



BELLMER

Paper Technology
Separation Technology

INFO 67

Rebuild of BM 21 at Mondi in Syktyvkar

Mondi Syktyvkar - one of the largest Russian producers of pulp, paper and board – is part of the Mondi Group. As part of a strategy to improve the quality of the white top kraftliner manufactured in Syktyvkar, Mondi has decided to upgrade its board machine No. 21, which has an operating width of 6.40 metres.

One of the objectives of this modernization project is to boost speed to 800 m/min. The post-rebuild capacity of the machine will be 280,000 tons/yr. Based on its positive experiences working with Bellmer at its paper mills in Felixton, South Africa and Niedergösgen, Switzerland, Mondi Group's

management opted for Bellmer when this extremely challenging rebuild project came up. The scope of supply includes two TurboShaker™ units for the high frequency shaking of breast

rolls. Hydraulic drive is incorporated to achieve better paper formation. The press section will come with a TwinningPress™ shoe-press, providing linear pressures of up to 1,200 kN/m. There will also be a fully auto-



The EQUALReeler™ for optimum reeling technology

matic EQUALReeler™ with reeling hardness control and a UMV film-press. Bellmer's scope within the project also includes extensive engineering works.

Bulk order for six screw presses for BELLMER Kufferath Machinery

Earlier this year Bellmer Kufferath Machinery was awarded an order for six AKUPRESS® AS 625 screw presses by GRD Minproc from Australia. Together with fellow group member Global Renewables Ltd, GRD Minproc develops and implements innovative solu-

tions around the world for waste-to-resources projects, by applying their UR-3RProcess® process design (Urban Resource-Reduction, Recovery, Recycling).

UR-3R Process® technology combines several technologies for mechanical-biological recovery of mixed urban waste. At first, the recyclable material is separated from the waste; subsequently the organic residual flow is fed to the percolation/fermentation system. After that, the solid matter is dewatered using the screw presses. Bellmer Kufferath Machinery had already integrated 15 screw presses during the development phase of



The six screw presses just before delivery

Dear Info Reader,

“... this of all markets has proved particularly difficult!” – statements like this are a common expression of the frustration we feel when reality falls short of expectations. Everybody in business today is only too aware of the worldwide competition to be the supplier of any product or service.

This means that it is more important than ever to invest continuously in your own future. At Bellmer, for example, we have just invested in a completely new computer system with a view to achieving greater operational efficiency.

Our subsidiary company Lang-Hafner has recently commissioned a new plasma cutting line. At Bellmer Kufferath Machinery, a completely new profile flame-cutting and welding plant is, we are pleased to note, proving very reliable. Many of our customers are similarly active: in the following pages you will find a selection of reports regarding companies which, through intelligent investment, are effectively saying: “...this is the way to turn this market into my market.”

Sincerely Yours,
Philipp, Martin and Erich Kollmar



the percolation/fermentation system, thus gaining experience with this specific product. The AKUPRESS® AS 625 enables optimum dry contents and high availability to be achieved. Special attention was given to ensure ease of maintenance and low wear. The optimized, closed hood design enables improved suction of the outgoing air.

Clean drinking water close to the pyramids

Bamag is an international provider of specialist plant for the prepara-



In the neighbourhood of the pyramids...

tion of water/waste water as well as thermal technology. Bamag has been awarded the order for a drinking water cleaning plant in Egypt. The 600,000 m³/day plant was erected in Al Marg district, a densely populated urban area in the north of Cairo. The water to be treated is taken from the Ismailia Channel 8 km away. The plant has been set up with two lines each providing a throughput of 300,000 m³/day. No basement could be built at the site due to a combination of space restrictions and the nature of housing construction in the neighbourhood. The entire preparation system had to be accommodated in one large hall 350 m long and 45 m wide. The main process units are located on top of the

building and the auxiliary plant is located on the ground floor. The sludge created during the process is thickened in a circular tank using a rabble rake. Bellmer – which specialises in the thickening and dewatering of a highly diverse range of suspensions – was awarded the order for the supply of the sludge dewatering equipment by Bamag.

There are now two Bellmer WinklePresses™ WPN-G 3 with high-pressure nip zone efficiently dewatering the sludge in the Cairo plant. After dewatering, the sludge is collected in containers ready to be taken to a



.....two WinklePresses™ WPN-G3 working hard to prepare drinking water

waste disposal site. The entire plant has been operating for several months and all involved have expressed great satisfaction with the reliability and effectiveness of the Bellmer equipment.

BELLMER Shanghai on the road to success

Due to the growing demand for products “made in Germany”, Bellmer decided to establish a subsidiary company in the People’s Republic of China three years ago.

Bellmer Machinery Shanghai Co., Ltd. is situated in Shanghai’s Songjiang Technology Park. The machine components pre-assembled in our headquarters in Niefern, are finished and completed in China under the supervision of a Bellmer specialist fitter. Recently, the erection of two WinklePresses™ for the dewatering of excess sludge was completed for the sewage treatment plant of Humen in the city of Dongguan. Since China, like everywhere else, has experienced a considerable rise in energy costs, the management opted for the WinklePress™, for its exceptionally low energy consumption.

The highly-motivated team at our Chinese subsidiary is eager for more similarly challenging projects.



A committed and successful team – the Bellmer crew in Shanghai

Saving operating costs with the TurboDrain™: 50 % less polymer costs compared to the drum screen

About two years ago the operators of Hagenow’s sewage treatment plant decided to overhaul and revise their plant’s thickening process. The existing drum screens could no longer achieve the final dry content values required. Inlet variations caused problems, and, most significantly, polymer consumption was much too high.



The TDC needs only half the quantity of polymer...

Having considered all the tenders, Hagenow ordered a TurboDrain™ TDC 08. The final dry substance values are no longer a problem and feed variations do not disturb the process in any way. The TurboDrain™ has turned out to be user-friendly, requiring minimal maintenance. The management has been particularly enthusiastic about the low operating costs in terms of personnel involvement and flocculent consumption. Our experience is that TurboDrain™ needs about half the maintenance of a drum screen. Mr. Riedl who is responsible for the operation of the TDC confirms: “The

old drum screen definitely needed twice as much flocculation aid. The TDC has shown very good results for final dry substance combined with a low consumption of polymers.”



...which has made Hagenow’s Mr. Riedl a very happy man

Better paper for Vietnam Paper Corporation BELLMER supplies WinkelFormer™ and TurboShaker™

The majority of Vietnamese paper mills form part of the state-owned group Vietnam Paper Corporation (Vinapaco), including the plant of Bai Bang in Phu Tho Province. Two existing paper machines produce writing and printing papers in the basis weight range 40 – 120 g/m³.



Better paper and increased production with the WinkelFormer™

Vietnam is a country with great aspirations, and quality expectations have been growing continuously. So it made sense to improve paper quality during a rebuild which had been scheduled to increase output from PM 1 and PM 2 at Bai Bang. Thanks to its specialist skills in rebuilds and upgrades, Bellmer won the order for this project against international competition.

A Bellmer WinkelFormer™ top wire unit will enhance the dewatering performance and thus the productivity of PM 2's wire section. A positive side effect will be the significant improvement in sheet structure thanks to the WinkelFormer's™ unique 2-step supporting table. PM 2 will be equipped with a TurboShaker™ for high-frequency shaking of breast rolls. The high-frequent sha-



High-frequency shaking with the TurboShaker™

king ensures adjustable and improved sheet formation. The TurboShaker™ eliminates disturbing mechanical forces through its design principle which balances centrifugal masses mutually. An HSM Twin Sizer film press from UMV will be installed at PM 1 to improve rigidity. A new Ircon infra-red drying plant will be installed in order to improve the drying process after PM 2's existing film press.

Perfect startup at Artic Paper Mochenwangen GmbH

Artic Paper's Mochenwangen paper mill can look back on a long tradition of high-quality woody and bulky book paper production. The mill also produces large quantities of offset papers. The mill has three paper machines with a combined annual output of around 115,000 tons of paper.



A usual Bellmer procedure: complete workshop assembly of the press section

Mochenwangen has achieved its success through a process of constant modernization. Just recently, the press section of paper machine No. 3 was completely rebuilt. Several goals had to be achieved with this upgrade

project. In addition to the higher operating speed it was very important to raise quality. Significant improvements were needed in humidity CD profile along with thickness CD profile and paper two-sidedness. The existing wire drive roll of PM No. 3 was changed to a pivot type wire drive roll.

The press section was re-configured as a compact press with pick-up suction press roll. A second press was installed as a bottom-felted straight-through press with VariCon S-roll. At the inlet, the dryer section was extended using a drying cylinder to optimise transfer. Running of the paper web was stabilised thanks to the installation of a transfer suction box and a web stabiliser.

The complete press section had been constructed at Bellmer and approved by Arctic Paper representatives, so it was possible to complete the rebuild very quickly. The entire commissioning was completed in just 2 ½

days. Production startup took place after 3 hours, and within just 8 hours, improved quality paper was coming off the line. To summarise, after just a few months of operation: with significantly increased dry contents paper machine No. 3 has doubled its output, and paper break frequency of 0.5/d is comfortably below the guaranteed rate. Last month, for example, only 19 paper web breaks were registered.

The Mochenwangen team is more than satisfied with "their new PM 3"! Mill executive director Dr. Jürgen Helbig said: "We are totally satisfied with Bellmer's performance. Thanks to the intensive joint project preparation, everything took place on schedule... our thanks go to the Bellmer team!"



The new press section supplies good results

WinklePress™ – also for coconuts

The WinklePress™ WPX is known for its flexibility across a wide variety of applications. Starting from apples or pineapples via carrots up to mushrooms, the list of fruit and vegetables which Bellmer plants successfully process is long. High yields, combined with a gentle juice extraction,



Even coconuts can be perfectly dewatered with the WPX

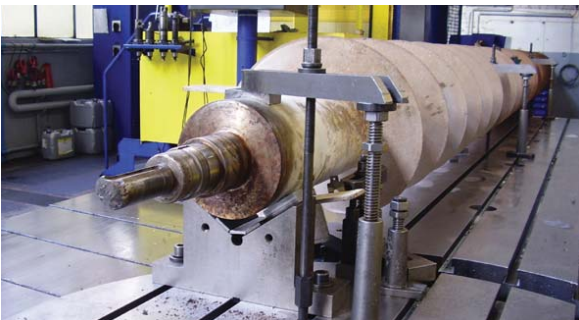
can be achieved thanks to the 6-stage press technology of the WPX. Through close cooperation with our Thai representatives Sweettech, the WinklePress™ has been capturing a completely new field of application: the dejuicing of coconuts! The Thai company THEP PADUNG PORN COCONUT CO. LTD. with its headquarters close to Bangkok specialises in the production of coconut fat. This

kind of all-natural fat is becoming more and more popular. It is added to cosmetic products but its main use is for cooking. Coconut grows plentifully all year round in Thailand's warm climate. Once harvested, the individual coconuts are divided with a machete. Coconut milk is sold as a drink, while the rest of the fruit is released from the wood and fibres. When the cleaning process is complete, the white coco pulp is finely ground and dewatered. After the first press process the mash is mixed with water to be reground. The mash is dewatered with a WinklePress™ WPX within this 2-step press procedure. The Bellmer unit can treat approximately 6 – 8 tons of mash/hour.



You can rely on our BELLMER Service

A conveyor screw shaft (510 mm x 9605 mm) had given more than 30 years' service charging the storage tower at Albruck paper mill. Then the drive journal got damaged. Even though the gear was still operational,



Punctual replacement of journal

a complete halt in production would have been inevitable had the conveyor screw broken down completely. On the spot, our service team got to work producing a new journal so they would be prepared for the worst scenario of a complete breakdown. Luckily, the damaged journal did not break off completely, and it was possible to install the new one during a planned shutdown, allowing normal operation to be resumed without unnecessary delay. Papierfabrik Albruck's team was very pleased with Bellmer's timely intervention.

BELLMER invests!

Bellmer is all set for the future! Not only do we invest in our headquarters in Niefern but also in Bellmer group's valuable member companies and their operations. Our latest example: A new plasma cutting line now ensures optimized production times at Hafner. Cutting time is reduced by about 80 % compared with manual operation. Another plus is improved precision and reproducibility of the parts processed. To top it all: There is a direct connection from the CAD system to the CNC machine.



Plasma cutting plant: investment for the future

Anniversary Cup 10th BELLMER Cup in Niefern

The renowned Bellmer Cup, which was the combined inspiration of Niefern Football Club 09 and Niefern's own high-tech company Gebr. Bellmer GmbH Maschinenfabrik, celebrates its 10th anniversary this year.

The largest company soccer tournament in the area hosts numerous company teams as well as various soccer clubs which compete for the prizes and trophies on offer. For this year's anniversary Bellmer Cup the organisers have arranged for an especially impressive entertainment programme with plenty of attractions for children and adults alike.



Even the youngsters give their best for the Bellmer Cup



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