

NAVCONSULT

VOITH



MAINTAINER

WINDFARM WORKBOAT

MAINTAINER

The MAINTAINER closes the gap between small crew transfer vessels (CTV; < 30 m) and bigger offshore supply vessels (ASV/ PSV; > 50 m). Characterized by its spacious deck it can accommodate various fit-for-purpose containers suits for a diversity of maintenance jobs. In order to service the far-offshore windparks it features excellent sea worthiness combined with an endurance of 14 days. Thus, the new ship is designed to offer a wide range of abilities in combination with a reasonable and cost-effective size.

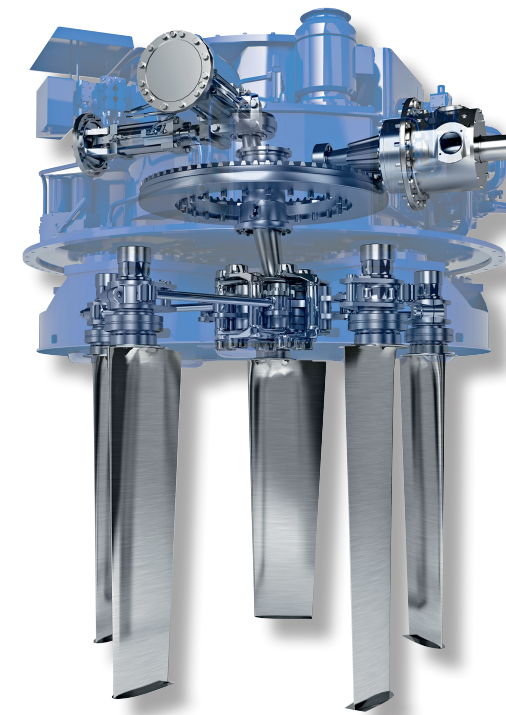


Multipurpose workboat for offshore windfarms

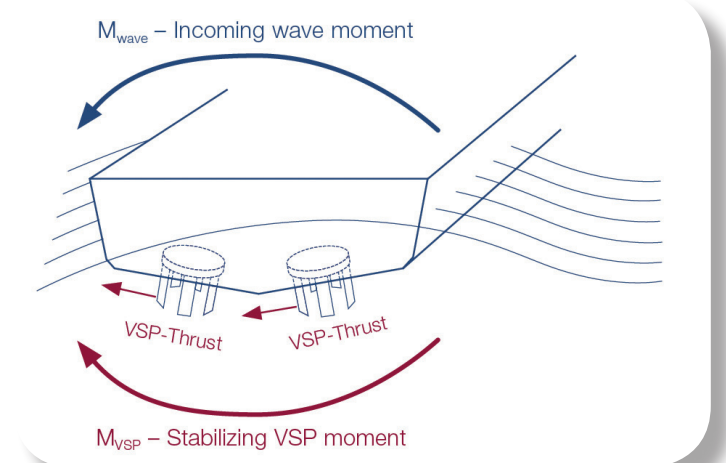
THE MAINTAINER SUITS BEST FOR A VARIETY OF JOBS

- Safe and comfortable transfer of technicians and material into the offshore windfarm and onto the turbine and other structures like platforms
- Guard vessel and marine coordination
- Survey works, structural health inspections
- Site scans
- ROV works
- Diving support
- Turbine oil change and maintenance works

VOITH SCHNEIDER PROPELLER



Propelling and steering – forwards and backwards, sideways and more: The VOITH Schneider Propeller (VSP) allows thrust in all directions and at all levels – fast, steplessly and accurately. A rotating body with four, five or six blades moves around its vertical axis. Like the tail of a dolphin, the propeller blades generate thrust by additional oscillations around their own axis.



Moments and forces during ship's rolling

VOITH ROLL STABILIZATION

Extending the operational window with VOITH Roll Stabilization generates additional income for the ship owner due to more working days as VRS facilitates safe offshore support operations even at severe weather conditions. It also increases the comfort of the crew: their demanding jobs require health and well-being. Additionally, the safety of cargo, ship and crew is enhanced.

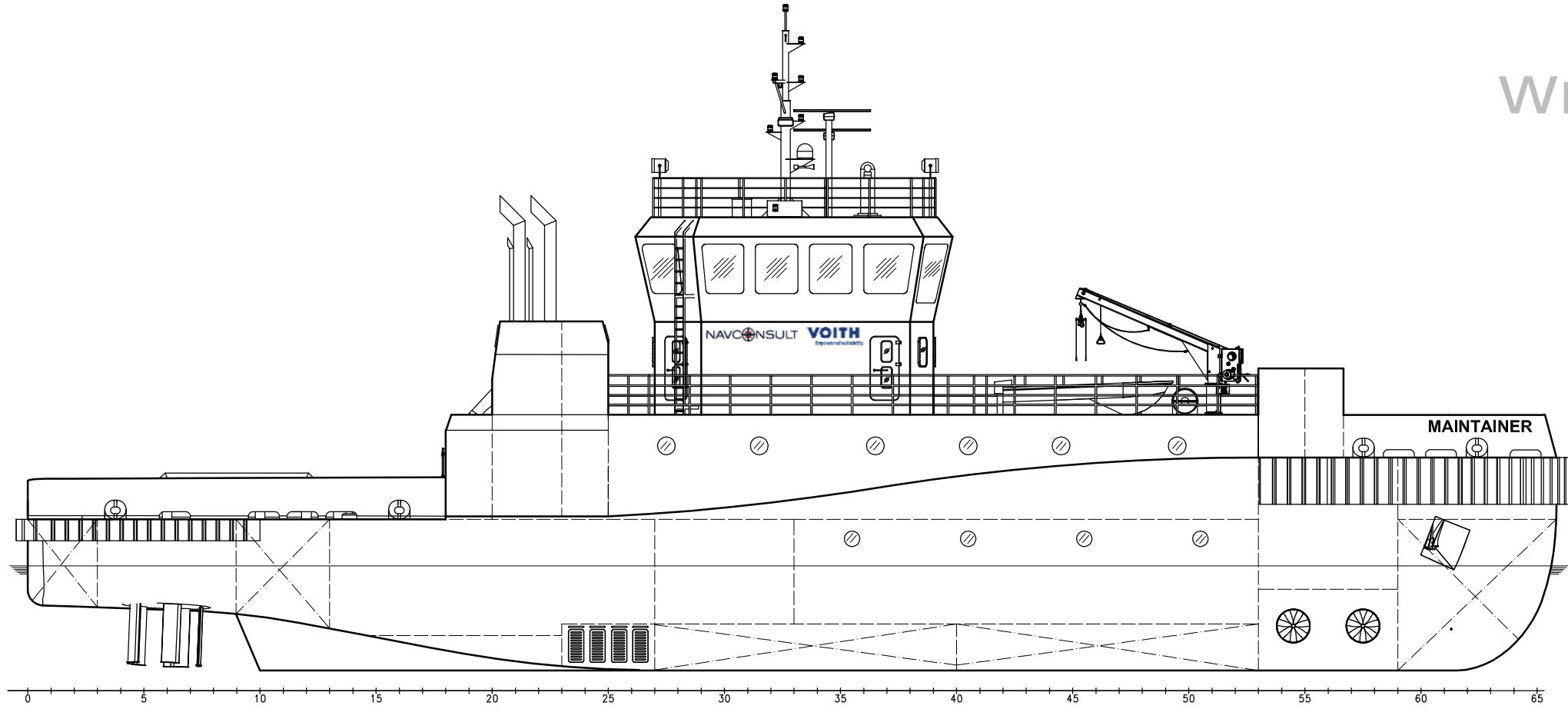
FOCUS ON BEST QUALITY AND HIGH RELIABILITY

- High comfort for crew and pax, among others provided by VOITH Active Roll Stabilization
- High offshore accessibility around the year
- Excellent station keeping capabilities with VOITH Schneider Propellers
- Wide range of operation possibilities
- High flexibility and modularisation of equipment
- Free deck space to transport cargo, equipment and containers

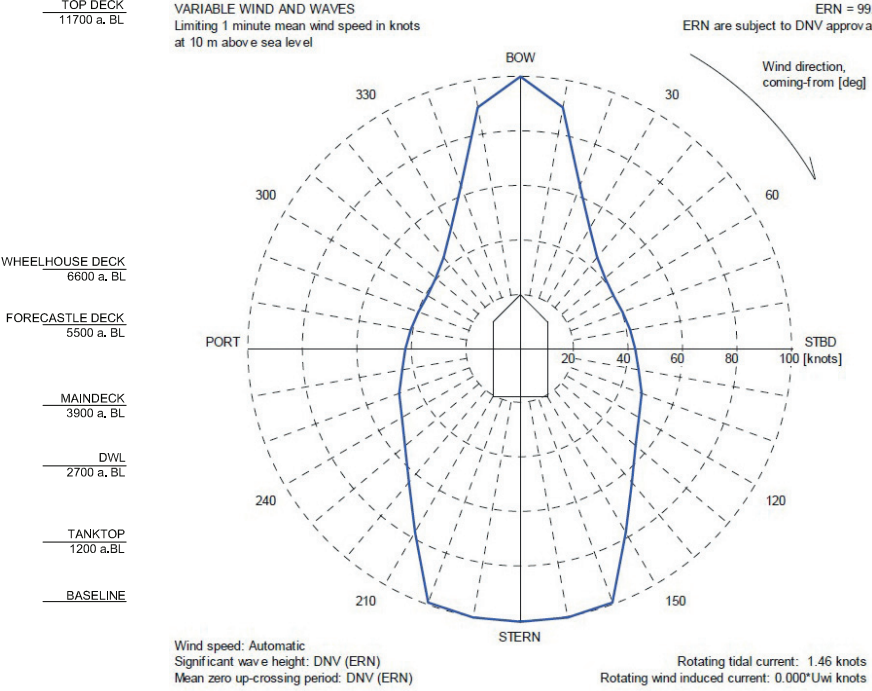
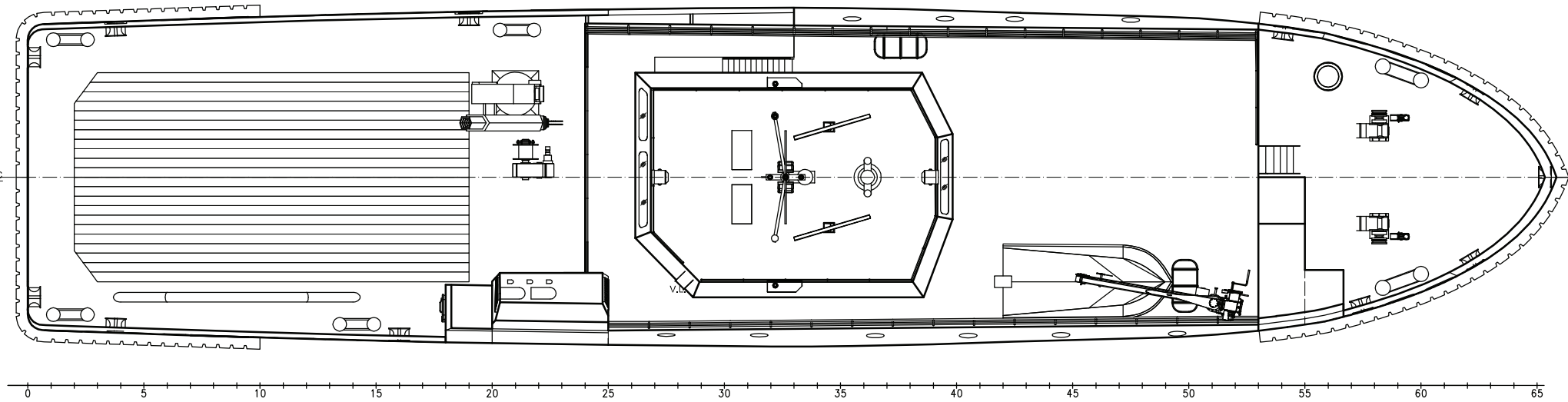
MAINTAINER

WINDFARM WORKBOAT

SIDE VIEW



TOP VIEW



MACHINERY

MAIN ENGINES:	2 x approx. 800 kW
PROPULSION:	2 x VOITH Schneider VSP 18R5 ECS/150-1 with roll stabilization
BOW THRUSTER:	2 x VOITH Inline Thruster VIT 850-200 (200 kW)
GENSET:	2 x approx. 250 kW 1 x approx. 120 kW
DP-SYSTEM:	optional (max. DP2)

GENERAL

NAME:	MAINTAINER
CLASSIFICATION:	GL 100 A5 RSA(200) E IW MC AUT
TONNAGE:	< 500 GT

PERFORMANCE

SPEED Service/max:	12/14 kn
ENDURANCE:	approx. 14 days
CREW:	5 + 1 Steward
OWEA SERVICE CREW:	max. 12 persons

DIMENSIONS

LENGTH o.a.:	39,80 m
LENGTH WL:	39,40 m
BREADTH o.a.:	8,75 m
DRAUGHT Design:	2,70 m
DEPTH Maindeck:	3,90 m

ACCOMMODATION

CREW:	5 Crew + 1 Steward 4 x 1 and 1 x 2 cabins with 4 x bathroom, messroom, galley 1 x office/additional cabin
PAX:	6 x 2 bed cabins changing room with shower clients room/Day mess

MISSIONS

REMOTELY OPERATED VEHICLES (ROV)

A complete set for an inspection class ROV will be installed in a containerized and modular manner and stored on board at the aft deck. This configuration shows the equipment assembled by MBT GmbH. It's especially designed for economical underwater inspections, and thus perfectly suitable for periodic inspections of the windturbine foundations required by the authorities. Flexibly equipped with various sensors the ROV performs multiple tasks, e.g. measuring wall thickness of the steel structures, checking cathodic protection, taking pictures, videos and sonar images of scour protection and J-pipes etc.



DIVING SUPPORT



A complete set for offshore diving can be installed in up to five 20' containers and loaded on the aft deck in two layers. It contains a Diving Control Container equipped with three air supply connections for two divers and one standby diver, three diver air supply units, and two diver communications, a Compressor Container with high and low pressure air supply, the Launch and Recovery System L.A.R.S. LITE, and the Diving Decompression Chamber. All equipment will be provided with the necessary certificates, e.g. IMCA, DNV GL, LR, BV. The depicted systems will be supplied by Taucher Heros GmbH.

OIL CHANGE



One part of service on WTG is the oil change on gearboxes. This will be done in following steps:

1. Disposal of waste oil
 2. Flushing of gearboxes including attached devices
 3. Optional endoscopic analysis of gearbox
 4. Exchange of filters
 5. Refill with new oil as per specifications
- The company Speedwind Offshore GmbH has therefore 2 x 20' Containers which can be used from a vessel to safely carry out the offshore oil change.

CREW TRANSFER

One of the main goals of the MAINTAINER-design is to increase the accessibility onto and back from the structures in the windfarm for the service technicians during the whole year. Therefore, the vessel is equipped with a DP-System together with an optional active access system (displayed the "Momac Offshore Access System – MOTS") which can be installed on the fore or aft free deck to guarantee a safe transfer to the boat-landing. This combination between the propulsion and the access system will increase the possibility for a safe access even up to 2,0 m Hs. During good weather periods it is also possible to increase the amount of services per day even more by using the MAINTAINER as a hub for the two optional offshore ribs.



NAVCONSULT

The planning, consulting and engineering office NavConsult offers comprehensive and practical maritime know-how from one source. Founded in 2006, their employees provide highly specialized customized consulting services.

One of the main focuses is the development of tugs, pontoons and specialized vessels in the offshore sector. The range of services goes far beyond shipbuilding. NavConsult also assumes planning, coordination, monitoring and documentation of projects, e.g. for offshore wind farm and heavy lift transport projects.

As a member of the SCHRAMM group, NavConsult is able to plan and implement large and very large projects that go far beyond the possibilities of pure engineering offices.

MARINE ENGINEERING BY VOITH TURBO SCHNEIDER PROPULSION

VOITH offers technically mature state-of-the-art offshore vessel design packages. Experienced senior naval architects combine decades of operating experience with the latest developments in naval architecture and propulsion technology.

Alongside their offshore shuttle design activities, the naval engineers of VOITH offer a range of standardized and customized design packages for complete windpark vessels. These comprise naval architecture design services such as: Hull lines, intact and damage stability calculations, general arrangement plans, diagrams for machinery and outfitting systems, structural design and strength calculations, class approval drawings.



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