

Floating Wind Turbine Installation Vessel



Description

This self-propelled heavy transport/offshore installation vessel, with DP2 capability, is able to transport and install multiple fully assembled wind turbine generators of the currently largest known type whilst remaining floating.

The system incorporates a multifunctional seafastening, a fully motion compensated crane and a temporary system for turbine to foundation connection.

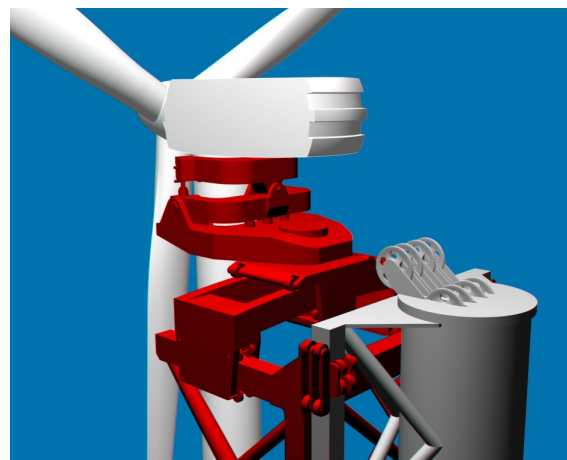
Performance

Operational conditions

Installation significant wave height	1.5 m
Transport significant wave height	2.5 m

Principal dimensions

Overall Length	160.0 m
Beam	38.5 m
Depth Main Deck	14.0 m
Draught:	8.5 m
Deadweight	19000 t
Speed	14.0 kn
DP class	DP2
Crane capacity	800 t



Vuyk Engineering Rotterdam B.V.
Naval architects, Marine engineers, Consultants

P.O. Box 1, De Linie 7
2900 AA Capelle aan den IJssel
Phone +31 (0)10 450 25 00
Fax +31 (0)10 458 72 45
Email vuyk@vuykrotterdam.com
Website www.vuykrotterdam.com

VER project 08.134

Values are for presentation only

Floating Wind Turbine Installation Vessel



Installation Spread

The vessel will be capable to load turbines with the same crane as for installation. The seafastening reduces the loads on turbines and vessel in transport conditions. The seafastening is also used to move the turbines from and to the crane and it includes a ballast tank to decrease stability and increase inertia when less to no turbines are left on deck. Thereby, roll motion behaviour will remain comparable with or without turbines.

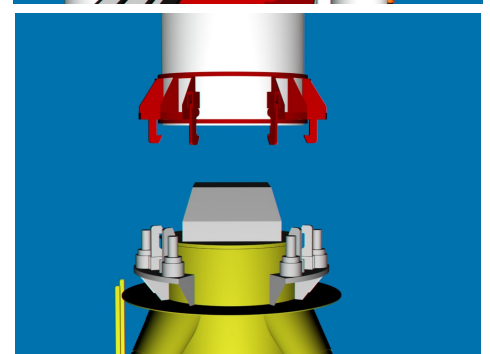
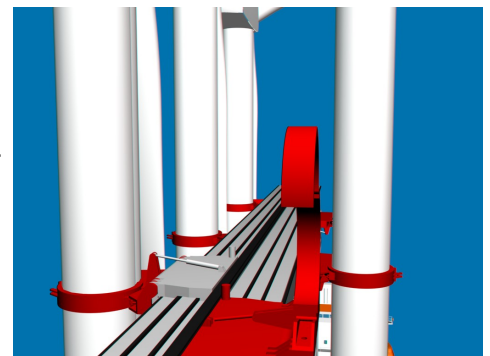
The crane includes tracks in longitudinal and transverse direction with a trolley supporting and controlling the turbine position. Vertical motion compensation is added for the third direction.

At the bottom of the tower and top of the foundation, a removable combined guide, impact and clamping system is foreseen for the touchdown. It ensures that the crane can disconnect immediately upon touchdown.

Benefits

The system provides the end user with the following benefits:

- More efficient installation due to reduced offshore lifting operations.
- Allows turbines to be assembled, tested and commissioned onshore prior to load out - increasing overall reliability.
- Independent of water depth and soil conditions
- High cargo capacity
- Efficient use of workable weather conditions.
- High transit speed.



This concept is developed as starting point for further specification on clients requirements. These will be incorporated in the basic design to follow.

VER project 08.134

Values are for presentation only

Vuyk Engineering Rotterdam B.V.
Naval architects, Marine engineers, Consultants

P.O. Box 1, De Linie 7
2900 AA Capelle aan den IJssel
Phone +31 (0)10 450 25 00
Fax +31 (0)10 458 72 45
Email vuyk@vuykrotterdam.com
Website www.vuykrotterdam.com