



MDS DRILLING SYSTEMS

MOBA[®]
MOBILE AUTOMATION



With **more than 45 years of machine control expertise**, the MOBA Mobile Automation systems are continuously being developed to ensure their future viability. Even today, your telemetry and cloud integration are an essential part of the networked construction site of the future.

THE MOBA MDS-SERIES - FOR BLASTING OPERATIONS THAT GO ACCORDING TO SCHEDULE

Without the right preparation, even controlled explosions pose a safety risk. Inconsistent, unmeasured drilling patterns are not only responsible for stone fragmentation or ground vibrations, but also for poor blasting results. Thus, in addition to greater risk, additional costs and additional time result from subsequent work.

With **MOBA's MDS drilling systems**, you can prepare your blast with precisely measured, uniform drill holes and immediately increase your cost efficiency. Save yourself time-consuming manual measurements and drill absolutely parallel holes of the same depth and angle in just a few simple steps with the assistance system.

With the **MDS-2000** with integrated GNSS antenna and Wi-Fi gateway, you can even determine the exact position of the machine on the site. The high-end graphic display gives you an overview of the current position of the machine on the site at all times. Alternatively, simply import 3D models of your site to save even more time when drilling.

Thanks to the telemetry module with seamless cloud integration, you can send your borehole data as well as engine data such as oil pressure or acceleration directly from the machine to the office. Not only do you maintain an overview for later data analyses, but you can also react immediately if the machine data is conspicuous. This means less machine downtime for you. You therefore benefit twice from the networking of your machine: through monitoring of your drilling activities and time- and cost-saving predictive maintenance.

SYSTEMFEATURES

MDS-1000

- » Flexible programmability
- » Detection of drilling depth and angle
- » Motor data management
- » Audio-visual warning function
- » Storage and output of drilling problems

MDS-2000

- » Data import from Quarry X and Excel
- » Direct data download to PC or mobile device
- » Machine location in digital map
- » Teleservice
- » Statistics for service and maintenance intervals
- » Remote control of a digital output

SYSTEMADVANTAGES

- » Precise drilling in compliance with the specifications
- » Time savings, as no reworking is necessary
- » More safety with blast hole drilling
- » Flexible use thanks to a wide variety of applications
- » Time-saving updates and monitoring from the office (for MDS-2000)

Performing more precise drilling with less effort means not only increased efficiency but also a better blasting pattern. The additional cloud integration keeps you informed of the condition, position and productivity of the machine anytime and anywhere. Thanks to automation and networking, your investment pays for itself in no time at all.

MDS COMPONENTS BASICS AND MORE

As a basic system, the **MDS-1000** is equipped with the most important features and is particularly convincing on account of its user-friendliness. With the ergonomic MOBA wheel, which can also be easily operated with gloves, you simply select the desired function. Thanks to the real-time visualisation of the depth, number of rods and the ACTUAL and TARGET inclination of the drill arm, you always have an overview of the current situation. If you need something more individual, then simply program the GDC-320 yourself with CODESYS.

Thanks to exceptional modularity, you can also benefit from cost- and time-efficient upgrades from a varied selection of additional components. The **MDS-2000** provides you with a high-end graphic display combined with robust hardware components for wireless data exchange, precise machine positioning and machine data acquisition.

GDC-320 COMPACTLY PACKAGED



INCLINATION SENSOR

- » 2-axis sensor
- » Measuring range: $\pm 60^\circ$
- » Zero-point adjustment via infrared interface
- » CAN interface



01

DEPTH GAUGE

- » Rotary encoder
- » Measuring range 360°
- » Sensor interface PWM/analogue
- » IP6-certified



02

BOOM SENSOR

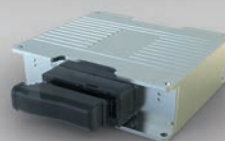
- » Measures the cross slope of the mast
- » Measures the value of mast rotation
- » Compensation of interfaces



03

CONTROLLER

- » The "brain" of the system
- » Control and connection of all components
- » Data processing and calculation



04

DIRECTION FINDER

- » Detects the direction of the machine for checking machine alignment
- » Aligned to reference point



05

GNSS ANTENNA

- » Works with GPS and GLONASS
- » Exact positioning on the site
- » Replaces the directional pillar



06

GATEWAY CG-1

- » Telemetry update for the machine data
- » Sends reports to the cloud
- » Receives updates for the system via the cloud



07

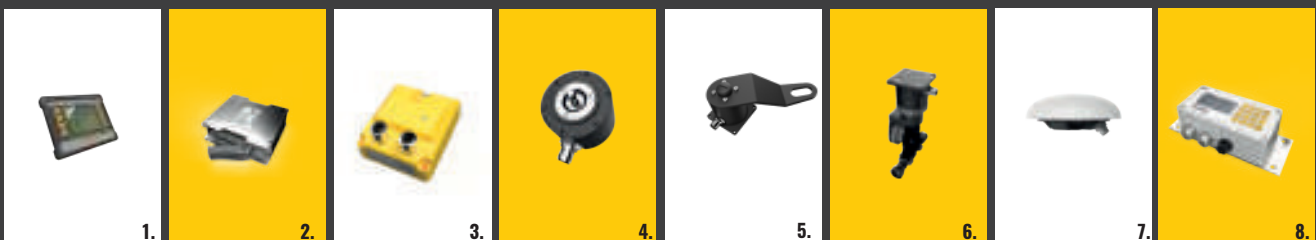


COMPATIBLE & FLEXIBLE

Thanks to its exceptional flexibility, the MDS-1000 can be installed as an add-on system on any drilling machine from any manufacturer. This makes it easy to retrofit your machine. Thanks to the special modularity of the system, new components are integrated in a particularly time- and cost-efficient manner. That way, you can upgrade your machine step by step.

1. **GD-320 graphic display** shows mast orientation and process overview
2. **Controller** processes all measured values of the sensors
3. **Inclination sensor** for measuring the inclination of the drilling arm
4. **Depth gauge** for measuring the depth of the hole
5. **Boom sensor** for measuring the cross slope of the mast
6. **Detector** for checking the machine equipment
7. **GNSS antenna** for exact positioning of the machine
8. **CG-1 telemetry module** for data exchange with the cloud

YOUR UPGRADE FOR THE FUTURE



MDS-2000

SELF-PROGRAMMABLE GRAPHIC DISPLAY

REAL-TIME DATA

THANKS TO TELEMETRY AND CLOUD



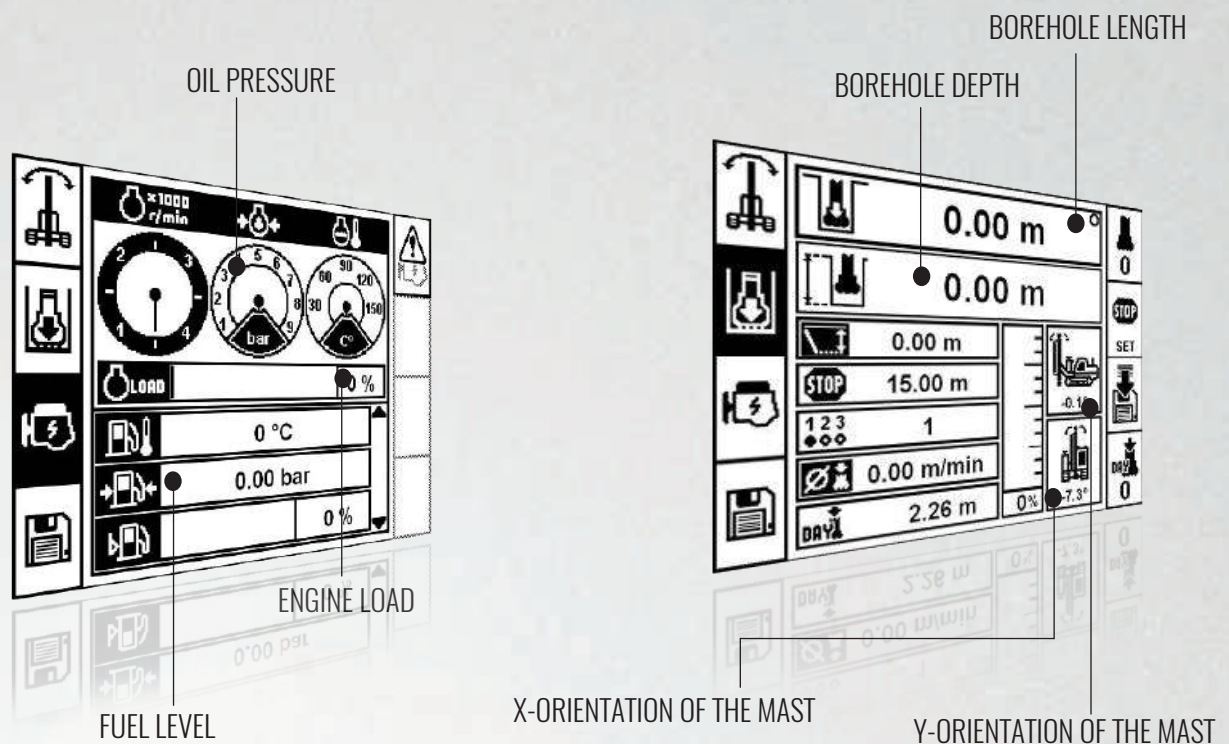
GD-320 GRAPHIC DISPLAY

The self-programmable **graphic display GD-320** takes your drilling machine to the next level. Thanks to full integration into your machine and cloud connection, you benefit not only from the transfer of all drilling-relevant data, but also from values for machine and motor data. This allows you to plan machine maintenance in advance and actively prevent breakdowns. By determining the position of the machine, you never lose sight of it and always have an overview of the productivity of your drilling machine fleet.

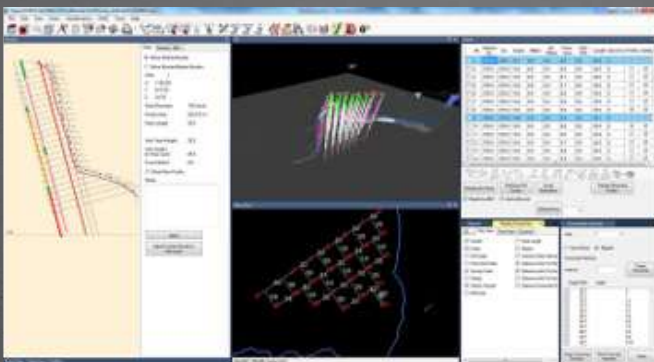
With the well-developed **MOBA Cloud solution**, you can network your construction site today. This guarantees real-time data exchange between the machine and other systems. Access your project data anytime and anywhere and use it for analyses and to discover new optimisation potentials. How to increase your ROI.

SCREENSHOTS

INTUITIVE, INNOVATIVE, INDICATIVE















NOW BIM-READY WITH 3D



- » Import 3D models from Quarry X into the system for even more precise work
- » Entwerfen Sie das 3D-Modell der Sprenglöcher mit den erforderlichen Winkeln
- » The 3D model is displayed on the system, every angle, depth and position of the hole is automatically saved in the system
- » The operator only has to position the machine as shown, adjust the orientation of the mast and start drilling



MDS SYSTEM COMPARISON

		
FEATURES LIST	MDS-1000	MDS-2000
 Parallelsim correction	<input type="checkbox"/>	<input checked="" type="checkbox"/>
 Angular alignment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 Depth control (drill stop)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 Rod change	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 Telescope (direction finding)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
 Machine data acquisition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
 Drill protocol	<input type="checkbox"/>	<input checked="" type="checkbox"/>
 GNSS compass (direction finding)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
 Laser reference for depth control	<input type="checkbox"/>	<input checked="" type="checkbox"/>
 Telemetry	<input type="checkbox"/>	<input checked="" type="checkbox"/>

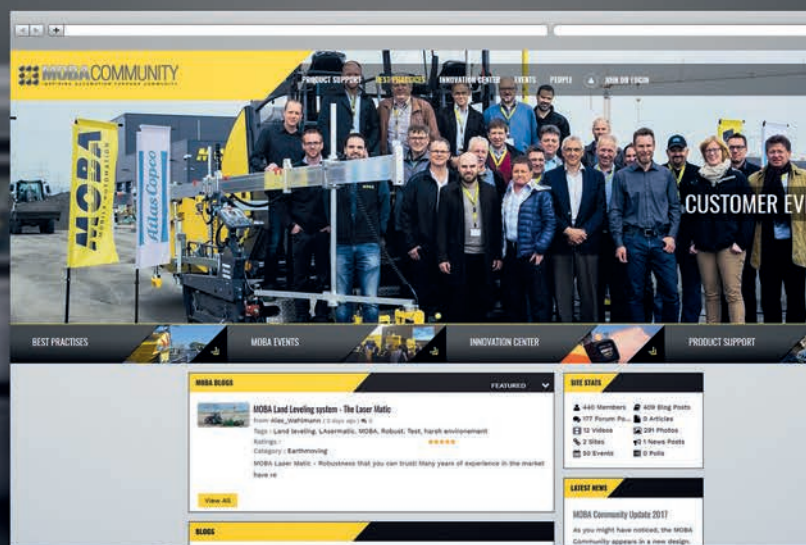
THE EXPERT NETWORK - INSPIRING MOBILE AUTOMATION

Would you like to know how the system is already being used successfully by our customers? In the online expert blog MOBA Community you will find everything from job stories to feature releases, discussion forums and field reports to inform yourself extensively about our technologies.

In addition to blog contributions on the automation solutions of MOBA Mobile Automation AG, the community offers numerous forums, discussions, event announcements and expert contributions on a wide variety of automation topics for construction machinery. As an interactive, international platform for the exchange of industry news, the MOBA Community is the point of contact for all those who wish to actively participate in the development of this industry.

Contribute your own expertise and perspective in interesting dialogues, ask important questions about the (r)evolution of the industry and exchange opinions and experiences with other experts.

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The **MOBA GROUP** is a leading global player in the world of mobile automation. Close collaborations between the headquarter in Limburg an der Lahn and subsidiaries all over Europe, Asia, North and South America create new perspectives for recent and future developments..

Superior technical know-how and more than 40 years of experience combined with an international dealer network guarantee a premium support – **worldwide. INSPIRING MOBILE AUTOMATION** - this is what the **MOBA GROUP** stands for since more than **40 years**.

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