CRANEMATE® GRAB DREDGING MONITORING SYSTEM

Cost-competitive monitoring system providing full insight during clamshell dredging

UNDERWATER SPECIALISTS

Cost-competitive grab dredging monitoring system providing full insight

The CraneMate[®] is a 3D grab dredger monitoring and registration system that can be (retro)fitted on virtually any wire crane dredger. The system visualizes and registers the dredging process in real time, and facilitates achieving high dredging tolerances at a minimum of over-dredging. The CraneMate system is designed to excel in common dredging environments known for intense dirt, humidity, and vibrations.

With 60+ DredgeMate systems active in the field, Dredge-Mate[®] is the clamshell dredging monitoring and control system of choice for operators around the world. An achievement that is largely attributed to 16 years of field feedback processed in ever-more capable systems. As a result, the system contains a well-developed and operator-friendly MMI, including all available functionalities for effective grab dredger monitoring.



KEY FEATURES

Highly accurate for minimum of over-dredging

Our CraneMate® systems are known for their high levels of accuracy. Among others, we incorporate sensors of the highest quality throughout the entire clamshell dredging visualization system to achieve these levels.

2 Compact and easy to integrate

The compact size of the CraneMate leaves sufficient room in the operator cabin - even in cabins of smallersized land excavators.





3 Cost-competitive system

The CraneMate monitoring system is entirely based on digital sensor technology and features a simple yet effective system architecture. This combination yields a cost-effective system that includes all essentials for efficient wire crane dredging.

OTHER FEATURES

- Highly reliable system
- Safe dredging thanks to integrated warning functionalities
- Highly customizable MMI
- High update rate for accurate and smooth process visualization
- Wide range of (terrain) data exchange possibilities
- 24/7 support for all systems in the field
- Remote access for effective troubleshooting
- Supports various crane attachments, including clamshells and orange peels



The standard CraneMate® system includes:

- 15" Rugged panel PC (other sizes available on request)
- Electronics box
- Sensors, including mounting materials
- Custom-size cables, including connectors
- Documentation
- Software license

The following features are optional:

HARDWARE OPTIONS

A 2nd industrial panel PC

A second monitor console provides the operator with parallel additional views in high detail (a side view in addition to the standard top view, e.g.) for optimal insight into the dredging process. A dual panel PC configuration, also, safeguards operational continuation in case one panel PC fails.

B Slave station, including monitor

A slave station panel PC facilitates remote monitoring of the dredging process in real time, such as from an office or a vessel's bridge. The setup allows for efficient cooperation between the crane operator and other involved personnel, such as a surveyor or barge master.

• Sensor cable protection

To ensure additional protection of sensor cables at vulnerable areas, cables can be covered in hydraulic hoses.

Spud pole height measurement

This option provides accurate measurement of the distance between the spud pole and the sea bed. As such, it provides accurate insight into the pontoon's anchoring operation. Measurement is performed by installing a rugged Seatools wire length measurement sensor or by a digital rotation sensor

Draft sensor

A draft sensor can be fitted for accurate pontoon draft measurement. This entails a 0-1500 mBar absolute pressure transmitter mounted in a stainless steel 316L housing, to which a certified (DNV) bronze slide valve is added.

Pontoon roll and pitch sensor

To maximize system accuracy in case the GPS antenna is not fitted to the crane itself, a roll and pitch sensor can be mounted on the pontoon. The sensor features a stainless steel 316L housing, and is provided with a Subconn[®] underwater connector.

G Slew sensor

In case crane heading cannot be derived from the DGPS positioning system, a slew sensor can provide accurate heading determination.





SOFTWARE OPTIONS

Dredging marks exchange module

By means of a wireless link, this module facilitates realtime dredging data exchange between different dredgers operating in the same area. Real-time, collective insight in the dredging terrain increases efficiency of subsequent dredging operations, or operations that run in parallel. This option requires a wireless connection between cranes. This connection is not included in the module, but can be delivered on request.

Safety warning module

This module facilitates safe clamshell dredging by enabling the operator to set limits on the operational range of the dredger and its components. The module warns the operator in case he threatens to exceed pre-set limits. By applying this module, the possibility of exceeding the maximum operational range is profoundly reduced.





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J Grid conversion module

This software module enables flexible conversion from the Lat/Long grid to the Northing/Easting grid. [

Remote access module for effective troubleshooting

Seatools' CraneMate systems can be executed with a remote access module for cost-effective and rapid troubleshooting. From our head office in the Netherlands, we assist operators on any system, anywhere in the world.

Languages

The standard CraneMate software can be delivered in English, German, Spanish, Portuguese, and Dutch. Other languages are available on request.

DIMENSIONS

PANEL PC

ELECTRONICS BOX









SPECIFICATIONS

KEY SPECIFICATIONS CRANEMAT

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Power supply	24 V DC
Power consumption	Approx. 110 W
IP grade	
Electronics box	IP 66
Panel PC	IP 67
Sensors	100 m.s.w. dept
Additional data supply interfaces	Serial (2-4X), Et
Main dimensions	See detailed dra

"CraneMate has proven to be a beneficial tool for our dredging operation. It has provided the ability to accurately dredge within design tolerances, resulting in increased productivities and confidence in what we are delivering for our client" *Tom Harding, HEB Construction Ltd* 

CRANEMATE SEATOOLS 7

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