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# INNOVATIV



Process machines in Plant 3



Dear Readers of Bohle Innovativ,

I would particularly like to express my thanks to you, our readers, who visited our booth at the Interpack trade fair in Düsseldorf. I hope you were able to gain comprehensive insight into the innovative know-know presented at our booth.

After the official inauguration of Plant 3 in September 2013 and the launch of production in autumn, we are proud to affirm that production in the new Plant has reached its full capacity. Complementary to our new production plant, we have stepped up investments in the expansion of our company. In addition to the existing Service Centre, we built the Technology Centre which also houses the plants for continuous production. Currently, the hardware

components are being installed and we can confirm that our cooperation with universities has reached a considerable scale. Apart from the universities in Düsseldorf and Graz, we also embarked on a collaboration with the RWTH Aachen which will support us in model building. Our new Manager Scientific Operations, Dr. Hubertus Rehbaum, who joined the Bohle team in May 2014, acts as main coordinator for the cooperation with the universities.

On a global scale, we witness that our Bohle service is a prerequisite for successful cooperation - be it in the United States or in emerging countries such as India. Regarding the latter in particular, we intend to intensify our activities through the collaboration with our partner company and plan to establish a joint management of the service and sales departments.

Important personnel decisions are about to take effect in Germany as well: Our long-standing International Sales Manager, Tim Rimmert, will join the Executive Board in January 2015 and thus will bring fresh impetus for the management team. The Manager Scientific Operations, Dr. Hubertus Rehbaum, will take up the position of Assistant Managing Director and provide backup for the management team.

We are confident that this rejuvenation is an important step for the future of the Bohle team!

Dear readers, we have set the course for another successful year. At the next trade fair, Achema 2015 in Frankfurt, we will be pleased to present you the next steps in this journey and hope that this will again meet with your interest.

With kind regards,

Lorenz Bohle

## Interpack Düsseldorf with 175,000 visitors – Bohle creates fresh impetus



The machine builder from Westphalia presented his technical know-how at a 225m<sup>2</sup> booth.

At this year's trade fair highlight of the global process machine industry, L. B. Bohle created fresh impetus with world premieres in the pharmaceutical industry. At the Interpack in Düsseldorf, the Ennigerloh-based machine builder

presented the compactor BRC 25 to the increasingly international trade fair visitors. In addition to the well-known coating machines and granulation solutions, the Bohle Uni Cone BUC<sup>®</sup> process, which was presented at a trade

fair for the first time, aroused great interest in industry professionals. „Many customers are particularly interested in solutions which can coat even the smallest particles more precisely and evenly“, said Lorenz Bohle regarding

the feedback. Furthermore, the company seized the opportunity to put the alternative to the conventional Wurster process, the BUC® process, into the focus of the visualization and an attractive competition. The top prize – a BMW Coupé – went to Switzerland.

„All in all, this year’s Interpack was very successful“, Lorenz Bohle sums up contentedly. „But there still is considerable potential for growth“. For instance, the organisers had not pooled the pharmaceutical industry in one hall but distributed it over several of the 19



At this year’s Interpack L.B. Bohle stick out by quality and innovation. The BRC 25 and the Bohle Uni Cone BUC® process attracted the interested audience to the booth.



The lucky winner of the BMW next to the Sales Manager Tim Rimmert at the vehicle handover in Ennigerloh.

halls. „For our customers, the long distances are not ideal“, he explains. „For example, if visitors discover baking machines in hall 3, they do not expect to meet our pharmaceutical experts there and leave“. He therefore has already held discussions with the organisers in order to pool the exhibitors of the pharmaceutical industry for the next Interpack 2017.

With 175,000 visitors and 2,700 exhibitors, the fair generally maintained its internationally leading role. In the first days of the trade fair, the exhibitors of the Interpack 2014 encountered numerous top-class visitors from all over the world. The fair attracted 75 per cent of international visitors in total. „Interest, professional expertise of the visitors and willingness to invest were even higher than in the previous events, which had already been outstanding“, the organisers summed up.

## The drying granulator BRC 25 complements the granulation range

With the BRC 25 roller compactor which premiered at the Interpack 2014 in Düsseldorf, the machine builder L.B. Bohle Maschinen + Verfahren GmbH from Westphalia rounds off its offer of granulation solutions. The BRC 25 is the smaller version of the BRC 100 has already proven itself on the market.

Easy handling, continuous production and a small footprint are only some of the features of the roller compactor. Continuous dry granulation has been used in the pharmaceutical industry for decades. An advantage of the dry granulation process is that, in contrast to classic wet granulation, no energy-intensive drying processes are needed. Thus, customers will have to make less investments in machines and production rooms resulting in lower costs per batch. Additionally, the operating costs are reduced as there is no additional power consumption for drying. With the compacting process, high material throughputs are possible. One machine can thus produce different products and batch sizes.

The concept of the BRC: In the roller compactor, powders are processed to free-flowing granulates. The aim is to process a granulate with defined density or porosity for immediate pelletizing after compacting.

The powder is compacted between two rollers with specified gap widths between 1 and 6 mm. The impact on the rollers as well as the gap width are monitored via sensors. All data are



The BRC can be dismantled with just a few clicks. Thus, a quick cleaning is ensured.

integrated into a control circuit to ensure a continuous process quality. The electro-motor drive is essential for ensuring very precise and fast control of the process.

The chopper unit below the compacting rollers processes flakes into a granule at a defined granular size. The unit is equipped with a conical sieve with replaceable inserts for different particle sizes.

Through target research and development, the BRC dry granulator technology has been tailored to meet customers’ requirements. Thus, the BRC especially fulfils all specifications regarding ease-of-use, targeted control, cleaning and hygienic design. Furthermore, the BRC requires extremely low maintenance and maintenance time as

hydraulic technology was abandoned entirely. Cleaning for a product change can be implemented within two hours. This is not only due to the WIP equipment included as standard, but also to the easily dismantlable components.

During the development of the BRC series, Bohle engineers paid atten-





tion to make the scale-up of BRC 25 to BRC 100 as easy as possible. This is ensured through the identical roller geometry and control in both machines.

The dry granulators of the BRC series are available in both service centers in Germany and the USA for test runs.

The BRC 25 celebrated a much acclaimed premiere at the Interpack. Customers from all over the world were interested in the smaller compactor version from Bohle.

## Specifications BRC 25 and BRC 100

Machine Type	BRC 25	BRC 100
Capacity [kg/h]	≤ 1 – 100 kg/h (product dependent)	≤ 1 – 400 kg/h (product dependent)
Specific compaction force [kN/cm]	0.5–20	0.5–20
Roller width [mm]	25	100
Roller speed [rpm]	1–30	1–30
Gap width [mm]	0.5–6	0.5–6
Sieve speed [rpm] BTS 200	0–900	0–900
Dimensions (W x L x H) [mm]	1.000 x 1.900 x 1.960	1.410 (1.840 incl. operator desk) x 1.960 x 2140
Weight [kg]	Approx. 2080	Approx. 2300
Power supply	3x 400V / PE / 50 Hz / 8 KW / 32A 3x 460V / GND / 60 Hz / 8 KW / 32A (alternative)	3x 400V / PE / 50 Hz / 21 KW / 63A 3x 460V / GND / 60 Hz / 21 KW / 63A (alternative)
Operator panel	Siemens Touch Panel	Siemens Touch Panel
Qualification	DS, FS, DQ, IQ, OQ	DS, FS, DQ, IQ, OQ
21 CFR part 11 compliance	Electronic records	Electronic records
Computer validation	According GAMP 5 guideline	According GAMP 5 guideline

# New Manager Scientific Operation Dr. Hubertus Rehbaum

## Closely linked to research

Intelligent process control, continuous production and sustainable knowledge management are of major importance in the pharmaceutical industry. These three core segments are Dr. Hubertus Rehbaum's fields of expertise. In May 2014, Dr. Rehbaum succeeded Dr. Dejan Djuric, who transferred to a large pharmaceutical group, as Manager Scientific Operations L. B. Bohle Maschinen + Verfahren GmbH. Dr. Rehbaum will face sophisticated challenges right from the outset with the construction, setup and the scientific design of the new Technology Center in Ennigerloh.

After graduation at the RWTH Aachen, the certified electrical engineer held the position of development engineer at the global player for prostheses, Otto Bock in Duderstadt, Lower Saxony. With his specialisation in medical engineering, Hubertus Rehbaum already set the course for his career during his studies. In his Ph.D. thesis on applied computer science at Göttingen University, the native from Warendorf focussed on the intuitive control off hand prostheses. „Through chest electrodes, we succeeded in developing an intuitively controllable prosthesis for a soldier who lost his arm in the Afghanistan war“, explained Dr. Rehbaum his research projects.

The Manager Scientific Operation intends to apply his experiences from industrial research to the machines and processes at Bohle. „Data analysis and process-driven system controls are still in the early stages in the pharmaceutical industry“, said Dr. Rehbaum. „My

personal goals are to analyse data, interpret them and adopt them for process optimisation“.

At the Technology Center, the focus will also be on data recording and process control which will be further developed for customers and partners as part of research projects. „Thus we will close the control circuit via the process“, outlines Dr. Rehbaum his vision.

At the Technology Center, the Bohle specialists will visualize the entire production line in one plant and develop and present optimized processes in cooperation with the Universities of Düsseldorf, Graz and Aachen as well as the measurement, control and process experts from Siemens. EUR two million will be invested in the building alone. After the first few months at L. B. Bohle Maschinen + Verfahren GmbH, Dr. Rehbaum regards his return to the Münsterland and the transfer to a different line of business as the right step. Comprehensive expertise in pharmaceutical production and machine building is highly valued by the customers. „The trade name Bohle enjoys a good reputation in the industry“, said Dr. Rehbaum about his first experiences with customers. „I was also wel-

comed with open arms internally and was able to join specific projects right from the start“. He was very impressed by the commitment of Lorenz Bohle and the entire team. „Instead of holding endless discussions, all colleagues join forces and think up practical solutions“, said Dr. Rehbaum.

His additional expertise in electrical engineering and computer science is a further essential cornerstone. As a lecturer on knowledge management at Göttingen University, he intends to consolidate the close link between company and university research.



### Dr. rer. nat. Hubertus Rehbaum Dipl.-Ing., Dipl.-Wirt.Ing.

- 2009-2011: Otto Bock Healthcare GmbH Duderstadt, Germany
- 2012-2014: Department of NeoRehabilitation Engineering University Göttingen, Germany
- Since May 2014: Manager Scientific Operations L.B. Bohle Maschinen + Verfahren GmbH

# Great sales success in South America for L.B. Bohle

The pharmaceutical machine builder L.B. Bohle from Westphalia records huge success in South America thanks to the restructuring and expansion of the distribution network which has been launched recently.

Through the support of the two local agencies Maquidrex (Brazil) and Tecfarma (Argentina), two new process machines – one Fluid Bed System and a Bohle Table Coater – were commissioned in the growth market of South America.

The Bohle team installed a BFS 120 Bohle Uni Cone BUC® Fluid Bed System at the premises of the Brazil-based company Biolab. Biolab specialists visited the service center at the Bohle headquarters in Ennigerloh and examined the quality of the process machine and already six months later, the machine was commissioned at the Brazil site in Sao Paulo.



The BFS 120 BUC® was installed successfully at Biolab in Sao Paulo.

Biolab aims to produce pellets with a 50 percent mass gain using the Fluid Bed System which is also used for also drying and coating in addition to granulating.

Apart from the Bohle Uni Cone BUC®, the first Bohle process machine – the Tablet Coater BTC 600 – was installed at the company Montpellier in Buenos Aires, Argentina. At Montpellier, the coater is used for optimising the tablet production and for increasing the tablet throughput by more than 70 percent.



The Brazilian Biolab employees Kleber Monteiro de Oliveira (middle) and Artur Friedrich (right) convinced themselves about the BFS fluid bed technology at the trials at the Bohle Service Center. Right, the Head of the Service Center Andreas Altmeyer.

Furthermore Marjan in Sao Paulo will commence production with another Bohle machine - the Bohle Tablet Coater BTC 400 Ex in early September this year. These three examples demonstrate that

L.B. Bohle further consolidates its position on the South American market. The number of Bohle process and handling machines is growing considerably. Thus,

South America is a further pillar in the sales strategy of the SME machine builder from Westphalia in addition to the core markets in Europe and the USA.

# Lorenz Bohle celebrates his 75th birthday



On 12 August, the company founder and CEO Lorenz B. Bohle celebrated his 75th birthday.

His employees congratulated him with a large-format picture and a donation to a charitable institution. Lorenz Bohle founded his company in Ennigerloh/

Westkirchen in 1981. To the present day, the company is continuously growing and now has three production sites in Ennigerloh and Sassenberg.

As a supplier for the pharmaceutical industry, L.B. Bohle Maschinen + Verfahren GmbH has an excellent reputati-

on and is the market and technological leader in the mixing and coating technology.

Bohle currently employs 230 staff and generates a turnover of EUR 46 million.



# Production of process machines in Plant 3 on schedule

With the production ramp-up in the new Plant 3 in Ennigerloh, the production of the process machines of the pharmaceutical machine builder L.B. Bohle has been optimised with a lasting effect within a very short time. After the relocation to the new Plant in spring 2014, the production of the coater and granulation systems started smoothly. Now, the lean production principles are implemented gradually. In this process, the standardisation of the production will be brought forward

and the production process will be optimised. This lays the foundation for the machines to be delivered within four to five months instead of seven months.

„The new Plant 3 is a significant milestone for future growth of the company“, said CEO Lorenz B. Bohle, whose investment into the infrastructure resulted in a good positioning of the machine builder.



An impressive back drop - numerous BFC and BTC prior to delivery to the customer.

# Industrial association Ennigerloh sponsors public FIFA World Cup watch party

## Public screening a great success



The idea for a public watch party in Ennigerloh came from the seven member companies of the industrial association Ennigerloh which also implemented the project with a local partner.

On a large LED screen, all matches of the German national team through to the final victory were shown. Up to 800 spectators came to watch the match at the event venue in Ennigerloh and enthusiastically celebrated the national team and the World Cup title. The

sponsorship of the public watch party marked a further highlight for the industrial companies underscoring their close connection to the city of Ennigerloh and its population.

All companies involved were enthralled by the organisation and the feedback from the spectators and praised the event as great success.

Under the umbrella of the industrial association Ennigerloh, the following companies organised the event: B-Logistik, L.B. Bohle Maschinen + Verfahren, Condor, Geba Kunststoffcompounds, Heidelberg Cement, Hans-J. Kemper, Schrader GmbH.



# Bohle employees on grand voyage – motorbike trip to the Nürburgring



Under bright sunshine, 19 Bohle employees from different departments went on a motorbike trip to the venerable Nürburgring in mid-May. After about 350 kilometres, the biker team arrived at the race course in the Eifel.

The bikers first inspected the paddock and the circuit onsite. On late Saturday, the team then watched the DFB cup

final between Borussia Dortmund and Bayern Munich. The colleagues concluded the evening in a relaxed atmosphere talking about football and racing. After an overnight stay at the motor sports hotel, the team went home on Sunday morning, escorted by the „Bohle sag wagon“. On arrival at the premises, they all agreed that the motorbike trip would be repeated in 2015.

# Team Bohle athletic and fit

Bohle employees are not only fit and persistent in the job but also in running! This year, a big Bohle team started again at the 5th AOK corporate run in Oelde.

All of the 18 Bohle athletes completed the five-kilometer city street circuit without any problems and reached the finishing line free of complaints.

The Bohle running team is an inherent part of the run for several years now and they stand out with the blue clothing in the company colors.

A total of 550 runners completed the 5 km distance on the route.

Next year, team captain and coordinator Anastasia Günther hopes to recruit more participants so that Bohle is the team with the most starters.



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