

Hess Maschinenfabrik GmbH & Co.KG, 57299 Burbach-Wahlbach, Germany

New concrete block making facility in Norway takes up production

Sandnes is a town in the Rogaland region of southern Norway. It is home to the concrete works of Multiblokk AS, one of the most aspiring producers of concrete goods in Norway. In order to be able to serve the market more flexibly at all times, the decision was taken to add a second production line. The management finally found partners for this project in Hess Maschinenfabrik GmbH & Co. KG from Germany for the concrete block making machine and the Danish company Skako A/S as the supplier of the mixing equipment, and the planning and implementation of the project began in February 2008.



The Multiblokk site in Sandnes, Norway

■ Mark Küppers, CPI worldwide, Germany ■

The family-run company Multiblokk AS can look back on a very successful development over the last few years. Hence, it was possible to increase annual turnover by more than 160 % from 16 million Norwegian Kroner (around 1.8 million Euros) in 2002 to 42 million Norwegian Kroner last year. During this period Multiblokk AS was one of the most successful companies in Norway in this branch of industry. The aim for 2009 was turnover of 50 million Norwegian Kroner. Multiblokk AS is the largest supplier of concrete blocks and concrete paving stones in the Rogaland region, and its customers include both retailers and large customers.

The new works offer Multiblokk AS the possibility to expand still further. This includes both the development of new products and the opening up of new markets in other regions of Norway. The demand for paving

stones in Norway continues to increase steadily, hence Multiblokk AS has already recorded two-figure growth rates in 2009 in this growing market.

Strong partners for the new concrete block production plant

When the management of Multiblokk AS decided to invest in a new production plant, the main goal was to establish a production facility with maximum flexibility and at the same time a large output. The company manufactures a wide range of products and it was normal with the old production line to replace the moulds, of which there were a total of more than 50 different models, after 2 to 3 days at latest.

In the first step, the layout for the production line was designed together with the suppliers of the machine elements, the German company Hess Maschinenfabrik GmbH and the Danish company Skako A/S. All in

all, appropriate solutions had to be found for a great many wishes. Hence a plant was designed with well-matched space and working conditions for the employees

Modern mixing equipment of the 4th generation

Construction work for the plant began in February 2008. A total of eight sand silos are now available in the interior area, each with a capacity of 80 metric tons and filled from above. The 3-colour dye dosing system (granules) by Finke provides for coloured variants of the concrete paving stone products. The installation of the new Skako mixing plant began at the beginning of June 2008. The Apollo 3000 counter-current mixer has a capacity of 2 m³ and 2 agitators and can easily cover the Hess concrete block maker's maximum requirement of 1000 kg concrete per minute. Apollo is the name of the new 4th mixer generation by Skako and was designed for performance and productivity. The robust Apollo hence stands for faster, more reliable and cleaner production and also meets the requirements of more demanding applications. The Apollo's modified mixing technology is based on the tried-and-tested counter-current process used in previous Skako concrete mixers.

The differential speeds of the working blades create alternating pressure and vacuum zones in order to avoid dead zones, thus accelerating the mixing process. The new plant additionally offers the option of producing concrete paving stones with core and facing concrete. The facing concrete is then produced using separate HTV 420 mixers (0.25 m³) by Couvrot. Multiblokk AS is a pioneer of this production technique in Norway.

The Conflex double bucket track by Skako, with one 0.75 m³ and one 2 m³ container, takes care of the transport of the concrete from the mixers to the block making machine.

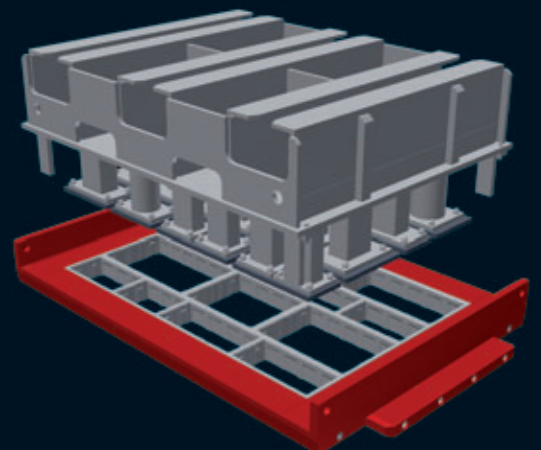
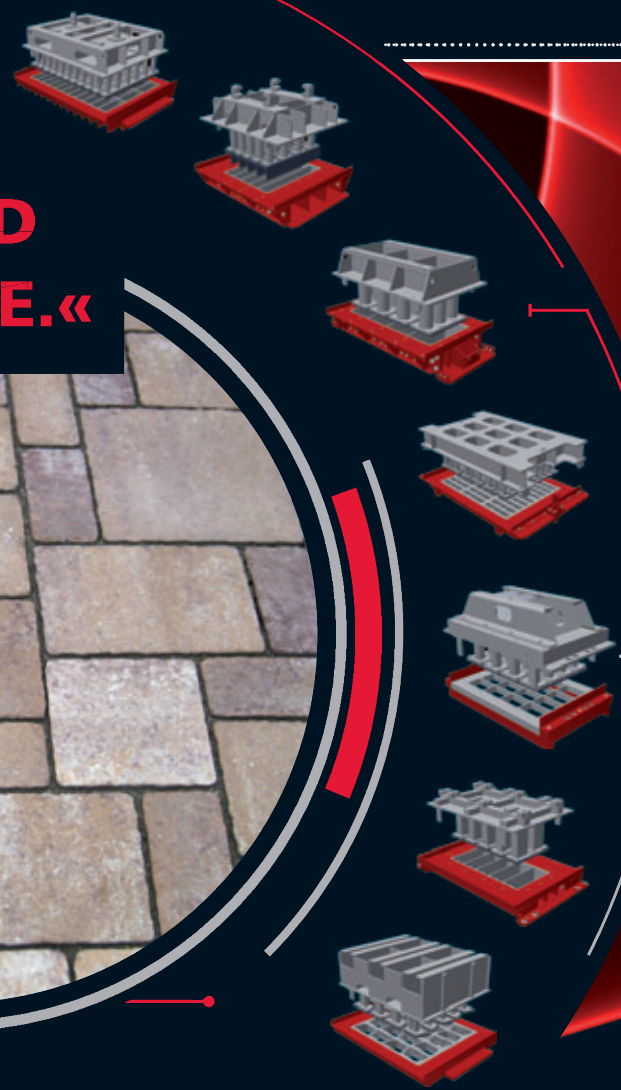
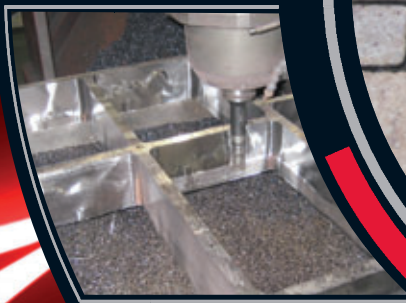
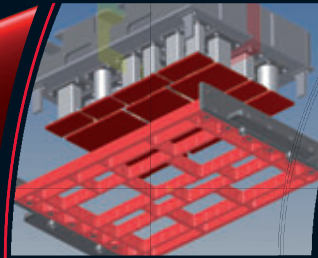


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The Couvrot HTV 420 and the Skako Apollo 3000 provide the right 'mix'



Production Manager Sveinung Levang (front) and Manager Egil Lillebo (rear) by the Apollo 3000 – 4th generation counter-current mixer by Skako

The entire equipment for concrete production was supplied by Skako and is controlled by the Skakomat control system. The system enables the automation of the entire production in the concrete plant and can be configured to suit the precise requirements.

Concrete block making machine for the high performance range

The assembly of the Hess production line began around 2 weeks after the start of the installation of the mixing plant. At the same time, Rhotho was installing the rack system for the drying chamber and the rails for the Hess finger car and for the board transport unit. The acoustic enclosure, supplied by R.Kaschwig, was erected in July and the necessary electrical installation work was carried out in August.

Production then began on 8 October 2008 and the first six months were spent tailoring the production to Multiblokk's needs in

order to guarantee a smooth production process.

The Hess RH 1500-2 production machine at Multiblokk is designed for a board size of 1,100 x 1,400 mm and is operated with various moulds by Kobra, OMF and Rampf and production boards of type Uniplast Ultra 50 mm by Wasa. The production line is designed for a cycle of less than 10 seconds. The heaviest products weigh a total of 450 kg on the production board.

Multimat RH 1500-2

The RH 1500-2 was developed as a very robust and powerful machine for the high performance range. Despite the short cycle time, it is distinguished by its very gentle movement sequences due to its special hydraulics and control technology. This concrete block making machine has been created over many years of development and unites practical experience with the latest state of the art.

An intelligent interaction of electrical and hydraulic machine functions thereby ensures the reliable and productive manufacturing of concrete elements. The particularly robust design of all stressed components and the use of 'intelligent' electronics in conjunction with innovative implementations of various machine functions guarantee a high degree of economy in the manufacture of concrete blocks.

Due to the manufacturable product heights of 25 - 500 mm, the Hess Multimat RH 1500-2 enables the production of an extremely wide range of concrete block products for road, garden and landscape construction.

Thanks to the high variability of the RH 1500-2, changing market conditions can be reacted to quickly and flexibly by the production at all times

Technical features

- Production boards: 1.400 x 1.100mm



Concrete transport with the Skako Conflex (0.75 m³ and 2 m³ buckets)

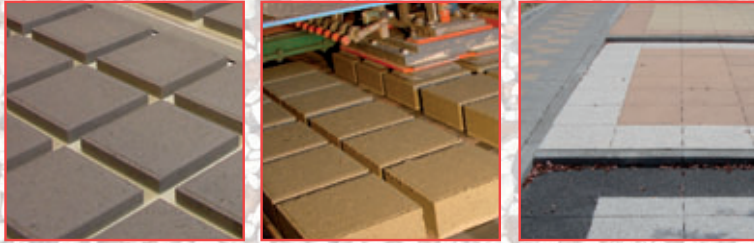


Special openings in the acoustic enclosure for feeding the Hess RH 1500-2A

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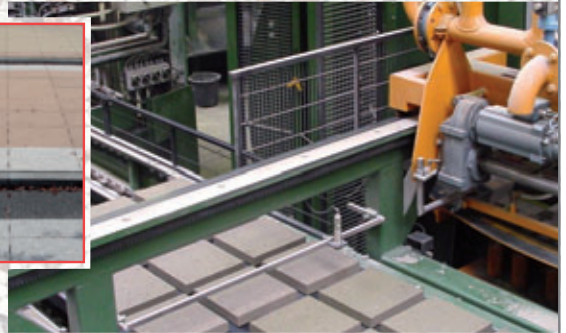
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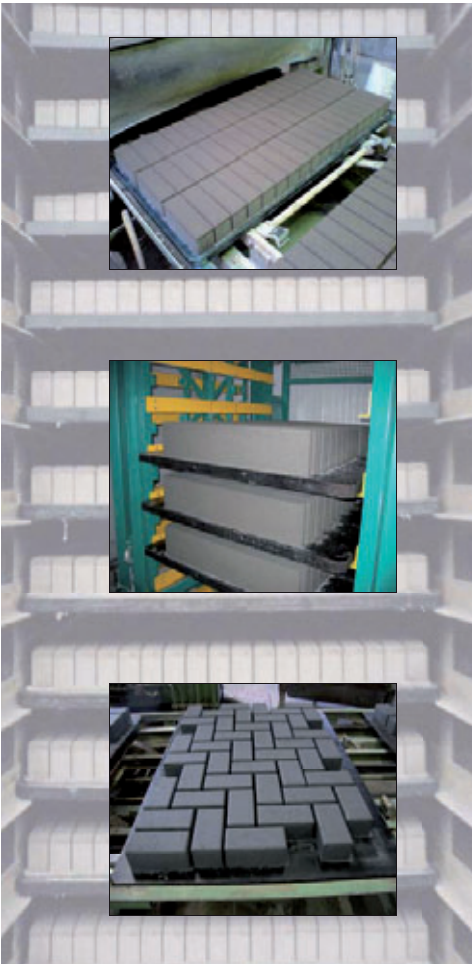


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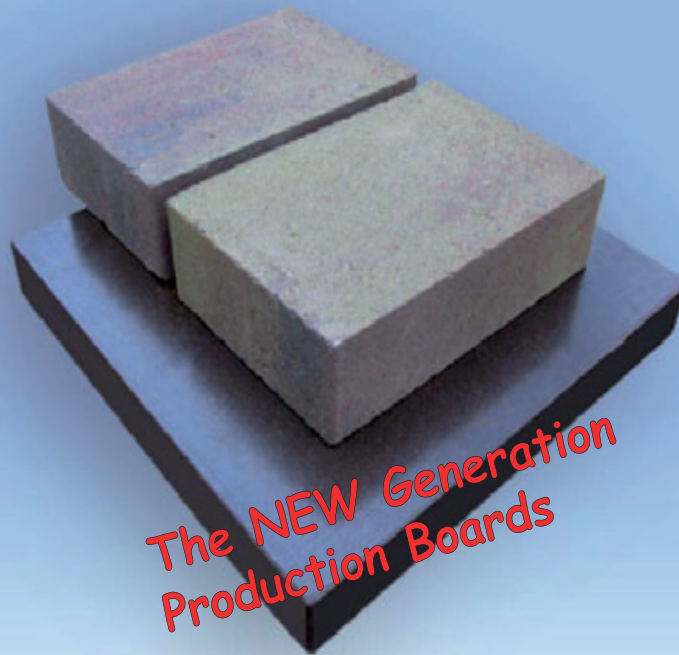
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Special openings in the acoustic enclosure for feeding the Hess RH 1500-2A



Hess finger car in front of the Rhotho rack system with a capacity of 5700 production boards

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- patented VarioTronic vibrating system
- Fast Mould Change

Curing and packet assembly

Depending on the product height, the Hess finger car accepts 20 or 40 production boards in a double stroke and transfers the fresh concrete goods to the Rhotho drying chamber, which has a total capacity of 5700 boards.

The finger car similarly removes production boards with cured products and transfers them via the stationary buffer frame to the lowerator on the dry side. This is equipped with a support arm adjuster so that high products can be stored at every second level without restricting the production area. The boards are placed individually on the conveyor belt by the lowerator. The concrete goods then pass through the stone release and stone doubling stations in succession. By means of the servo-motor-driven packet assembler, the concrete blocks are then stacked on a parallel conveyor system on wooden pallets supplied from a transport pallet silo. The completely laden pallets finally pass through the „Octopus“ stretch wrapping machine made by the Finnish company Oy M. Haloila Ab and are transported to the outdoor area to be picked up by a fork lifter.

After removal of the blocks by the packet assembler, the boards pass fully automatically through a board brush and board turner. The boards are then stacked by the board stacker and returned to production via the board buffer and transport tracks. The board buffer is designed for a capacity of 2400 boards and ensures both the automatic removal to storage of boards in the case of production of high products in every 2nd level of the rack unit as well as the independent operation of the wet and dry sides.

Great satisfaction at Multiblokk AS

The entire project was completed to the entire satisfaction of Multiblokk AS. “With the new plant we can now produce much more flexibly. We can produce our wide range of products in large numbers,” says



Overview of the dry side with stone releaser, stone doubler, packet assembler, board brush, board turner, board stacker and board stack transport track in the foreground; the transport pallet silo and stretch wrapping machine are in the background



Sensible design: the space above the board buffer is used as office space

Manager Egil Lillebo. "In addition to that, the production machines provide us with the option to manufacture paving stones with facing concrete, which sets us apart from the Norwegian market," Lillebo continues.

"The machines are very solid and good and we are very satisfied with the after-sales service by Hess and Skako. Every time there was a problem, technicians from both companies supported us in finding the best solution," adds Production Manager Sveinung Levang. ■

FURTHER INFORMATION

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