures better shaft sealing. The gear runs more quietly, weighs less and can be combined with smart motors and three-phase motors currently used by Brabender Technologie.

View from above: DDSR20 (left) and DSR28 (right)

The new smart servomotor

"We will offer three motor versions in the future", says Jürgen Knez. "There will also be a three-phase motor with 180 or 120 Watt output, with a speed that is identical to the previous large 370 watt model. We will also offer a smart servomotor of 180 watts and a speed range of 1:100". This motor has a low weight of 900 grams. Combined with a smaller range load cell it is therefore significantly more precise and offers a impressive low rate feeding capability. With three digital and two analogue load cells, a total of five different load cells are available.

Attention to detail

The engineers have placed a great deal of importance on the details of the housing. The connections between main components no longer consist of nut and bolt connections but a permanently installed clamping lug system. Loose parts when changing the hopper and lid are therefore a thing of the past. The hopper is hemmed at the top and a custom-fit silicon foam gasket seals the lid perfectly. The design has integrated with a high-quality look.

The vertical outlet is now the same for both devices. With the new shape and performance of the flex connection, low feedrates can be fed more easily with higher accuracy.

The design of the screws has also changed. The dual screws now have a shrink-fitted stainless steel mounting insert and are more suitable for use in the food or pharmaceutical industries as they better meet hygienic design principles. ›

At K 2019, a DSR28 has been combined with a FlexWall® as a filling unit.

Regular care of the model

"We have listened attentively to our customers to find potential for improvement. Added to this, is of course the progress of technology. This also ensures that good alternatives can be continuously developed on the basis of proven performance, for example, new materials or processing methods", says development engineer Knez. "With the redesigned models, we want to offer our customers feeders that are highly modern in technological terms, and which best fit into their processes when in operation. I believe we've succeeded in this." ■

CITO MEDIA CHANNEL

You will find all the advantages of DDSR20 and DSR28 described concisely on our media channel CITO.

www.bt-cito.com

The three-phase motor (rear) and the new servo-smart motor

The permanently installed clamping lug system

› machina

No edges, corners or undercuts: the hygienic design of the DDSR20 enables rapid cleaning.

Small and precise

The DDSR20 stirring agitator feeder in hygienic design is the perfect partner for feeding tasks in the pharmaceutical and food industries.

In the pharmaceutical and food industries it is often a matter of metering the tiniest amounts of active substances and additives. "Continually feeding 50 grams per hour is a great challenge. Precision is the top priority here", explains Günter Kuhlmann, CEO of Brabender Technologie. The company has developed the DDSR20 stirring agitator feeder in hygienic design for these special applications.

Innovative developments for drive, screws and seal

The drive is now activated with two servomotors which activate the stirring agitator and screws separately with independent speed settings. Günter Kuhlmann explains: "We are thereby greatly increasing the effectiveness of the bulk ingredients agitation." Multiple-flight dual concave screws ensure an even feed consistency at low speed. A load cell with an internal resolution of four million to one offers the greatest possible feeding accuracy. The new sealing system consisting of a PTFE four-lip seal also offers improved sealing.

Hygienic design for less downtime

The compact device does not have edges, corners or undercuts. Its smooth surfaces enable rapid and complete cleaning. The whole item that is in contact with the product can also be removed and changed with just a wingnut and without using any tools. It is therefore possible to directly change feeders with different bulk ingredients very quickly. "The industry is shifting increasingly towards continuous production processes. It is becoming more important to keep the downtime of the system as low as possible during a product change or for cleaning processes", emphasises the CEO.

Günter Kuhlmann summarises the changes as follows: "With the DDSR20 in hygienic design, we are supplying an innovative dependable high precision feeder for applications in the pharmaceutical and food industries which combine technology expertise with a competitive price." ■

New web server: virtual alternative

The feeder and feeder mounted control modules are not always easy to access in the production environment. The new web-based user interface can provide a remedy and simply control the devices from almost anywhere via a smartphone, tablet or PC.

Up to now customers could only start the feeder with the operating unit OP (operation panel) and also use the interface to view the status, change set points, continuously adjust and stop the feeder. Since January 2020, there is an option to operate the feeder via a web server. Feeders from Brabender Technologie can now be controlled via mobile devices such as a smartphone, tablet or PC integrated into the company network. This greatly simplifies feeder operation as the web server can completely replace the Brabender OP operator interface.

This means that the Brabender OP operator interface can select which interface you would like to use to operate the feeder Congrav® control module. The operator interface mounted at the feeder or via the company network and a web browser. Above all, if feeders run in constant continuous operation and the operators also move, for example outside the production areas, operation via the web server may be more convenient. ■

The new web server enables access via various mobile devices and greatly simplifies the operation of devices.

The existing proven OP 16 operator interface now has the capability to control feeder refill via a vacuum conveyor process.

OP 16: Full control from a single source

The refilling process via a vacuum conveyor can now be controlled centrally with the Congrav® OP 16 operator interface.

The refilling of the feeder hopper is a required process in gravimetric feeding which often uses vacuum transfer technology. Brabender's existing field proven OP 16 operator interface can now control both the feeder and a vacuum transfer system. The OP 16 can display both the feeder refill process and vacuum conveying process as a standard feature allowing the operator to have both these critical process controlled from one device.

"With this new option the OP 16 becomes the master unit", explains Günter Kuhlmann, CEO of Brabender Technologie. "Up to now, the control of feeders and vacuum conveyors has been carried out in the control system with several points of contact", continues Günter Kuhlmann. The request for refilling now comes from the feeding control. OP 16 thereby combines the communication between feeder and vacuum conveyor."

Benefits of the OP 16 master unit

With this new feature the customer has been able to control both devices from one source since January 2020. Refilling processes can be easily optimised and the devices precisely coordinated with one another. This means a leaner overall control process saving time thanks. ■

› usus

Bright sunlight without heat

It's early 1980s and after about a year of research, the "mixture in the beaker" was just right. A mixture that would bring a small company to a publicly traded company valued at billions today. Dr. Harlan Byker invented the chemistry portion of the first commercially successful electrochromic device, an automatic dimming rear view mirror for motor vehicles that has sold more than 400 million units to date.

With that success Dr. Byker changed his focus to architectural glass. His plan was to make it more intuitive and bring thermal comfort into the interior space without limiting natural light. That is when Pleotint LLC was born. The company is now a world leader in dynamic glass and consists of a glass fabrication division, an interlayer extrusion operation, research & development and of course the innovative Suntuitive Dynamic Glass product line.

Suntuitive Glass is perfect for daylighting and thermal comfort – the illumination of buildings by natural light through the strategic placement of skylights and windows. Sunlight has great benefits – it enlightens our mood, deepens our sleep and improves productivity. But sunlight through conventional windows has a side effect: often rooms heat up too much when there is direct sunlight. Instead of using blinds and shades

finally dynamic tinting windows are available at a reasonable cost.

The thermochromic technology of Suntuitive Dynamic Glass adapts to changing sunlight conditions to maximize natural daylight throughout the day. As the sun rises and sunlight begins to heat the glass, the Suntuitive interlayer will begin to darken, which we perceive as tinting. The interlayer uses the sun's energy to mitigate solar heat and glare when there is direct sunlight on the window, while still allowing maximum daylight by clearing up when there is indirect sunlight. So instead of fighting the sun, Suntuitive Dynamic Glass works in harmony with the sun to provide optimal comfort and interior lighting conditions.

FLUX spoke with Dr. Byker, Chief Executive Officer of Pleotint about the production of Suntuitive Dynamic Glass and why feeders of Brabender Technologie are part of it.

Tell us a bit more about PLEOTINT's beginnings and its growth with Suntuitive Glass which is now the most used dynamic glass technology worldwide?
Pleotint had it's first commercial project in 2010 and will soon celebrate ten years of continued excellence in dynamic glass. Since 2010 Pleotint has gone from local installs and fabrication to installations in 30 countries around the world in cooperation with a global network of certified fabrication partners, making Suntuitive the most adopted dynamic glass technology.

Could you please explain this "dynamic glass technology" in a few words? What is crucial for the production process?
Suntuitive Dynamic Glass self-tints under direct sunlight. The 'magic' happens in a proprietary PVB interlayer sandwiched between the glass. To produce a high-quality, consistent product many variables in the interlayer fabrication as well as the glass fabrication need to be controlled within a stringent set of ranges.

What are the major benefits of Suntuitive Dynamic Glass and its unique passive technology that remains adaptive to the sun's changing intensity throughout the day?
What makes Suntuitive Dynamic Glass unique is that the intelligence really is built-in. This means no external systems, in the form of controls wired to the glass and power supplies, are necessary. This results in an installation that is exactly like conventional glass, not complicating the building process in any way.

Why did you choose Brabender Technologie and what kind of feeders do you use?
Brabender Technologie feeders were chosen because of their varied feeder technology and product offerings that help in the development and manufacture of Suntuitive films, which requires precision ingredient feeding and high accuracy. We currently use the FlexWall® 80 and DDSR20 type feeders.

How has Brabender Technologie's high accuracy feeding equipment helped you through your manufacturing process?
Brabender feeders have met our feeder operational requirements, providing consistently accurate contribution performance for our film manufacturing needs. In our feed application we have a sophisticated combination of materials and additives which include a powdered polymer resin. Ongoing consistency of all feeder contributions are crucial to the process.

Within your core markets where do you see the next generation of innovations taking you?
Dynamic Glass itself is still considered a 'next-gen innovation' as it is pre-mass adoption. In the coming years, we will see a market-wide awareness of the products and massive adaptation as the core markets realize the potential and benefits of this field-tested and durable product. That being said; at Suntuitive Dynamic Glass we are already working on new applications in areas such as bullet resistant with solar heat gain control as well as dynamic single pane glazing, which will provide a safer built environment and open up markets in new areas around the world. Other applications could be in heavy and farm equipment, public transit and automotive. These are exciting times for the next generation of glass: Suntuitive Dynamic Glass! ■

CONTACT

Pleotint LLC
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MI 49428, USA

https://suntuitiveglass.com/

The glass changes colour depending on the amount of sun coming in – without blocking out light.

Korean Land Development Museum Seoul, Korea

A FlexWall® 80 among others was used in the production.

Pleijsier Bouw HQ, Nijkerk, Netherlands

Technical centre, Canada: There is always a way.

What to do if a bulk ingredient cannot be fed? Ask Brabender Technologie! The employees at the technical centre in Toronto can help find a solution.

"We recently had a demanding test for which our laboratory manager Bryan Sangalang and laboratory technician Arthur Gniotek had to find a solution", says Guy Catton, CEO of Brabender Technologie in Canada. The powder was very cohesive and clogged quickly. However: "Our research showed that the characteristics of the material changed considerably when the temperature dropped. To confirm this, the technicians cooled the powder overnight and then tested the flow behaviour again the next day: It transpired that the DVT120 vibration feeder worked very well at eight degrees and we therefore had a successful outcome to the test."

Available for everyone

This story shows how important the work of technical centres is. On average, Brabender Technologie in Canada processes around 100 to 120 enquiries a year. Most are to do with continuous gravimetric feeding solutions. The FlexWall® feeder is therefore the most frequently requested, and this is based on its versatile deployment options and digital precision weighing. "Customers from the plastic, food and chemical industry use our test capacities", reports Guy Catton. "New customers with little experience of loss-in-weight processes and feeding also find the technical centre very helpful."

The bulk ingredients experts describe the typical test in this way: "We receive many requests from new and long-term customers who wish to use our facility to watch our feeding tests." To arrange an appointment all you have to do is contact one of the regional representatives. So that the technical centre employees can prepare for the relevant bulk ingredient, they often ask for small samples in advance.

The larger the feed quantity the greater the challenge for the employees. Based on the local conditions, the technicians have to make special arrangements for amounts from around 1.3 cubic meters per hour. However, Guy Catton quotes the saying "where there is a will there is a way". "It is rather unusual but we also conduct such tests with additional support."

SUCCESSFUL FEEDING TEST IN THREE STEPS

Prior to every feeding trial, the question is asked whether the bulk ingredient is safe to handle and whether all measures have been taken to represent the requirements of the customer. It is only in this way that valid results can be achieved. We act in a proven three-step process against this backdrop.

1st step: The customer provides the laboratory team with the safety sheet for the material (SDS). This includes instructions for the safe handling of the bulk ingredient.

2nd step: We require a written test request. On this form, the customer answers questions on the process data and requirements.

3rd step: If both have been tested by our laboratory team, the customer receives shipping instructions and information on how much bulk ingredient is required for the test.

Sharing insights gained

Brabender Technologie saves the information on tests and bulk ingredients from the three technical centres in a common database which can only be viewed by its own employees. An active and informal exchange also ensures a good flow of information and sharing of experiences within the global Brabender family. ■

CONTACT

Contact us for your personal material test.

Bryan Sangalang
Laboratory Manager

bsangalang@brabenderti.com

A laboratory employee of Brabender Technologie checks the customer requirements requested.

The test is carried out and the results recorded.

A final report is drafted and submitted to the customer for checking.

Technology for the champions of the Alpine region

› Austria: approximately nine million inhabitants, superb mountains, skiing, hiking paradise, and one of the most prosperous countries in the European Community. This latter factor is due partly to the flourishing industry as Austria is the home of many small and medium companies, which are extremely successful particularly in the fields of mechanical engineering and the automotive supply sector.

"Innovation and application often count more than pure size for these companies, and this orientation has also been promoted by the company Friedrich W. Bloch", says Peter Kolbe, authorised representative of the Austrian partner company of Brabender Technologie. The founder who gave the company its name was the managing director of the largest mill in Austria for many years before he implemented his own business idea in 1950. He recognised the need for special machines and systems in the industry. "It was in the field of grain mills and mixed feed plants that we first came into contact with laboratory devices from Brabender GmbH and then with the bulk ingredient technology of Brabender Technologie. Feeder devices followed bin activators in the food sector and this was the beginning of a decades-long business relationship which also has a warm personal side."

Growing together

Friedrich W. Bloch and Carl Wilhelm Brabender had an excellent business relationship built on mutual trust and understanding. The generations that followed have continued this good relationship. The company management is now in its third generation with Susanne Kondziolka-Bloch. With the growth of the plastics industry in Austria, there has also been a increase in demand for feeder devices from compounding and master batch manufacturers, which was given further impetus by the cooperation in the 1990s. In 1997, Peter Kolbe was hired – a mechanical engineer who energized the plastic market and established the company's own service for the Austrian market along with Peter Schlögl in 2001. Peter Kolbe describes another milestone for the company Friedrich W. Bloch: "From then on we were in a position to be able to offer installation, commissioning and maintenance locally, thanks to a reliable and extremely competent partner."

Istvan Benedek and Peter Kolbe at K 2019

> "Fast and straightforward assistance when required is very important in an ongoing customer relationship."
>
> **Peter Kolbe, authorised representative of Friedrich W. Bloch GmbH**

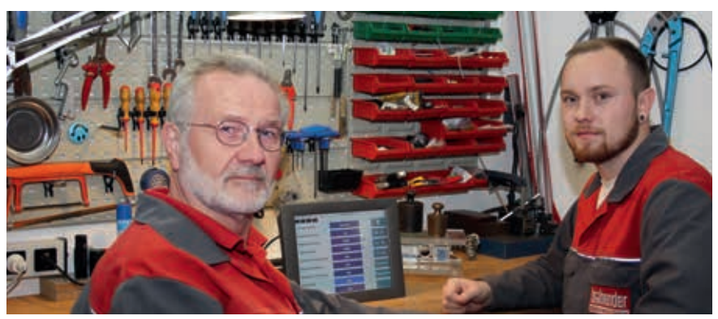
In the meantime, this cooperation has also carried on into the next generation of service. "However, Bloch has not only grown in terms of what it offers but also at a regional level", explains Kolbe. For since 2014, Hungary and Slovenia have also been part of the business area. "We have our own employee Istvan Benedek in Hungary. He operates from Vienna but was born a Hungarian and is able to give a high level of support to his customers there with his perfect linguistic knowledge."

Contact for all eventualities

Bloch offers the complete spectrum of services for all three countries: The company offers individual equipment and complete systems with and without commissioning, supplies spare parts, and performs training and maintenance.

The Austrians receive support from Duisburg of course, as well as from "Brabender Sales Support South" in Gelnhausen. The cooperation with Ralf Kanter and his committed team from Hessen works superbly. In Duisburg, colleagues from sales, administration, the service hotline and spare parts department are ready to respond to questions quickly. "Fast and straightforward assistance when required is very important in an ongoing customer relationship", with emphasises on the sales specialist. "Good after-sales services are required and Brabender Technologie meets this with ease." ■

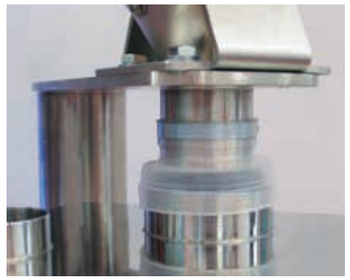
Peter Schlögl and Philipp Dafert from F.W. Bloch/Brabender Service Team



News

A perfect fit: A new flex connection

Some improvements are this simple: the new flex connection, made from liquid silicone, stretch fits and is internally flush to the vertical discharge and the downstream connection. This flex connection has less effect on the weighing and is also very simpler to install. A new material of construction makes a standard part into something special. And the best thing: special is now standard!



Discharging with the ioniser

Feeding becomes more diffiulct when ingredients become statically charged. The new ioniser from Brabender Technologie corrects this problem without its own power connection and no effect on the weighing. This device eliminates the static charge from the ingredient thereby ensuring free flow. Its dimensions currently suit the MiniTwin feeder, but thanks to the 3D printing technology it will be produced in other sizes.

New in CITO

For "K" we gave our media channel CITO a makeover by including an archive feature sorted by topics and sectors. You will find everything that has been published in the summary. Take a look: **www.bt-cito.com**.

2020 trade fairs

International – Brabender Technologie regularly takes part in trade fairs all over the world. Visit us!

Interplastica 2020 Moscow, Russia	28–31/01/2020
Thermoplastic Concentrates Coral Springs, Florida	28–30/01/2020
Solids 2020 Zurich, Switzerland	12–13/02/2020
CFIA 2020 Rennes, France	10–12/03/2020
Solids 2020 Dortmund, Germany	01–02/04/2020
Food Automation Miami, Florida	26–29/04/2020
Chinaplas Shanghai, China	21–24/04/2020
Equiplast 2020 Barcelona, Spain	02–06/06/2020

Technical column

Ready at all times

Future success requires targeted development of the product range. Günter Kuhlmann reports on how Brabender Technologie is finding the right solutions for tomorrow.

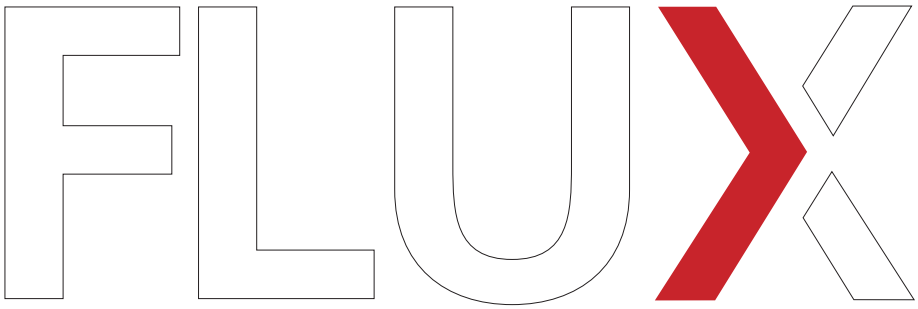
Dr. Günter Kuhlmann, CEO of Brabender Technologie

Why is a trade fair such as "K" so important for research and development? Because it shows us what our customers need. Questions and the presentation of problems at a trade fair like this determine the direction for new developments. At Brabender Technologie, we therefore listen attentively to the improvements or even completely new solutions that our customers might require.

We had many innovations occurring in 2019: the DS series for granulates, the relaunch of the DDSR20 and DSR28, and the DDSR20 in hygienic design. The development team has shown that we understand the market. Brabender Technologie now has its own team for developing the software field. This has embarked upon a mission with a small team from various faculties: We want to bring together steering concepts, machines and users more. The new web server applications, our OPC-UA interface and the integration of the vacuum conveyor into the OP 16 operating unit are the initial results. There will be more to say on development next year.

We always focus on the efficiency and reliability of our devices as they are most important for our users and therefore for us. With the mechanical system this led to new solutions for quick production change and simple cleaning. With the control technology it is all about simplifying the operation: Via the web server application, operation parameters concealed in the system that can easily be accessed and checked. The interface provides data effortlessly. The simpler the setting and controls of a device the more safely it runs.

Our teams have many other ideas, such as making the operation of feeder systems more effective and safer so that they are fail-safe. In the next few years, machines and control components will increasingly converge. The production of tomorrow will be considerably more intelligent than it is today. Based on the process data collected, it will be possible for processes to improve and regulate themselves. However, the path to this entails many interim stages which we will tackle one after the other. One thing is very clear: We will rely on our customers walking this path with us. This requires a great deal of trust and we are aware of this. However, we can develop new process models together, which will take our customers' production to another level. ■



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