

Purpose-built bulk handling cranes from REEL-NKM Noell

Floating bulk handling cranes operate in a specific niche. The competitive environment of this niche and the continuous and harsh operations these cranes are put through, supports the idea of building cranes that are especially designed for purpose. REEL-NKM Noell delivers purpose-designed bulk handling cranes for inshore and offshore operations.

Floating cranes have always played an important role in the direct transshipment of dry bulk, and still do to this day. Since the beginning of the 20th century, a significant amount of the bulk directly transshipped between sea going vessels and barges has been handled by floating cranes. Also at bulk terminals with quay facilities, floating cranes are often used at peak times and even as primary loading capacity for handling the bulk cargoes that are directly transshipped.

Floating cranes are very flexible, mobile and able to handle many different types of bulk requiring different types of grabs. One or two floating cranes can, for instance, be positioned between vessel and quay, making it possible to handle relatively large vessels at relatively shallow quays. It is on the back of this highly competitive environment that REEL-NKM Noell has been challenged and driven to develop and continuously improve its floating bulk handling crane knowledge. And NKM Noell floating cranes have been developed for inshore and offshore operation.

What sets bulk handling cranes apart from any other type of crane is the high utilization requirement resulting in high requirements for uptime, efficiency and specifically energy consumption. REEL-NKM Noell believes that bulk handling



The REEL-NKM Noell single boom crane is specifically designed for continuous duty, high uptime and efficiency, and low energy consumption.

operations in this demanding environment cannot be fulfilled by standard cranes, but require purpose-designed and -built cranes.

DESIGNED FOR A LIFETIME

The result is a crane portfolio of high capacity — high efficiency lemniscate and single-boom cranes for continuous duty inshore and offshore operations. The lemniscate — with its ingenious balanced level luffing system to keep the crane tip low and thus reduce the pendulum length — is at the top of the range. The REEL-NKM Noell single-boom crane offers comparable capabilities at a lower cost. Both crane lines feature high uptime due to build in redundancy and robust design for longevity. Examples include the design lifetime of the slewing bearing of 30 years while the slewing and luffing movement is performed by four motors each.

KEEPING UP PRODUCTION RATES

The efficiency of the cranes is enhanced on both the automation part and the operator part. The hoisting speed has been made load-dependent. The actual measured load of the grab is input for the hoisting speed settings of the crane. But regardless of the automation, the operator still has an important role in the overall efficiency of bulk

handling cranes. Creating the best possible position and environment for the operator to do his work is therefore taken very seriously. The REEL-NKM Noell cranes feature full and direct operator visibility on the complete ship's hold and the entire path of the grab, allowing for safe and fast operation. A comfortable and ergonomic workplace for the operator is created, and the working conditions are optimized using dynamic cabin suspension. This will enhance operator performance, reduce fatigue and stress, and thus lead to increased efficiency and enable him to continuously keep up the required production rate.

20% ENERGY & CO₂ REDUCTION

Energy consumption is more detrimental to bulk handling OPEX than in any other operation. REEL-NKM Noell started to address this with optimizing the geometry for balance, but the biggest gains have been achieved by complete electrification as it takes out the conversion of electric into hydraulic power. Power of lowering movements is accumulated and stored in supercaps or flywheels, providing an even load on the generators, increasing their efficiency and lifetime and lowering fuel consumption, maintenance costs and soot emissions. All in all, this has resulted in a 20% saving in energy consumption and thus CO₂ emissions. In addition to energy savings, taking out the hydraulics has the advantage that it is much cleaner in the dusty bulk handling environment. And taking out the risk of possible oil-spills adds to the green image of the REEL-NKM Noell bulk handling cranes.

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