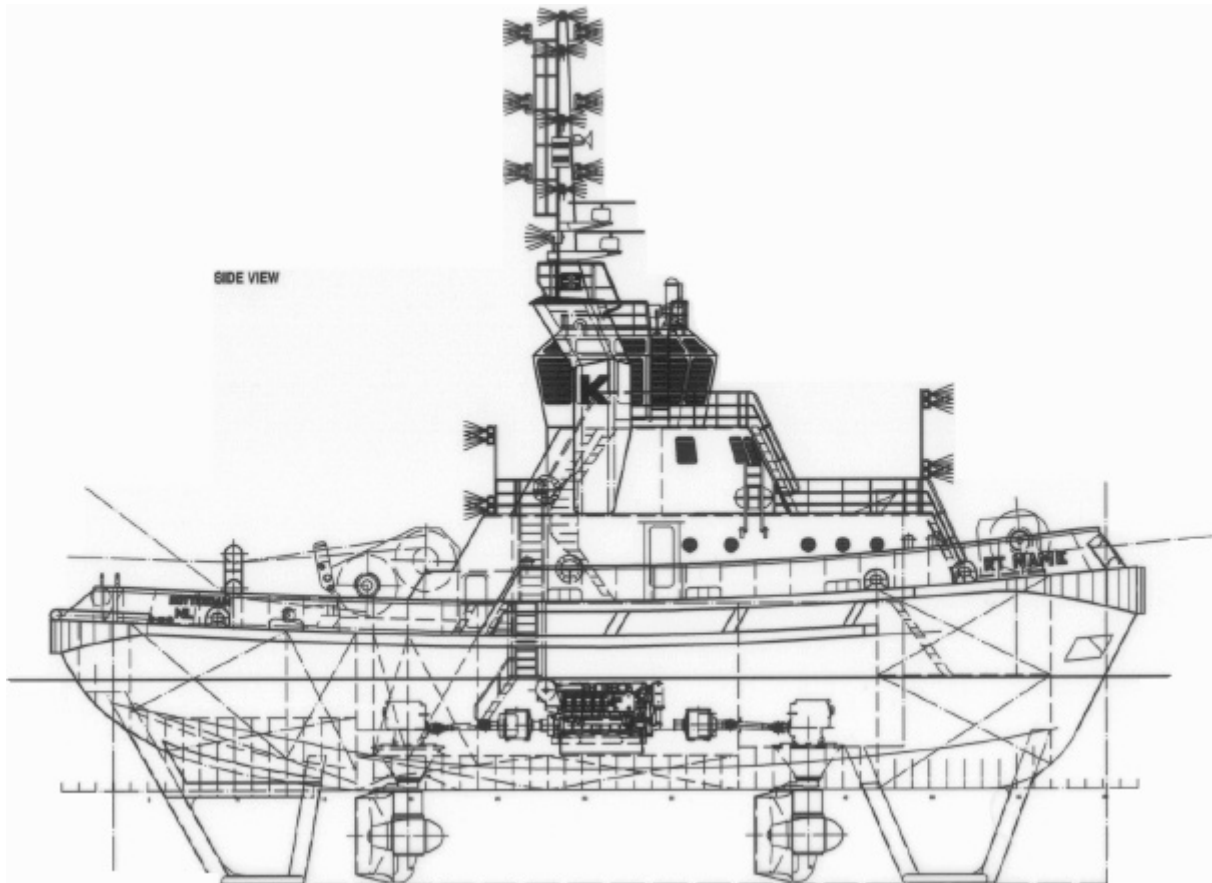


ROTOR[®]TUG

TECHNICAL DESCRIPTION

Ship Assist Harbour and Escort Tug



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TECHNICAL DESCRIPTION

Ship Assist Harbour and Escort Tug

- Propelled by three, azimuth Z-Drive thrusters, each driven by a high-speed marine diesel engine via MCD

- Shiphandling over the stern utilizing a powerful triple drums towing winch of 200 ton breaking load

- Escorting and ship-handling over the bow by means of a combined towing winch and anchor windlass of 200 ton breaking load

- The tug is built to the requirements of Germanischer Lloyd's Register ✕ 100 A5 - "E TUG" ✕MC.E. AUT and to the requirements of the Dutch Shipping Inspectorate. Another classification society is also one of the possibilities.

Dimensions

- Length overall 31.⁶³ metres
- Beam, moulded 12.⁰⁰ metres
- Depth, moulded 4.⁴⁰ / 5.⁴⁰ metres
- Draught, moulded 3.⁸⁶ metres
- Draught, average 5.⁹⁰ metres
- Tonnage gross 449
- Tonnage nett 134

Performance

- Power 4,600 kW 6,300 bhp
- Free running speed 12.5 knots
- Max. range 4,000 nautical miles
- Bollard Pull 76 tonnes

Machinery

- Main Engines (3): Caterpillar Marine propulsion engine Model 3516B DI-TA Elec 2,100 bhp at 1600 rpm (1,566 KW) 16 cylinder V Diesel engine, turbocharged, aftercooled
- Z-Drives (3): Schottel SRP1212 FP, 1560 kW / 1600 rpm
- Propeller (3): D=2150 mm, in Kort Nozzles
- Clutches (3): Twin Disc Marine Control Drive, type 3000-2LD
- Gensets (2): Caterpillar 3306B DIT 150 KVA/1500 rpm
- Harbour Genset: Perkins Diesel generator 26 KVA

Towing and Line Handling Equipment

- Towing winch aft: Three declutchable drums with band brakes
 - 1 upper 650mtrs 56mm steel wire, 10mtrs 100mm synthetic hawser and 20mtrs 48mm pennant wire
 - 2 lower drums each with the capacity of 200mtrs steel wire 56mm 10mtrs 100mm synthetic hawser and 20mtrs 48mm pennant wire 30 tons pull at 0-15 m/min speed 1st layer 13 tons pull at 0-30 m/min speed 1st layer
 - Brake holding load of 200 tons at 1st layer
- Winch fore:
 - one towing drum, capacity of 200mtrs steel wire 56mm + 10mtrs 100mm synthetic hawser and 20mtrs 48mm pennant wire.
 - two declutchable chain wheels suitable for 24 mm studlinkchain and two fixed warping heads.
- Towing hook: Van de Graaf Quick release towing hook type GSH 100
 - 100 ton SWL
- Both towing winches have pneumatic controls and can be operated remotely from the wheelhouse or from control consoles on the deck above the winches

Anchoring Equipment

- Two anchors housed both port and starboard side, with 24 mm diameter studlinkchain

Capacities

- Fuel Oil 177,500 litres
- Fresh Water 25,600 litres
- Ballast Water 113,600 litres

Fire Fighting Equipment

- ¼ FiFi Unitor type FJM 150E1 monitor
- (1) K & R split case centrifugal pump, 630 m3/hr

Control Equipment

- Master Pilot Control System
 - Master Pilot Control System, which enables the Master to sail the ship on three thrusters and engines with one “Master Pilot Control Unit ” on the bridge
 - The thrusters and engines can be switched off separately while the ship remains fully operational
 - Each thruster and engine can be controlled manually and individual by the handles on the bridge and in the engine room
- Advanced Engine Monitoring System
 - All machinery alarm controls are situated in the engine control room with constantly monitoring possibility on the bridge
- Bridge Watch System

Navigation Equipment

- Radar (2)
- Autopilot (1) connected to all thrusters via an interface
- Gyro-compass (1) with two steering repeaters, one console fore and one console aft
- Magnetic compass (1) with steering repeater
- DGPS (1)
- Shallow Water Depth sounder (1)
- Deep Water Recording Echo sounder (1)
- Rate of turn Indicator (1)

Communication Equipment GMDSS

- MF/HF Radio Installation inclusive DSC (1)
- VHF inclusive DSC (2)
- Navtex (1)
- Epirb (1)
- Search And Rescue Transmitter (1)
- Intercom System (2)
- Loud Hailing System (1)
- GMDSS portable radios (2)
- Radio/TV Antenna Installation
- Mini-M satellite communication (fax/telephone)