

Engineering  
**Lifting Equipment**  
Technical Services

**Wind**

## Monopile-Gripper & Upending Tool

**Monopile Installation 2.0**  
Exceeding the limits!  
Floating Ops!



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## Lifting Equipment

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### Wind

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### Next generation Monopile-Grippe & Upending Tool WLL 2.100t

#### **„One-Size-Fits-All“**

The Next Generation Monopile Rib & Upending Tool is compatible with all monopile diameters planned up to 2025 due to its modular design and covers monopiles up to 1,800 tonnes, with flanges up to 2,100 tonnes deadweight. The tool can be variably used, whether on jack-up or floating installation vessels!

#### **High installation speeds**

The optimised dead weight (95 tonnes of the lifting gear in relation to the load to be lifted) and the new, field-proven design enable rapid monopile installation by significantly increasing the raiser speed. Lifting operation times between 60 and 90 minutes are possible, whereby the upending only requires between 10 and 15 minutes!

#### **High process reliability**

Only one crane is needed to raise the tool. Even in the case of an unfavourable monopile position or with an inclined attachment angle, a controlled attachment process is guaranteed. Even in the case of the floating installation, the tool arm, which can be swivelled around all axes, allows an diagonal pull with up to 5° angular rotations and a relative movement of the crane boom. An optional catcher and guide system completes the setup. The robust guide system prevents uncontrolled collisions or snagging. This significantly improves control when removing the UET (Upending Tool) from the monopile flange after installation.

- More speed in the raising process.
- Less waiting time in bad weather.
- Greater deployment intervals are possible!

#### **Flange-optimised solution**

Thanks to the patented solution, no further damage to the flanges is possible:

- A dynamic clamping system optimises the introduction of the load into the monopile flanges.
- Additional lower grippers are optionally available to further reduce deformations and stresses.
- Reduction of stress by 25% in the flange area through a targeted transfer of force (from the flange) into the monopile bar.

This offers the best possible protection for monopiles in order to avoid life-shortening overstresses!

#### **Offshore service support**

We are also on hand for difficult load cases. We offer offshore service support with our own teams as required, as well as professional spare parts management and maintenance monitoring, including remote maintenance and a service back office. This means that we can also react at short notice in the event of a malfunction.

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