

R&W Industrieautomation GmbH, 57627 Hachenburg, Germany

CS-Beton now monitoring entire production line with height control systems

Last year, the German company R&W Industrieautomation GmbH delivered a total of four SHV500 height control systems to CS-Beton in the Czech Republic. The first two of the systems were installed in March 2014, and those in charge at CS-Beton were so impressed at the results that within just a few weeks the decision was taken to install another two SHV500 height control systems. As a result, all four concrete block machines in use at CS-Beton are now equipped with a height control system from R&W.

The SHV500 is an amazing all-rounder for all standard concrete products with heights of up to 490 mm. The rapid HCS500 sensors even make it possible to measure products with high conveying speeds very precisely.

The heart of the SHV500 is the HCS500 height control sensor from R&W, a high-resolution laser distance sensor with a measuring frequency of 2,500 Hz, which is equipped with a high-performance micro-controller. All of the components for the height control determination are integrated in the sensor. The sensor only needs to be connected to a network and a power supply and can then be operated independently. The integrated web server, which makes the results available in a graphic form for a standard web browser, can be used to display the measurements. In addition, there is also a PC software available, which can be used to archive and evaluate the collected data.

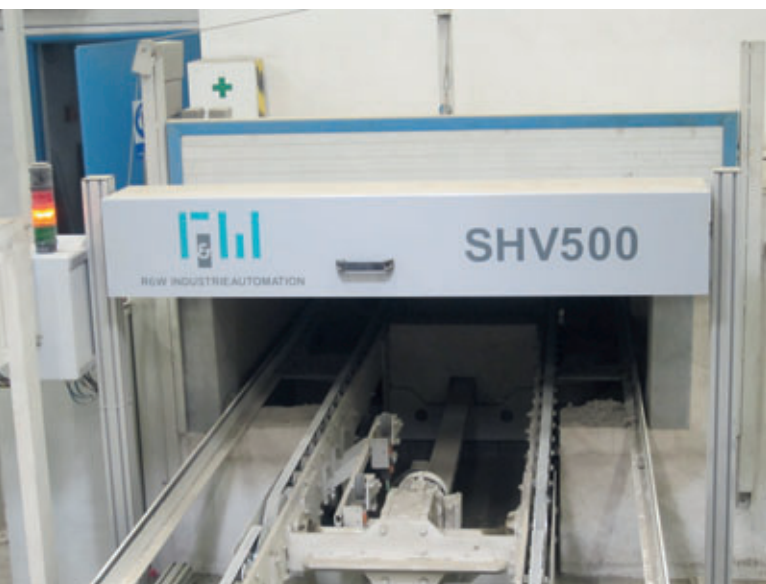
The freshly produced concrete blocks are measured directly behind the block machine above the conveyor on the base plate. The concrete blocks passing under the device are then measured with the laser sensors without contact and with a precision of +/- 0.5 mm in order to determine whether the blocks on the plate are within the height tolerance range. This makes it possible to sort out products which do not fall within the tolerance range before they enter the drying chamber. The height control system safeguards the concrete factory against possible subsequent customer complaints and indicates if production is not running to plan and the production parameters need to be adjusted.

CS-Beton was impressed by the system and identified a whole range of advantages that the use of a height control system could offer its own production facility. All four concrete block machines were suitable for expansion with height control systems.

"We tested the first two systems on two production lines that we use to manufacture a large number of different products covering a wide spectrum of our product portfolio, from paving stones and kerbstones right up to thin-walled products, for example. The results that the height control systems achieved were impressive: The systems worked really well! As such, it soon became clear to us that we wanted to equip the other two production lines with the same type of height control systems," said Jan Rašovský, Technical Director of CS-Beton, obviously convinced by the system.

"We installed the laser measuring technology with the aim of improving the quality of our products in terms of the height accuracy. The system has more than fulfilled our expectations. It is easy to commission, operate and service the height control system," continued Mr Rašovský.

The measuring system records every production cycle so that the operator of the



The height control systems are positioned as closely behind the block machines as possible above the conveyor for the base plates.



The concrete blocks passing under the device are then measured with the laser sensors without contact and with a precision of +/- 0.5 mm.



The integrated web visualization system can be opened simply in the Internet browser of any PC in the network.

production line has a complete overview of production at all times. If a problem arises (e.g., with the concrete), he can take immediate action. This can help to reduce waste considerably. "The system measures very accurately and identifies irrelevant minor deposits such as loose fragments of concrete on the products, which do not represent defects in themselves. The software then identifies them as harmless."

"We produce approximately 8,000 m² of concrete goods in our company every day, a figure which corresponds to approximately 8,000 cycles. The laser is used to monitor every cycle and the differences in height fluctuate within a negligible tolerance range. For example, before we introduced the height control systems, we had tolerances of up to ± 3 mm for products with a height of 60 mm, which was not particularly satisfactory," said Mr Rašovský, evaluating the positive effects that the R&W system has brought to CS-Beton.

"We then calculated what we can save each day thanks to the system and worked out that the investment in the four height control systems will already have paid for itself within

3-5 years. Even though that's just a rough estimate," he continued. "However, CS-Beton didn't purchase these measuring systems with the aim of saving money in the production department, the primary goal was always for the devices to improve the quality of our products, and that has been a complete success."

CS-Beton is proud of the quality of its products and is thus incredibly interested in any system which can contribute to improving quality, be it integrated in the production line itself or as an aspect of the subsequent quality controls. ■

FURTHER INFORMATION



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