MOBA-MATIC AND BIG SONIC-SKI®

LEVELING TO THE HIGHEST STANDARD

MOBA
MOBILE AUTOMATION

MOBA-MATIC —
THE MOST VERSATILE CONTROL SYSTEM IN THE WORLD

Whether ultrasonic sensor, laser or rotary sensor, MOBA-matic — the most flexible control system worldwide for pavers, milling and other mobile applications — can operate with a diverse range of sensors, thanks to its modular system. Therefore you can use the best sensor for your specific project, attain the highest precision results, and improve finished road quality. Consumption of material is significantly reduced and machine performance is increased. The rugged construction of all the components protects the internal electronics ensuring dependable operability under all harsh field conditions. For over 30 years, the MOBA-matic has proven itself in use everywhere — let it win you over as well!

System benefits:

» Largest selection of sensors anywhere

» Modular system allows multiple combinations

» Easy to install

» High-precision, dependable results

» 3D-capable (GNSS and Total Station positioning solutions)

» CAN communication technology

» One system can be used on many machines

MOBA-matic II – proven benefits with additional convenience

With the second generation of the MOBA-matic handset, operation of the levelling system is even easier than before. The MOBA-matic II combines all the proven benefits of previous MOBA-matic systems with additional visual and simplified operation. The MOBA-matic II integrates the controller and operation panel in a single housing. Multiple additional adjustment options make customising your applications to specific machines easy and straightforward.
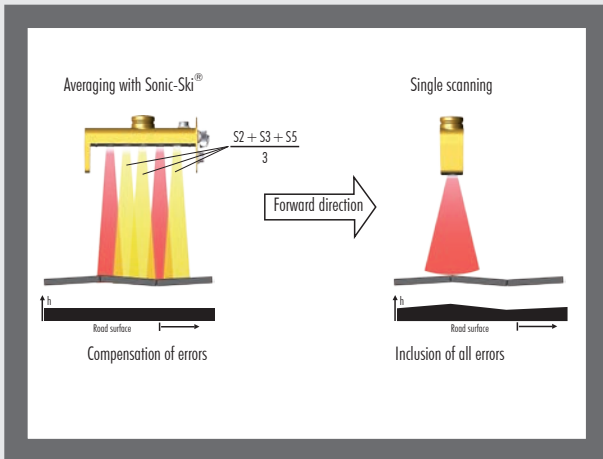
Benefits of MOBA-matic II:

- » 3.5" color display
- » Easy to operate – still by means of just four buttons
- » Clear indication of all connected sensors
- » Clear, visual icon driven instructions
- » LED status indicators
- » Adaptable to all types of hydraulic systems
- » Backlit keypad
- » Swift and simple swapping of sensors
- » Self explanatory error messages

SONIC-SKI® PLUS AND BIG SONIC-SKI® — LONG AND SHORT RANGE AVERAGING

With the Big Sonic-Ski®, you can optimize the precision of the results and achieve measurably improved surface smoothness for asphalt road construction. By combining up to four sensors, even long period unevenness — such as bumpiness — is detected and corrected. The model with four sensors best plays out its strengths when there is unevenness in the subgrade — as is often the case during resurfacing. With four sensors, the Big Sonic-Ski® even smooths road waves that occur in regular intervals of five to seven metres and which cannot be detected when using a smaller number of sensors. The Big Sonic-Ski® can be used without any additional personnel and achieves outstanding results with regard to uniform layer thickness and smoothness. The modular design of the mounting system allows customised installation of the carrier and also flexible sensor positioning. Thus improving the maneuverability of the paver even over tightly curved roads. The simple and easy assembly and disassembly of the system encourages regular use.
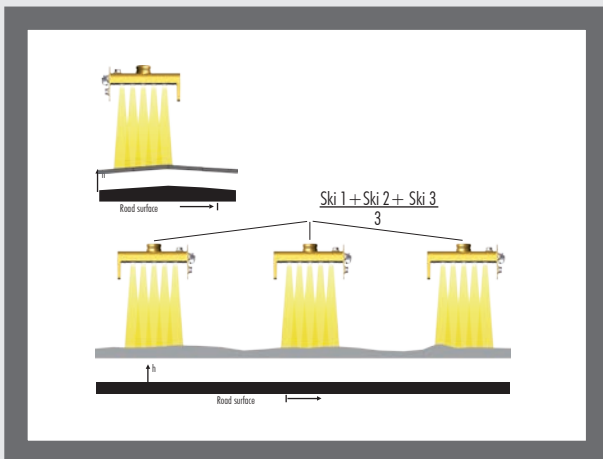
Averaging with Sonic-Ski®

Single scanning

$$\frac{S2 + S3 + S5}{3}$$

Forward direction

Road surface

Compensation of errors

Inclusion of all errors

Road surface

$$\frac{Ski\ 1 + Ski\ 2 + Ski\ 3}{3}$$

Road surface

Road surface

Sonic-Ski® plus: short-range averaging via

» Five contact-free sensors scan the reference surface
» 5 sets of ultrasonic measurements at 11 Hz
» Continuous averaging of the 3 closest measurements to calculate the average height
» All minor irregularities are eliminated from the final result
» Provides a continuous virtual level reference

Benefits:

» Uneven reference levels are detected and smoothed out
» Significantly more accurate than a simple single ultrasonic sensor
» Accurate to one millimeter during ground sensing

Big Sonic-Ski®: long-range averaging via

» Combines the positive effects of three Sonic-Ski® plus sensors
» Multiple integrated scanning across the whole reference
» Provides a long range continuous virtual level reference
» Unevenness over longer stretches is also corrected

Benefits:

» The averaging system operates over extremely long range (up to 13 meters) providing the highest level of smoothness
» Measurably improved surface flatness
» Contact-free scanning of the reference surface
» No artificial reference
» Temperature compensation in real-time
» Flexible sensor positioning increases maneuverability
» Simple mounting and operation
» Combination of multiple different sensor types possible
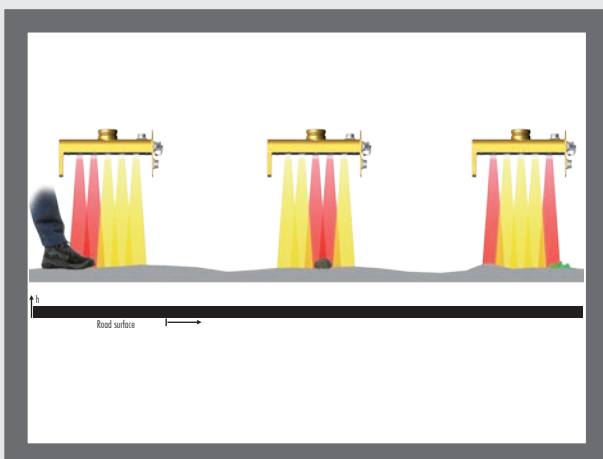
MOBA-MATIC LEVELLING SYSTEM –
THE RIGHT COMPONENT FOR EVERY APPLICATION

Thanks to its modular approach the MOBA-matic II system can use a highly diverse range of sensors and thus can be adapted, at any time, to the specific requirements of any application. All sensors are protected against moisture, dust, heat, cold and vibrations by means of a special sealing method. We offer you the correct sensor for every task!

SONIC-SKI PLUS®

» Five sonic contact-free sensors scan the reference surface
» Extremely precise distance measurement by means of averaging
» CAN-interface
» Operating temperature range: -25 ...+85°C
» Ingress protection IP 67

Ground sensing characteristics:
» Measuring range: 20 ... 150 cm
» Measuring accuracy of $\pm$ 1 mm
» Averaging minimises influences on the measured value caused by small foreign objects
» Audible and visual warnings given when major deviations from the required level occur
» No „catching" on curbstones or road joints

String line sensing characteristics:
» Measuring range: 20 ... 100 cm
» Measuring accuracy of $\pm$ 2 mm
» No sagging of the stringline as there is when mechanical sensing is used
» Position indication of the string line, warning in case of loss of line or a coarsely deviating measurement
» 25 cm sensing width (freedom of movement) with uniform accuracy

SLOPE SENSOR

» Especially designed for high vibration screeds
» Measuring range: $\pm$ 20°
» Measuring accuracy: $\pm$ 0.1%
» Operating temperature range: -10 ...+70°C
» Ingress protection IP 67
» Slope angle display available simultaneously with level information
» Simple and easy to recalibratable
» CAN-interface

TEMPERATURE SENSOR

» Measurement of material temperature
» Installation in the hopper or behind the screed
» Temperature information in real time at MOBA-matic II
» Measuring range: -40 ... +600°C
» Measuring accuracy $\pm$ 1%
» Working temperature range: -10 ... +120°C
» Ingress Protection IP 65
» CAN-Interface
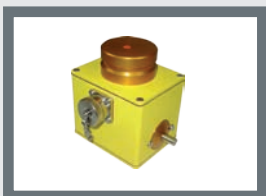
ROTARY SENSOR

» Can be used under all climatic conditions
» Operates in stringline and ground sensing modes
» Measuring range: ± 30°
» Measuring accuracy of over ± 0.1°
» Operating temperature range: -10 ... +70°C
» Ingress protection IP 67
» CAN-interface

WIRE ROPE SENSOR

» Very precise height position measurement for milling applications
» Measuring range: 500 mm
» Measuring accuracy: ± 0.1° (± 0.3 mm)
» Operating temperature range: -10 ... +60°C
» Ingress protection IP 54
» The user can replace the steel wire (wearing part)
» CAN-interface

DUAL SONIC

» Inexpensive alternative for contact-free ground sensing or Big Sonic-Ski® applications
» Real-time temperature compensation
» Fixed temperature probe
» Measuring range: 20 ... 100 cm
» Operating temperature range: -25 ... +85°C
» Ingress protection IP 67
» CAN-interface

LASER RECEIVER

» Compatible with all common rotating laser transmitters for machine control
» Digital linear detection of the laser beam
» No electrical mast required for height adjustment
» Receiving range: 290 mm/360°
» Measuring accuracy: ± 1 mm
» Operating temperature range: -40 ... +70°C
» Ingress protection IP 67
» Reference point user selectable with a single button press
» CAN-interface