



# BELLMER

Paper Technology  
Separation Technology

## INFO 70

### Banknotes from Königstein travel half way around the world Startup of state-of-the-art banknote paper machine

There is a long tradition of banknote paper production in Königstein. Today, the company's site in Saxony forms part of Papierfabrik Louisenthal GmbH, which is 100 % owned by the Munich-based high-technology group Giesecke & Devrient. By commissioning the new PM 4, Papierfabrik Lou-

isenthal has strengthened its position as the leading banknote paper producer. The security-sensitive nature of the product restricts publication of detailed information about the plant, so the 120 visitors to this year's Paper Days were particularly pleased to hear former CEO and now consultant to Papierfabrik Louisenthal, Reinhard Tauber, give his insights into the PM



Optimum reeling quality for banknotes with the EQUALReeler™

4 project. Dr. Tauber explained the choice of Bellmer as supplier: "Bellmer made a convincing case based on its experience and expertise in the manufacture of banknote paper. We didn't look for the cheapest solution but the best." Banknote paper production is a job for specialists. As Dr. Tauber explained: "With such a challenging production process, second best is not an option." The new plant consists, among other elements, of an EQUALCircler™ Profile circular distributor, an EQUALFlower™ cylinder mould former, an EQUALReeler™ Pro pope reel and an EQUALSizer™ size press. Operating at speeds of approximately 70 – 120 m/min, PM 4 is

currently the fastest and most advanced machine operating in the field, and features class-leading technology. Bellmer remained at the customer's side beyond the startup phase, as Dr. Tauber explained: "Bellmer provided a skilled project team, worked to a sensible timetable and ensured a smooth, trouble-free startup. This was a successful project all-round."

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### Dear Info Reader,

These days being lean and efficient is just a starting point. During this year's Paper Days more than 120 visitors exchanged their thoughts and ideas tackling various aspects of cost-saving production. It takes great courage to undertake projects like the completely new production line at Papierfabrik Louisenthal's Königstein site. However, it is also amazing what results can be achieved by modernising existing machines. In the field of Separation Technology we continue to come up with new ideas. For example, for the first time Bellmer Cascades technology is going to be treating the backwash from a coal mine located in Krakow, Poland. Of course, efficiency is at the core of our own operation at Bellmer as well. Through the use of new 3D software, we can do our vital product development work in an even more targeted fashion than before. Just let us know what you would like to do more efficiently. We can probably help. Yours sincerely,

**Philipp, Martin and Erich Kollmar**



### Efficient fruit juice production: **BELLMER** at Intervitis Interfructa

Bellmer has always attached great importance to efficient fruit juice production. When launched, the WinklePress™ was the first continuous press system on the market. We have now improved several aspects of the WinklePress™ which will enable our customers to produce their juices even more efficiently. The optimised inlet nozzle means the in-feed of mash can be performed more gently than before, while an upgraded belt cleaning treatment saves water, and self-applying doctors simplify handling. The six proven and unique



Our WinklePress™ even more efficient...

process steps on which the WinklePress™ is based ensure the highest dry contents. Bellmer's proprietary gearing ensures the pressing process is carried out with maximum energy-efficiency.

As a specialist in juice-extraction, Bellmer's Separation Technology division provides a complete suite of juice extraction technology, from the Bellmer Sorting Table™ for optimum fruit feed charge, through elevators and flume water preparation, to the state-of-the-art Bellmer Apple Crusher™ BAC for top mash preparation.

## Clean river water in the Poland's Turów opencast mine

The brown coal opencast mine of Turów – covering an area of 2,300 hectares – is located near Bogatynia, a village in Southwest Poland.



*The three Cascades will play a major role in environmental protection*

The brown coal mined here is used for heat and electricity generation in Turów's large power plant, which is sited near the mine. In order to comply with European standards for environmental protection, major investments – among other things in waste water treatment - have to be made to improve the quality of Poland's surface water. Veolia group, which operates worldwide in this field, has patented a specific filter technology for processing water in coal mines. Veolia Krakow was commissioned to

provide sewage treatment equipment for a new plant which is to be built for the mining area in Bogatynia. Bellmer was awarded the order in the face of strong international competition thanks to the considerable commitment of our Polish partner Klimapol: Three Cascades S, consisting of three WPN-I size 3 WinklePresses™ as well as 3 TDH-L size 3

TurboDrains™ will dewater the filter back wash which results from the coal mine's water treatment system. This contains among other things aluminium hydroxide sludge. The water from the sewage treatment plant can then be fed to the river nearby without causing ecological damage. The scope of supply also includes 3 BSC-S system controls for the automation of sludge dewatering as well as all the required pumps. The erection process will be performed by Klimapol.

## AKUPRESS® screw press reduces transportation costs for Chinese pulp mill

Jinlang Pulp in Guangxi province in the South of China produces eucalyptus pulp. The bulk of production is transported 600 km by truck to the main customer's paper mill. Previously, the pulp was dewatered using a conventional screw press to approximately 25 % dry contents, which entailed high transportation costs. The technology is to be replaced with an AKUPRESS® CX screw press

manufactured by Bellmer Kufferath Machinery GmbH, which will increase the dry contents to 40 % and thus reduce the weight to be transported by more than a third. The increase in dry content will be achieved through the patented control system on the AKUPRESS® CX which enables stable operation even at the highest torque levels. The reduction in transportation costs means the new machine will pay for itself in less than a year. The environmental impact of the process will also be improved, with fewer trucks on the road, resulting in a considerable reduction in CO<sub>2</sub> emissions and other exhaust pollutants.



*Stable operation at the highest torque levels: AKUPRESS®*

## WinklePress™ ensures optimum dewatering in Nanchang

Qingshanhu sewage treatment plant is situated in the North of Nanchang near the Gan river, where it treats sewage for almost one million inhabitants. The plant is home to the first project to be taken on by a German supplier under the BOT scheme (Build-Operate-Transfer) which has been set up to improve China's infrastructure. A thorough and open tendering process was undertaken on behalf of Nanchang city council, to find an investor for the planning, financing, building and operation of the plant. Following intense scrutiny of all the options, the order was awarded to a consortium comprising Berlinwasser International AG and Beijing Urban Construction Group Third Company. The sewage treatment plant was up and running in



*The Nanchang staff are very satisfied with the WPN G 3*

record time – around 18 months. The plant operates with a staff of 78 and has already proven itself successful. In fact Nanchang's management was so impressed, that it decided to give its sludge dewatering section the Bellmer treatment, too, and ordered a Bellmer WinklePress™: a complete new dewatering line with a WPN G size 3 has since been installed at Qingshanhu. After thickening and sludge digestion – combined with the extraction of biogas – this installation ensures the effective dewatering of approximately 30 m<sup>3</sup> of digested sludge per hour and has increased the dry contents achieved. Erection and startup were carried out by a skilled team from our sales agency in China. The staff at Nanchang are delighted both with the new plant and the experience of working with Bellmer.

## Heavy-weight board machine on its way to Komi Republic **BELLMER** implements large-scale project for Mondi in Syktyvkar

Mondi Syktyvkar - one of Russia's largest manufacturers of paper, board and pulp - forms part of the Mondi group, with its 113 paper mills worldwide. In 2008, Mondi decided to refurbish the board machine at Syktyvkar, and chose Bellmer as the supplier. The aim of the project was to improve the quality of the white top kraftliner grades which the machine produces. In addition to the quality upgrade, machine speed is expected to increase to 800 m/min. Once the modernisation is complete, annual capacity will climb to 280,000 tons. The integration of two Bellmer TurboShakers™ for high-frequency shaking of breast rolls will have the effect of improving board quality significantly. Bellmer's scope of supply also includes a Twinning-

Press™ shoe press, providing linear pressures up to 1,200 kN/m, as well as a fully automatic EQUALReeler™ with

reeling hardness control. All parts will be assembled and functionally tested at Bellmer prior to delivery. The Mondi crew will come to Niefern to take part in the works tests and receive special training. Transport of the new parts to Syktyvkar will take place in three stages and require 52 trucks! Bellmer's logistics team has a real heavy-weight task on its hands: the heaviest element is the press roll weighing in at an impressive 54 tons! Christian Hummel, the customer's project leader, speaks highly of his experience working with Bellmer: "We are right in the middle of the project as I speak. The cooperation is proving really excellent." The machine will be restarted in Syktyvkar this summer.



*Impressive dimensions: comparison between man and machine - EqualReeler™*

## Sowing the seeds for the future: **BELLMER** Paper Days 2010 sets the tone for the decade

Some 2,500 years ago Chinese philosopher Lao Tzu said: "Whatever is flexible and living will grow; whatever is rigid and resistant will wither and die". It is vital to bring forward new ideas and exchange experiences, because only through a perpetual process of



*Interesting lectures..*

renewal and invention can we assure our future. With this in mind, in January we had the honour of welcoming around 120 customers from the paper and board industry to our Paper Days 2010. During a full programme of lectures and case studies, the audience learned about everything from optimised sheet formation to efficient reeling technology. Industry experts reported hands-on experiences of recently completed projects, inclu-

ding Jens Bußmann from Papierfabrik Vreden who presented his personal observations of the mill's PM 1 rebuild. Kurt Jurczik of Arctic Paper, Mochenwangen presented a paper about the ground-breaking upgrade of their PM 3. The rebuild made it possible to produce both book printing and offset papers with a single press section. Andreas Noss and Bettina Gasser from Papierfabrik Hamburger Rieger in Trostberg reported on the saving potential realised through the rebuild of their final drying group. Last but not least, René Thoma of Ziegler Papier in Switzerland presented the latest news from his company and explained the advantages which a new EqualReeler has brought for production at Ziegler. These were just a few of the many papers which, in combination with in-depth discussions during the breaks, gave the visitors a wealth of ideas to take home, as well as a good deal of encouragement and motivation for their daily work. A highlight of the tour of our



*...the exchange of views among colleagues of the paper industry*

modern production facilities was the live checkout of our largest EQUALReeler™, which features an operating width of 7 metres. Everyone involved will remember a motivating couple of days, full of inspiration and information: a positive experience for all.



*...turned the Paper Days into an interesting event for all visitors*

## Burkhardt fruit juices in Machtolsheim invests in ultra-modern fruit reception technology

It's not often that nature and progress come together so harmoniously as in a Burkhardt juice bottle. Not all juice is the same and consumers of Burkhardt's juices can always be sure they are getting the best quality that money can buy. For years, Burkhardt has relied on the gentle press process pro-



Owner Dieter Burkhardt looks to the future with optimism

vided by a WinklePress™. After the purchase of a new WinklePress™, adding 20 t/h processing capacity, and the installation of a modern tank farm, it was time to invest in new technology for the fruit reception stage of

the process. A key requirement for the new installation is faster unloading and subsequent treatment of the incoming fruit. With this in mind, a second reception point for organic fruit is to be installed, in addition to the main point of reception for trucks and smaller vehicles. The annual storage capacity of the five tall silos at Burkhardt is approximately 350 tons of apples. In addition, a flat silo offers a supplementary capacity of approximately 400 tons. The process of filling the silos from both reception stations needs to be completely automated. Bellmer will undertake the engineering element of the entire fruit reception system. Charging as well as supplying the fruit to subsequent processing stages will be controlled by PLC. Filling level control in each silo will allow the operator to check on the processing status at any time. With this investment, Burkhardt Fruchtsäfte will be fully prepared for the future.

## 3D Design – BELLMER invests in efficiency

At Bellmer, high-quality combined with cost-optimised component production is a top priority. This is why we invest continuously in new technology to ensure not only an efficient operation, but to enable a constant process of product development. This is exactly the philosophy behind our new investment, the 3D design programme Auto-

desk Inventor 2010. Inventor is the successor to AutoCAD which Bellmer has used from the outset. It is internationally-accepted as the leading 3D design programme for machine builders. Digital 3D simulation enables the validation of designs prior to their construction. The Inventor software generates virtual 3D prototypes which allow the product to be visualised and analysed under realistic operating conditions. Bellmer can thus reduce the construction of physical prototypes and launch innovative products on the market more quickly. This promises to be a profitable investment for Bellmer's future.



Our designers appreciate the capabilities of Inventor 2010



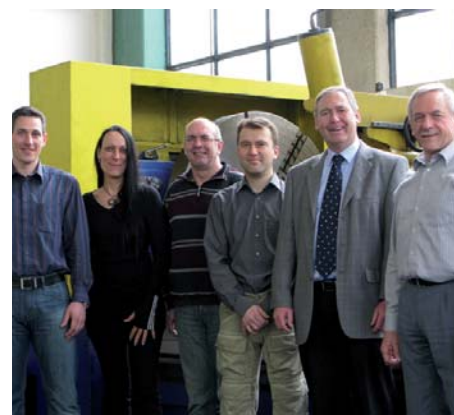
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# BELLMER

## Service you can rely on: "Faster than scheduled"

Our customer Munksjö Papier GmbH based in Aalen-Unterkochen produces specialties such as top quality décor papers. The pope reel on PM 3 had given faithful service to Munksjö for 40 years. Apart from some inevitable optimisations from time to time, the reel had operated like a Swiss clock throughout its life.

Last autumn the swing lever on the tender side was mechanically damaged and a makeshift repair made. The swing lever was due to be replaced



Fast help in an emergency: you may rely on our service team

when the machine was scheduled for the Christmas shutdown, and the reel was due for a rebuild. The target was for the reel to be fully operational at the beginning of the New Year. The day before Christmas Eve the complete winding drum as well as the swing levers were dismantled.

The parts to be overhauled were taken to Niefern that evening. The refurbished parts were transported back to Aalen-Unterkochen straight after Christmas. After arrival on site, the parts were refitted and functional tests carried out so that the overhauled reel would be ready for Munksjö's production team to take over before the year was out.

In summary: The service took much less time than expected, and Munksjö is now a "more than satisfied" customer as a result.

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