

Perfect solution for dredging applications : Liebherr's new HS 8300 HD

Nenzing (Austria) September 2015 – The HS 8300 HD is the largest duty cycle crawler crane of Liebherr's well-known HS series. The first model was recently sold to the Chioggia (Italy) based customer Zeta S.r.l. and will be installed on a ship for various dredging jobs in the Mediterranean Sea.



Rendering of the HS 8300 HD showing the duty cycle crawler crane on its future ship in the Mediterranean Sea

The HS 8300 HD combines the traditional robust design of Liebherr's range of heavy duty cycle crawler cranes with state-of-the-art technologies. It will be part of the equipment of a 41,000 t heavy ship manufactured by Cantiere Navale Vittoria S.p.A, which can be classified as hopper dredger ship. The ship is intended to maintain navigable waterways in the Mediterranean Sea, especially trough deepening those canals that are seriously threatened of becoming silted.

The strong uppercarriage of the HS 8300 HD is ideal for the high dynamic loads that have to be withstood during maritime operations like dredging. This not only means higher effective performance for the user but also reduced wear and correspondingly longer service life.

Mounted on a pedestal the crane has a weight of about 240 tonnes. It is equipped with a main boom of 41 m and an underwater 2-rope hydraulic clamshell with a capacity of 20 m³. For optimum performance the crane is fitted with two hydraulic freefall winches offering approximately 50 t of line pull each. The winches are outstanding in their compact design and easy assembly. The duty cycle crawler crane offers a maximum dredging depth of 25 m with hydraulic grab and up to 200 m depth with mechanical grab. The dredging depth can be automatically pre-set, thus regulating the maximum depth and ensuring flat dredging.

Powerful hybrid drive Pactronic®

The HS 8300 HD is the first construction machinery of Liebherr to be equipped with the hydraulic hybrid drive Pactronic®. This innovative hybrid drive based on hydraulics offers both economic and ecological advantages. Surplus energy is stored and subsequently regenerated so increasing the material handling capacity while at the same time significantly reducing fuel consumption. Both conventional V12 diesel engine offering 725 kW and the hybrid drive combined achieve a system power comparable to a conventional drive system with 1250 kW.

The hybrid drive is already a proven technology. It has been used in Liebherr's mobile harbour cranes since 2010 and has contributed to the consolidation of the world market leader position of this product line. The proven technology of the hydraulic accumulator ensures low maintenance requirements and maximum reliability. The reduced energy consumption considerably reduces emissions therefore causing much less environmental pollution.

In the development stage special attention was paid to an extended service life of the duty cycle crawler crane. Therefore, the steel fabrication of the basic machine is extremely solid and critical points were reinforced using extra high-quality materials such as carbon fibre. Furthermore, special production methods, including the use of automated welding robots, increase the machine's service life even under extreme operational conditions.

Duty cycle crawler cranes from Liebherr are well-known for their great number of possible applications. Apart from dredging the HS 8300 HD is suitable for a number of other material handling jobs like dragline operation or equipped with an orange-peel grab.

As other Liebherr machines the HS 8300 HD incorporates many components and system solutions developed by Liebherr. Apart from the homogeneous system this also guarantees high availability of spare parts within the Liebherr service network. The proven Litronic® control system which is based on CANBUS technology and includes all control and monitoring functions of the machine belongs to the standard equipment of the HS 8300 HD.

Mechanical Specifications :

HS 8300 HD

Weight (pedestal)	240 t
Max. Capacity	300 t
Boom length	41 m
Hydraulic Clamshell	20 m ³
Winches	2 x 50 t
Engine Liebherr V12	(725 kW) + Pactronic (525 kW)

Hopper Dredger Ship

Length	8.2 m
Width	19 m
Lightship Displacement	1.950 t
Full Load Displacement	7,400 t

Min. Draught (light ship)	1,64 m
Max. Draught (full load)	5,65 m
Engines	2 x MTU 16V4000 M53R 2 x 1492 kW @ 1600 rpm

Contact :

Tobias Fröhlich, Marketing

Phone: +43 80509 42128

E-mail: Tobias.Froehlich@Liebherr.com

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