



## AHT goes Harms way

Designed by Hitzler-Werft in Lauenburg/Elbe and built by the Mützelfeldtwerft Shipyard at Cuxhaven/Elbe in 2005, *Primus* is a 100-tonne plus bollard pull anchor-handling tug chartered to Harms Bergung Transport & Heavylift GmbH & Co.

Designed as a conventional deep sea tug measuring 48.87m x 13.80m with a draft of 5.20m, the vessel has two MaK 9M25 heavy fuel oil burning diesels, each delivering a maximum continuous output of 2,970kW at 750 rev/min. These turn Wärtsilä 3,200mm diameter CPPs in fixed Lips HR nozzles via Reintjes gearboxes. There is one Becker high-performance flap rudder behind each propeller.

This configuration delivers a continuous bollard pull of 104 tonnes with a maximum of 108 tonnes at 110% engine output and a maximum free-running speed of 16 knots. The bow thruster is an electrically driven Wärtsilä-Lips CPP unit with a maximum thrust of 4.5 tonnes.

Fire Fighting Systems A/S of Norway provided a system to FiFi 1 standard driven off the main engines via a Kumera-Norgear step-up gearbox. The monitors have a capacity of 1,200m<sup>3</sup>/h each at 13 bar minimum. Auxiliary power is supplied by a single Caterpillar driven generator set of 625kVA plus two 840kVA shaft generators.

On the aft deck is an electrically driven Hatlapa towing winch of the waterfall type with two drums on the lower level. These carry 300m of steel wire for anchor handling and 800m spare steel towing wire of 70mm diameter each. The single upper drum carries 1,200m of towing wire of the same dimensions. A steel frame is built around and above the towing winch, which can carry a container or a storage winch. In front of the winch is a large towing fairlead. Other deck items include two tugger winches with a pulling power of 10 tonnes, a 250-tonne SWL stern roller with a width of 3.00m and a diameter of 2.15m for anchor handling purposes. In front of the stern roller, Karmoy forks and pins with a SWL of 300 tonnes are fitted. A Hatlapa anchor winch with warp heads on both sides is located on the fore deck. An Effer hydraulic crane is located on the tweendeck.

In the wheelhouse, the controls are arranged in a desk type console against the full width of the forward bulkhead. A second control stand is located aft, providing a good view of the winch area and the towing deck. Nav aids include two ARPA radars, ECDIS and GMDSS Area 4.

The accommodation areas include seven officer cabins, eight crew cabins providing quarters for 18 persons, together with galley, mess stores and sanitary space.

### CHARTERER

Harms Bergung, Hamburg, Germany.

### BUILDER

Mützelfeldtwerft Shipyard, Cuxhaven, Germany.

### DESIGNER

Hitzler-Werft, Germany.

### DIMENSIONS

Length overall	48.87m
Breadth	13.80m
Maximum draft	5.20m

### MAIN ENGINES

Two MaK 9M25 heavy fuel oil burning diesels, each delivering 2,970kW at 750 rev/min. These turn Wärtsilä 3,200mm CPPs in Lips HR nozzles via Reintjes gearboxes.

### PERFORMANCE

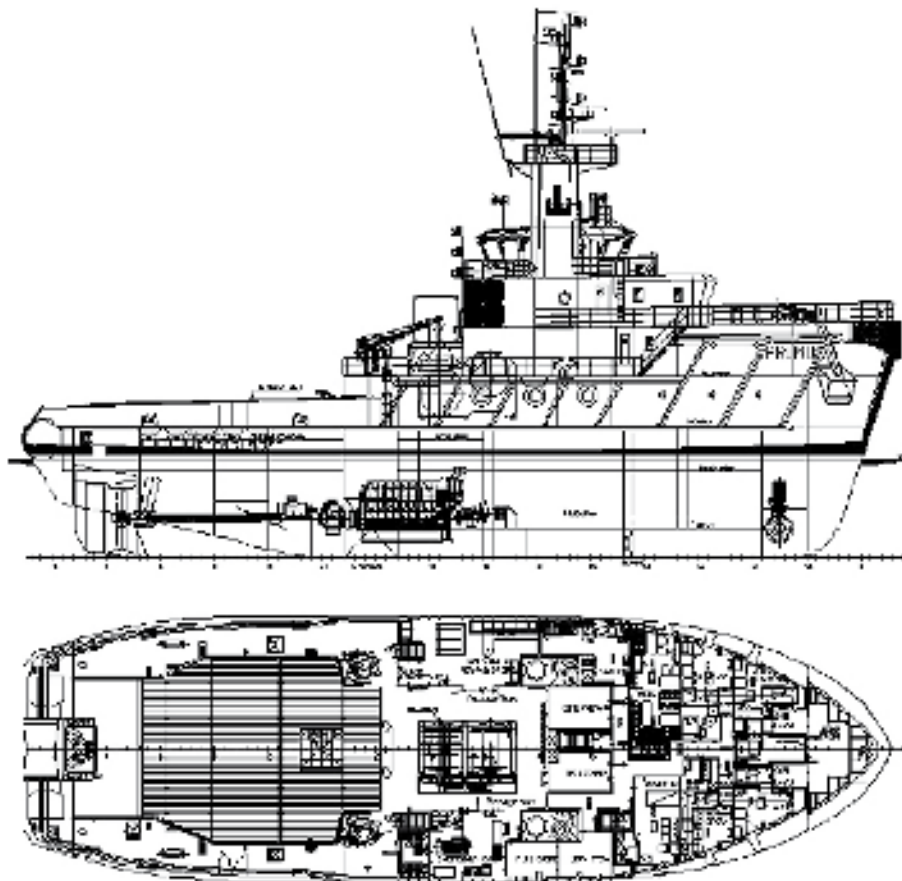
Speed	16 knots
Bollard pull ahead	104 tonnes

### AUXILIARY POWER

625kVA gen set + two 840kVA shaft generators.

### EQUIPMENT

Hatlapa winches, Karmoy forks.



*PRIMUS*