

# SHV500

## RULER OF HEIGHTS

precise. strategic. efficient.



# SHV500

## HEIGHT CONTROL SYSTEM

for measuring concrete blocks

The highest-quality machine in its class impresses with its precision and long life.

R&W INDUSTRIEAUTOMATION

Graf-Heinrich-Str. 20 • 57627 Hachenburg • Germany • Phone: +49 2662 94 14 34 • E-mail: [info@r-u-w.de](mailto:info@r-u-w.de) MORE INFORMATION AT [www.shv500.de](http://www.shv500.de)



## SHV500

**precise.**  
**strategic.**  
**efficient.**

The SHV500 is located as close as possible behind the block machine and above the board conveyor for the supporting boards. The blocks passing below the device are laser-scanned without contact and measured with an exactitude of  $\pm 0.5$  mm. The measuring range of the block heights is between 30 and 480 mm.

The height of the blocks is determined by measuring the relative height between the top surface of the boards and the top surface of the blocks. This principle of measuring removes the uncertainty arising from varying heights and qualities of baseboards. With up to 2,500 measurements per second the height of one row of concrete blocks is recorded. For the determination of the product height, only the relevant elements of the product surface will be evaluated.

The laser sensors are installed on horizontally moving slides travelling along a rail made of aluminium profile. The slides allow to adapt the scan position to the current object to be scanned. This is necessary as various product types need to be scanned.

## SHV-VISU SOFTWARE

In order to integrate the SHV500 seamlessly in a modern production environment, we have developed a Windows-based software solution which offers user-friendly operation, effective data storage and high-performance analysis. The accruing data are completely stored in a database. For this either an already existing server at the company can be used, or the local computer of the machine that is delivered together with the SHV500.

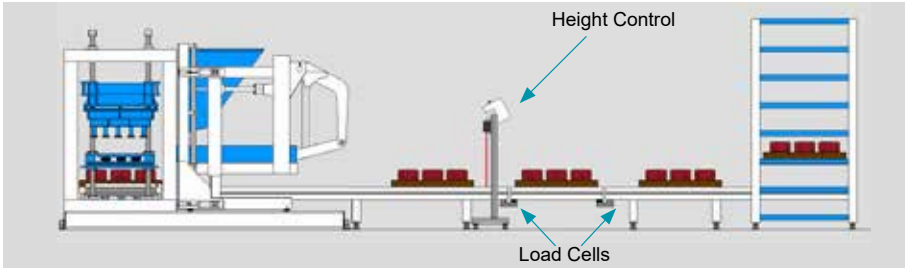
The software SHV-Visu can be installed on multiple computers. A distinction is made between the server and client version. The SHV-Visu server is installed once per SHV500 on the computer of the machine. The server provides the full functionality and should always be switched on for storing the data. The SHV-Visu client can be installed on multiple computers within the company network. This version has a read-only access to the data of the server. The client can also interface with multiple servers if several SHV500s are present in a plant. This gives you an overview of all measuring systems from a central location.

## FUNCTIONS SHV-VISU

- Easy operation
- Clear display of the measurement results
- Data storage for every board in a database
- Early identification of irregularities during the production through a trend display
- Statistical evaluation of the stored production data
- Management of the parameters in recipes for the different products
- Access to the data from any computer within the network possible
- Export of selected data for Office applications possible



## BOARD WEIGHING UNIT



Next to the height, weight is an essential quality feature for freshly produced concrete blocks as well. The system for weighing boards with concrete blocks is installed directly behind the Height Control System. The conveyor drops the board on a frame with load cells behind the Height Control System. The weight for an empty board can be edited in the SHV-Visu software, or can be read out of a RFID Chip in the board.

The control of the weighing unit measures the weight of a board with products and calculates the concrete weight by computing the difference between the full and empty board. This weight is sent to the SHV-Visu software on the computer where it is displayed and stored in the database. The control unit of the weighing system is based on Siemens S7-1200 PLC and communicates with the control of the block machine (signal exchange), the laser sensors of the height control and with the SHV-Visu software.

## COMPONENTS

Load cells and accessory equipment

Weighing electronics

Update of the SHV-Visu software for the weighing unit



- Accuracy class C3
- 3 m cable length, 4 wires
- Made of stainless steel, protection class IP68
- Base plate and elastomer bearing
- Material: stainless steel
- Rated load 500 kg

## COLOR MARKER

The color marker is used to mark layers of blocks with heights outside of the specified tolerances. The system is installed on the side of the conveyor. The layer of blocks is marked on one side in the direction of transport.

## COMPONENTS

Paint gun with nozzle and needle made of stainless steel, adjustable

Wheel prevents protruding blocks from damaging the paint gun

Instrument panel with a directional control valve, shut-off valve, pressure limitation valve, filter pressure regulator and paint container made of stainless steel (3 liters), mounted on a solid frame made of aluminium profiles

Connection lines are bundled in a flexible hose approx. 2 m in length

Control system for color marker (switch cabinet on frame) with warning light (red)

1 liter of red marking paint and 1 liter of marking paint thinner





Height Control System with Chip-Reader in conveyor



Measuring stair-steps



Measuring curbs



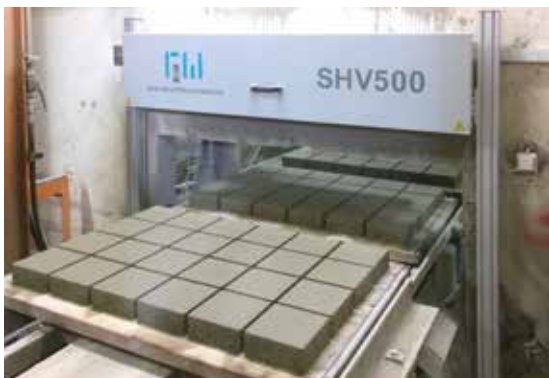
Height Control and board weighing system



Height Control System and dumping station



Liftable system for mold change



Smaller Height Control System installed close to the wall

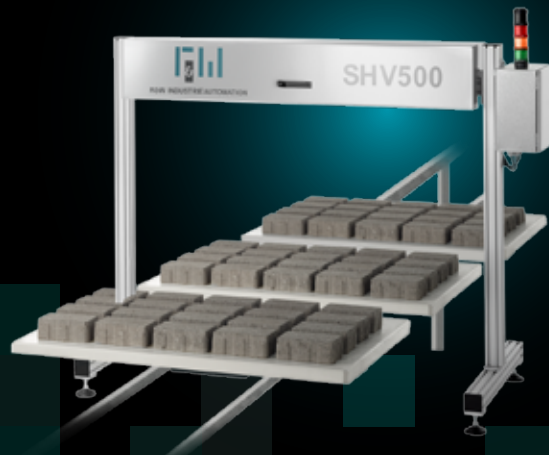


Color marking system

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### PRECISION.

One of the highest indications of quality in concrete block production is the even height of the individual blocks, which is why the precise measurement of the products in the course of the manufacturing process is of the utmost importance.

The SHV500 Height Control System from R&W allows contact-free measurement of your products by means of three high-resolution laser distance sensors. Now that's eagle eye precision!

- Measuring of concrete blocks with a precision of +/- 0.5 mm
- Higher precision compared to conventional measurements with mold and tamperhead
- Optimal production results thanks to above-average precision

### STRATEGY.

In today's continuously evolving industry sector, flexibility and the ability to adapt are two decisive factors for the success of your company. Its modular concept allows our SHV500 to ensure a high degree of flexibility and adapt optimally to suit your individual needs. Put your business acumen to good use and invest in the future of your company.

- Modular measuring system concept with up to three sensors for optimal reliability
- Long-term investment thanks to the use of high-quality materials
- Sustained function guarantees consistently high quality for many years
- Wide range of equipment and upgrade options (color markers, board weighing)

### EFFICIENCY.

Utilize the many advantages of the SHV500 and avoid cost-intensive complaints. Our measuring system works efficiently and will soon become a guarantee for quality in your production department that you'll never want to be without again.

- Quality optimization and cost savings thanks to reduction in rejected materials
- Flexible integration in existing production facilities and global service
- Integrated web visualization as well as SHV-VISU software from R&W for archiving and analysis