STRAATMAN
Mooring Systems
+31 (0)78 - 612 53 00 ◂ info@mfstraatman.com ◂ www.mfstraatman.com
Lindtsedijk 54 ◂ 3336 LE Zwijndrecht ◂ The Netherlands

A Unique Approach to Load Cell Calibration

Introduction

Accurate load cell calibration is crucial for safe maritime terminal operations. Load cells in quick release hooks monitor mooring line forces, allowing timely intervention in heavy weather. Annual mandatory calibration, as per SIGTTO and OCIMF guidelines, ensures reliable data and prevents safety risks.

Figure 1 - Conventional calibration operation

Straatman's Innovative Calibration Method

Straatman's load cell calibration method offers a substantial advantage over traditional approaches.

Conventional methods require 3 persons for 5 days per jetty. Straatman's calibration requires 1 person for 2 days per jetty.

This process **minimizes downtime** and eliminates the risk of being unable to calibrate, ensuring optimal efficiency of the calibration process. Apart from this the load cell can be seized in the hook which causes that load cell to not be removed. Straatman's calibration method has no need to remove the load cell.

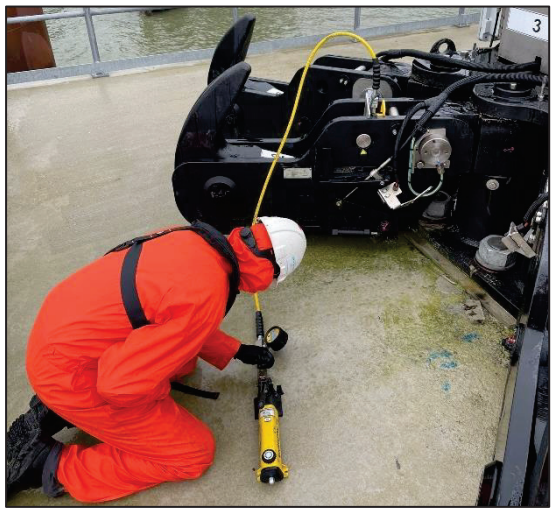

Figure 2 - Straatman in hook load calibration

The Calibration Process

Straatman's hooks feature a cutout designed to accommodate an axle or block. This allows for the insertion of a hydraulic press between the hook and the swivel piece. By applying pressure to the hydraulic press using a hand pump, a known load can be applied on the load cell. This load is measured using a calibrated digital pressure sensor, and the output from the load cell is compared with the expected value. Any discrepancies between the actual and expected loads indicate a need for adjustment or recalibration.

Benefits of Straatman's Method

- **Minimal Downtime:** By avoiding the need to remove load cells from the hooks, Straatman's approach reduces downtime from 1 week to 2 days.
- **Accuracy:** The use of calibrated digital pressure sensors and in-situ measuring ensures precise measurement of applied loads, leading to accurate calibration results.
- **Minimizing risk:** The calibration process has no need to remove load cells which can be seized.

Conclusion

Straatman's innovative approach to load cell calibration offers a valuable solution for maritime terminals seeking to maintain the accuracy and reliability of their mooring load monitoring systems. By streamlining the calibration process and minimizing downtime, increasing accuracy and minimizing risk, Straatman helps to enhance operational efficiency and safety.