



Flange Measurement Tool

Measuring flanges of monopiles during installation

 Edition

Flange Measurement Tool

The innovative Flange Measurement Tool is one of the latest products of Pliant Offshore. The tool is designed to measure in real-time the flatness/taper and diameter/ovality of a monopile, while at the installation location. It also contains an automatic north line detection.

By using state-of-the-art in-house developed 3D point cloud technology in combination with laser sensors, we measure and virtually reconstruct the measured flange.



Pliant Offshore
The measurement specialist
in Offshore

Pliant Offshore is highly specialized in measuring solutions and control software for the international offshore market. Pliant Offshore equipment and software assists with monitoring of cable, pile, pipe, turbine, vessel and structure during installation, inspection and maintenance.

Quick, highly accurate and safe

The Flange Measurement Tool is created with state-of-the-art technology and highly reliable software. The composition of the system allows to have a total measurement time of only 10 minutes. Upscale the safety of your personnel: the Flange Measurement Tool can be used fully remotely without any operator on the flange!

Cost efficient

The Flange Measurement Tool has proven to save valuable time per monopile and unnecessary errors in the installation process on the flange. The measurement is highly reliable and no human checks and controlling are required. With the data from the Flange Measurement Tool, the operator will have a trustworthy substantiated observation.

Taper Measurement

The taper of the 168 bolt holes on the flange are measured from multiple angles and validated on allowed tolerances. The exact height of the inner and outer diameter is measured. This data will be used to determine whether the deviation is within specific tolerances.

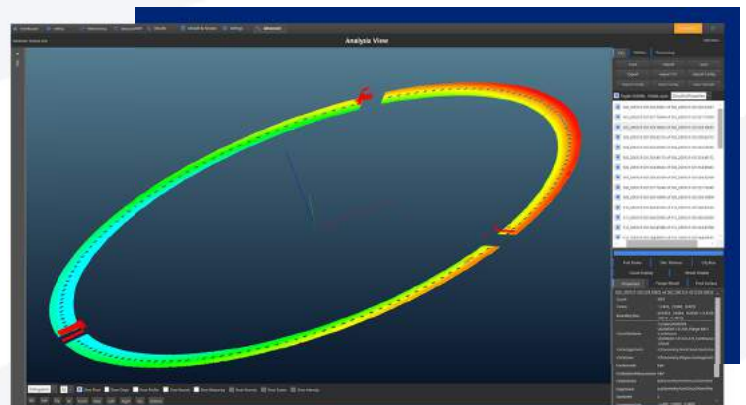
Ovality Measurement

To measure the ovality, a laser scanner system will perform an individual scan of all 168 bolt holes of the monopile mount system. The scans of the opposite bolt holes will be used as a reference. The Pliant Software algorithms convert the data into a high quality 3D point cloud which can be perceived in the Flange Measurement Tool HMI.



Key Features

- Total measurement time of 10 minutes
- Up to 0.01 degree accurate
- Detection of ovality with 0,02mm accuracy
- Instant report after completed measurement
- System scalable for all ranges of monopiles
- GPS Location registration
- Reliable in all weather conditions



Handling tools for placing

A camera system on top of the Flange Measurement Tool assists the operator during final positioning of the Flange Measurement Tool on top of the monopile. It will also allow the operator to determine the north line of the monopile. The camera system will save the video of this process to evaluate potential deviations or manual failures.

Advantages

- Measurement setup with remote controlled start and stop
- Total measurement time of 10 minutes
- Battery powered system with 10hr operation time
- Inclination heading of the flange 0,05 degrees accurate
- North line measurement
- Taper measurement of bolt holes with 0,02mm accuracy
- Detection of ovality with 0,02mm accuracy
- Diameter measurement of bolt holes in flange and detection of deviations in centers
- Flange height and taper measurement on preset positions
- Automatic report generation
- State-of-the-art technology
- Pre-installed weather conditions tools like sunscreen for scanner and water removal system



Interested in the Flange Measurement Tool?

Get in touch with us!

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