FRS WINDCAT

World's first hydrogen-powered CTV for the german off-shore-wind industry to make green energy even greener

HYDROCAT 55

QUICK INFO

Max speed [knots]	26,5
Service speed [knots]	25
Consumption ltr/ Hr at service speed (100% diesel)	340
Consumption ltr/Hr at service speed (Dual-Fuel)	270 ltr/hr + 27.2 kg H2
Consumption ltr/ Hr at 20 knots (100% diesel)	240
Consumption ltr/Hr at 20 knots (Dual-Fuel)	144 ltr/hr + 34 kg H2
Carrying capacity [tons]	6
Bollard push [tons]	12.8
Bollard push [tons] (using Windgrip)	22
PAX	24

Dimensions	
› Length over all [L.o.a.]	25.0 m
› Beam over all	7.3 m
› Operational Draft	1.9 m
Additional features	WindGrip system, isolated carbon fibre passenger area with reduced noise level ‹ 65 dB, certified for dangerous goods
Total deck space	Fore deck 51 m^2 Aft deck 11 m^2 Deck plug installed, possible to dismantle
Gross tonnage [GT]	115
Crane	GUERRA MC65.55.A2 2t SWL

Pushing **Energy** to the **Max**

FRS Windcat Offshore Logistics GmbH
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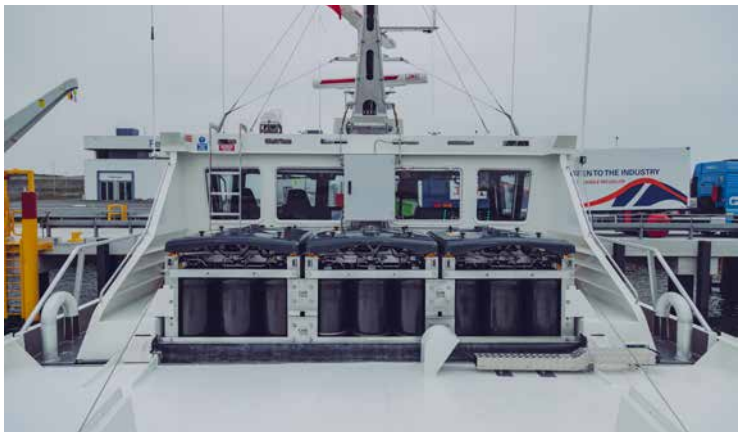
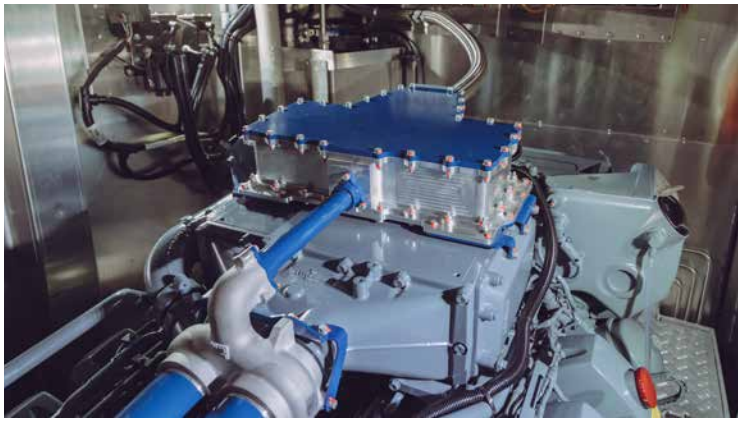
FRS WINDCAT

MANAGEMENT SYSTEM CERTIFICATION
DNV
ISO 9001 · ISO 14001
ISO 45001

HYDROGEN





The Hydrocat integrates a hydrogen solution into the well-known and proven Windcat MK3.5 design. The vessel can use the already existing diesel engines and runs with two dual fuel engines with in total 1498 kW installed power. During operation the Hydrocat can operate with a combination of Hydrogen and MGO to reduce more than 50% of the traditional fuel usage and associated emissions.

The vessel is equipped with 3 hydrogen racks. Each rack containing 9 cylinders, which on store the hydrogen at 350 to 500 bar. Whether due to difficulties with availability of hydrogen or in case of an issue within the hydrogen system, the system automatically will switch over to operate purely with MGO, so what the vessel always has a backup.

The vessel design MK3.5 is already being very energy efficient and low fuel consuming, therefore this is the perfect possibility to safe even more emissions. Futhermore Hydrogen is considered one of the cleanest and greenest fuels that can be produced compared to other available fuels, because it is being produced from water through electrolysis.

The Hydrocat is a vessel that excels in vessel performance, safety, comfort and has already reduced its fuel consumption to 300 liters per hour at 25 knots. In addition, noise levels have been reduced to extremely low values (<65dB) at maximum speed for extra comfort by separating the passenger area from the main structure.

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INFO

Year of building	2022
Construction	Aluminium hull and wheelhouse, carbon fibre passenger accommodation
Main engines	2 X MAN D2862 dual fuel engine, 1.498 kW
Propulsion	CPP
Flagstate	German Flag Offshore Service Craft
Classification	Lloyd's Register
Fender system	Sectional High Performance Fender with adjustable step unit

WINDGRIP

The patented WindGrip access system was developed by Windcat Workboats, the Dutch joint-venture partner of FRS Windcat Offshore Logistics, to increase the accessibility, safety and fuel efficiency.

The robust and efficient transfer system is equipped with several security systems and fail-safe mechanisms. Slings are wound around the boat landing tubes and hooked on to the nylon rope on the winch. By means of a control system, the vessel's master can activate the automatic tensioning of the winches.

The WindGrip system increases the contact pressure to the turbine by up to nine tons, which ensures safer transfer from vessel to turbine despite rougher sea conditions. Experiences throughout Europe, where 28 WindGrip systems are currently in use, show that up to 95% of fuel can be saved per hour. In Germany, it was already operational in several windfarms in the North and Baltic Sea.

In 2016, the WindGrip system won the "Renewable UK Health and Safety Award".

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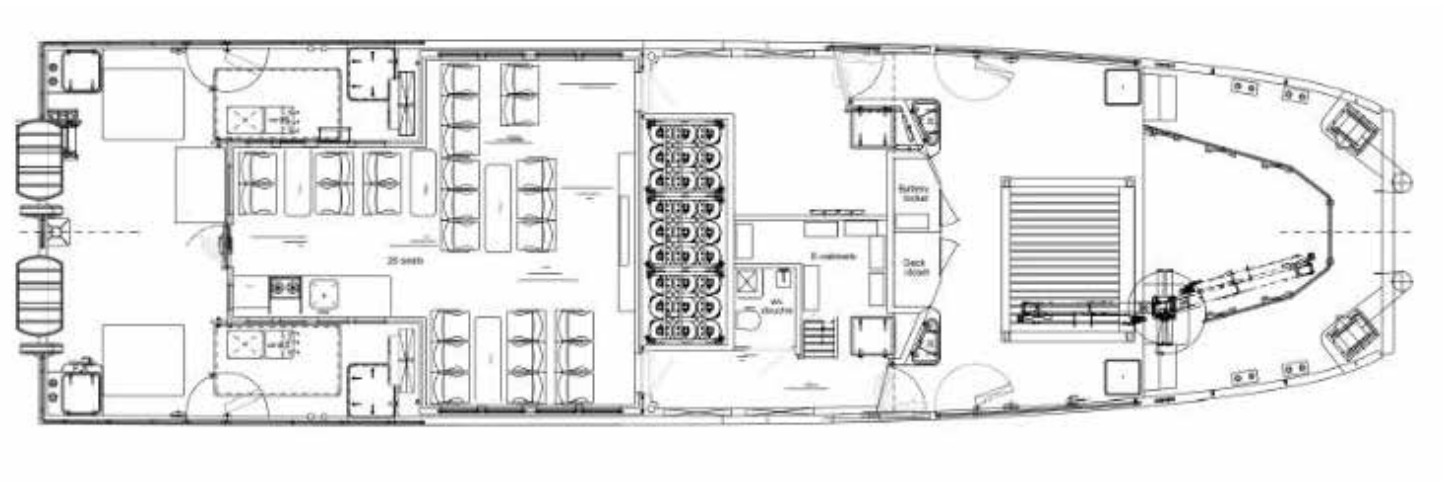

Accommodation

Comfortable seats and desk seating, heated room for sensitive goods. Seating is arranged for 24 industrial personnel on comfortable, reclining seats giving good outside views, and tables with computer points. A full entertainment set is provided with a games console. Cooking, coffee and tea facilities are available, as well as a shower, toilet and WiFi connection.

Storage

Large fore deck, laid out suitable for carriage of storage containers, generators or other cargo. Internal storage racks for bags and equipment.

Navigation equipment

As full MED approved marine electronics, double ECDIS, double radar, GPS, SART and Depth sounder, etc.

Key systems

- **› Electrical** 24/220 Volt
- **› Fuel** Total capacity of tanks 9,698 liter
- **› Fresh water** Total capacity of 648 liter
- **› Hydrogen** Total tank capacity: 8,7 m^3

Safety equipment

3 Immersion suits (26 possible),
30 Thermal protective aids,
30 life jacket, 2x Liferafts 35 pers.,
Defibrillator Defibtech DDU-100,
1x mob rescue sling, 1x rescue net,
Extinguishers: 15

- › 8 Dry powder
- › 2 foam
- › 5 CO_2

Other equipment (optional)

- › Refuel system with a maximum capacity of 80 lt/pm and a height of 30 meters
- › High pressure washers can be fitted if required
- › Equipment for de-icing of turbines

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