

Hess Group, 57299 Burbach-Wahlbach, Germany

Successful modernization of two concrete block and paver machines for Morssinkhof Groep

The joint project began at bauma 2022, where Hess Group and Morssinkhof Groep engaged in productive discussions. Morssinkhof Groep proposed exchanging two of their current concrete block and paver machines for newer versions, which marked the start of a promising collaboration. Meanwhile, Morssinkhof Groep continues to lay the foundation for stable, attractive, and future-proof living environments by focusing on the thoughtful design of public spaces, streetscapes, frontages, and gardens.

Just days before bauma began, the plans for the projects were unveiled. Morssinkhof Groep, UBO Engineering (Hess Group's Agent for the Benelux and a batching plant manufacturer), and Hess Group worked under high pressure to develop a strong proposal and ensure the correct specifications. At Bauma, the project teams from both sides had extensive meetings and achieved significant progress. The project couldn't be completed at the Bauma, but in November 2022, an agreement was reached, and Hess Group was awarded an order to replace the concrete block and paver machine in Hengelo and one of the concrete block and paver machines in Hardenberg. Both projects were part of a much larger project within Morssinkhof Groep.

Hengelo: RH 2000-4 MVA

The Hengelo project required replacing the previous concrete block and paver machine with a new Hess RH 2000-4 MVA in the same position. The previous machine was no longer up to standard, and its foundation did not meet current requirements. The construction company faced the challenge of fitting the new foundation block within the dimensions of the sound enclosure, while Hess had to ensure that the height of the concrete block and paver machine would not exceed the lowest point of the sound enclosure. Both challenges pushed the limits of what was possible, but ultimately, the required foundation was successfully placed under the RH 2000-4 MVA. The machine was positioned within the sound enclosure, and the higher parts of the concrete block and paver machine were assembled once it was in place.

The concrete block and paver machine was not the only piece of equipment that changed. A long list of tasks, some major, had to be completed before the plant could start production again. The curing chamber was significantly extended, and the climate system was properly addressed. UBO received an order for new batching plant controls, a modern system.



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The job involved completely new cabinets and rewiring the entire batching plant. Additionally, new production boards replaced the previous ones.

The scope of delivery from Hess Group included a new concrete block and paver machine. The project was completed with new wet side conveyors, including a new 2-station washing device and a dump station. The RH 2000-4 MVA was equipped with the second generation hydraulic 'servo' controls, known as MLC-H (which stands for Multi Logic Control - Hydraulic). This separate Bosch Rexroth PLC controls all the hydraulic movements in the block machine; the function is similar to the first generation, MAC, but more precise. The MLC-H is a more modular build system and can control a lot more hydraulic functions than the previous MAC system.

Special for the Hengelo machine is the wide production area, the herring bone automatic laid paver is wider than a normal pack layer. The RH 2000-4 MVA is equipped with the driven planning roller on the face mix feed box and had to be made wider in order to get the full potential out of the planning roller system. The planning roller is now driven from only one side, the chain is mounted higher on the filler box so that the chain will not run through spilled concrete on the side of the filler box. These modifications created enough space to equip the concrete block and paver machine with a wider face mix filler box.

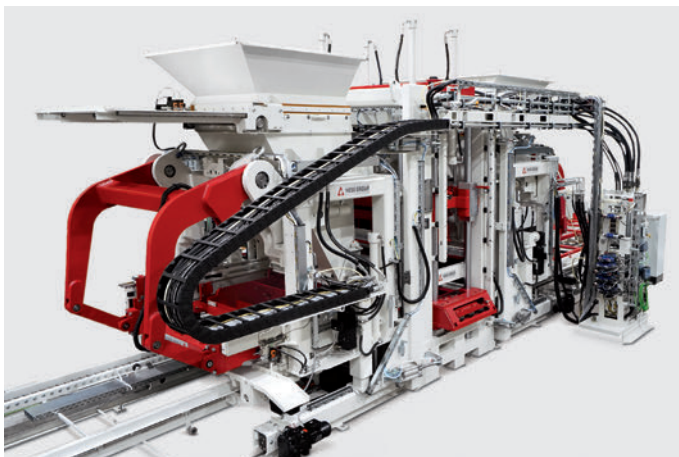


Foundation preparation (Hengelo)

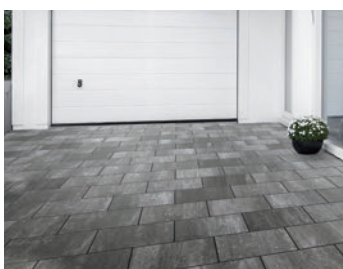
The plant in Hengelo manufactures a wide range of products, from infrastructural products like kerb stones, automatically laid paver, and grass stones but also landscaping products like higher adding value paving. Producing this varied range of products requires extensive knowledge of concrete man-



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Control station & RH 2000-4 MVA (Hengelo)

ufacturing and the ability to adjust the concrete block and paver machine accordingly. However, it all begins with quality aggregates; if the combination of aggregates is not suitable, top-quality concrete products will be impossible. At Morsinkhof Groep Hengelo, all the necessary steps have been taken to ensure excellent concrete quality, and the investment in new batching plant controls has paid off.

In the weeks following the commissioning, the Morssinkhof team began to explore the abilities of the RH 2000-4 MVA. They experienced that they were able to run the machine while still producing top-quality products with very low cycle times. Achieving cycle times of less than 9 seconds was easily possible, giving them confidence that the replacement of the concrete block and paver machine, as well as other changes, were the right direction for the future!

Hardenberg: RH 1500-4 MVA

The Hardenberg project was more complex. The previous concrete block and paver machine was the centrepiece of a very compact concrete block plant. The batching plant was placed right above the concrete block and paver machine, supplying concrete to both the back mix and the face mix section. This layout was efficient in the past, but in 2024, it does not meet today's requirements. The new concrete block and paver machine is a RH 1500-4 MVA with exactly the same features as the concrete block and paver machine in Hengelo. The major distinction between the concrete block and paver machines lies in the production board dimensions, which are smaller in Hardenberg.

The Hardenberg project team faced numerous challenges over the complete project. The first challenge was raising the batching plant platform to accommodate the higher RH 1500-4 MVA in the available space. This project was completed in the summer of 2023. The new machine required a new foundation, presenting a challenge for the construction company. They managed to excavate a large hole for



Foundation preparation (Hardenberg)



Assembly of the RH 1500-4 MVA (Hardenberg)



RH 1500-4 MVA (Hardenberg)



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Morssinkhof Infra
 Haaksbergerstraat 39
 7555 HB Hengelo, The Netherlands
 T +31 74 2426000
info@morssinkhof-groep.nl
www.morssinkhof-groep.nl

the foundation and pit access between the stanchions of the batching plant platform, this task was done in the first days of 2024. The RH 1500-4 MVA block and paver machine was placed on skids and moved into its position. Once all the new equipment was in position, the Morssinkhof team could start re-assembling the handling system. This involved re-positioning the production board return line and creating more space for the system. A completely new sound enclosure was built around the RH 1500-4 MVA, and a new control room was designed within the existing plant. After a smooth installation period, the concrete block and paver machine was started, and the production was restarted without any serious challenges.

Both projects serve as excellent examples of how a concrete block and paver machine exchange can be successfully completed within a fixed time scale when the project team is adequately prepared. Morssinkhof Groep achieved it. ■



Hess Group
 Freier-Grund-Straße 123
 57299 Burbach-Wahlbach, Germany
 T+49 2736 49760
info@hessgroup.com
www.hessgroup.com