



AZIMUTH STERN DRIVE TUG 3413 ICE

GENERAL

Basic functions

Push-pull, escorting, coastal and offshore towing, icebreaking, fire-fighting, oil pollution control, salvage operations

Ø Oil pollution control
Ø Fifi pump

Dispersant pumpset with 2 spraybooms
Driven by Caterpillar C12 or C32, FIFI pump 1000 or 2800 m³/h incl. water spray
2x 300 or 2x 1200 m³/h

Classification

Russian Maritime Register of Shipping (RMRS)

Ø Fifi monitors

Painting

KM Arc 4/6 IWS R1 AUT1 FF3WS Escort Tug (Ice strengthening hull structure: Arc6)
Epoxy paint system

DIMENSIONS

Length overall 33.70 m
Beam overall 12.69 m
Depth at sides 5.20 m
Freeboard main deck midship in 98% loading condition (approx.) 1.00 m
Draught aft ARC 4 6.10 m
Draught aft ARC 6 6.70 m
Displacement (98%) 950 t approx.
Gross tonnage (approx.) <500 t

TANK CAPACITIES

Fuel oil (approx.) 128.7 m³
Fresh water 16.4 m³
Bilge water 6.5 m³
Sewage 6.5 m³
Dirty lubrication oil 3.2 m³
Clean lubrication oil 3.2 m³
Ø Foam 14.9 m³
Ø Dispersant 6.8 m³

PERFORMANCES (APPROX.)

	ARC 4	ARC 6
Bollard pull ahead	70 t	80 t
Bollard pull astern	66 t	76 t
Speed ahead	12.5 kn	12.5 kn

PROPULSION SYSTEM ARC 4

Main diesel engines 2x Caterpillar 3516C TA HD
Total power 4200 kW (5632 bhp) at 1600 rpm
Azimuth thrusters 2x Rolls Royce US285 FP
Propeller diameter 2800 mm fixed pitch with nozzle
Forced ventilation 80.000 m³/h

PROPULSION SYSTEM ARC 6

Main diesel engines 2x MAN 20V175D
Total power 6800 kW (9119 bhp) at 1800 rpm
Azimuth thrusters 2x Rolls Royce US 60
Propeller diameter 3400 mm fixed pitch open propeller
Forced ventilation 100.000 m³/h

AUXILIARY EQUIPMENT

Generator sets (suitable for parallel operation) 2x Caterpillar C7.1 TA, 230/400 V, 125 kVA, 50 Hz
Bilge pump Azcue CA-32/05 3.6 m³/h
General service pumps 2x Azcue CA-50/5A 30.0 m³/h
Bilge water separator 1x Facet CPS-2.5 B MK III + EBM14X1 0.5 m³/h
Fuel pump Azcue CA40-1B 12.0 m³/h
Cooling system Keeling cooling channels main engines, radiator cooled generator sets
Fresh water pressure set Azcue MO-19/10
Fuel oil purifier (static) CJC PTU 27/81 MZ-E2PWZ
Sewage treatment plant Tecnicomar ECOmar 20
Hydraulic system Main engine driven hydraulic pumps

DECK LAY-OUT

Anchor 2x 585 kg Pool (High Holding Power)
Anchor winches 2x DMC hauling speed anchor part minimal 10 m/min
Towing winch fore/aft waterfalls 1x DMC hydraulically driven double drum fore winch, high pull/low speed 30 t up to 11.5 m/min, slack rope speed up to 40 m/min, brake 200 ton, 2x 130 m rope 96 mm
(2nd layer) 1x DMC hydraulically driven single drum aft winch with spooling device, low speed 31 ton up to 12 m/min, high speed up to 39 m/min, 200 ton brake, 2x500 m steel wire 54 mm
Ø Capstan fore & aft deck Electrically driven, 5 ton at 15 m/min
Ø Crane Heila HLM 25-3S 2.0 ton at 10.56 m
Ø Stern roller SWL 100 ton, length 3.3 m
Ø Towing pins and chain stopper 2 Ø 350 mm forks (SWL 300 ton), 2 Ø 350 mm towing pins with flaps for vertical locking (SWL 150 ton)
Ø Deck covering Wooden aft deck (Larch)
Ø Anti slip Anti-slip bars fore deck
Ø Tugger winch 1x DMC hydraulically driven, pull 10 ton up to 25 m/min, brake 20 ton, 50 m steel wire 26 mm
Ø Towing hook aft Mampaey SWL 100 ton
Ø Rescue boat + davit 1x SOLAS approved 4-meter inflatable rescue boat with 25 hp outboard engine, operated by rescue boat davit
Fendering D-fender at sides, cylinder fender at transom corners, triple cylinder bow fender 900 mm with water spray

ACCOMMODATION

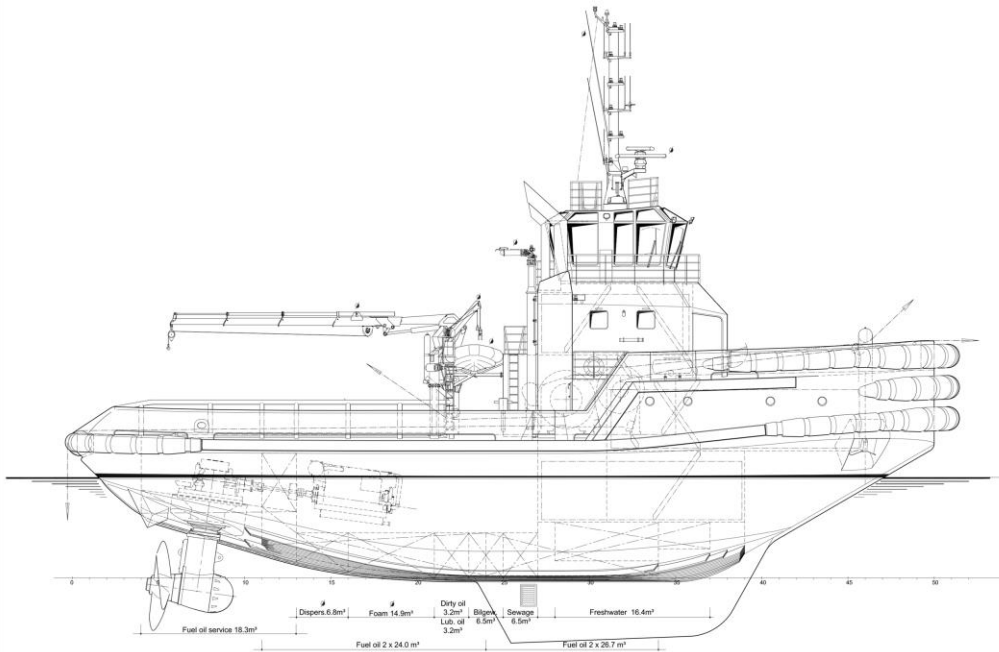
For 9 or 10 persons (MLC compliant), insulated and finished with durable modern linings, acoustical ceiling in the wheelhouse, floating floors and air-conditioned. Captain's cabin, chief engineer's cabin, officer or double crew cabin, three double crew cabins, galley, mess/lounge, dry store, sanitary facilities, Ø sauna, changing room and drying locker.

NAUTICAL AND COMMUNICATION EQUIPMENT

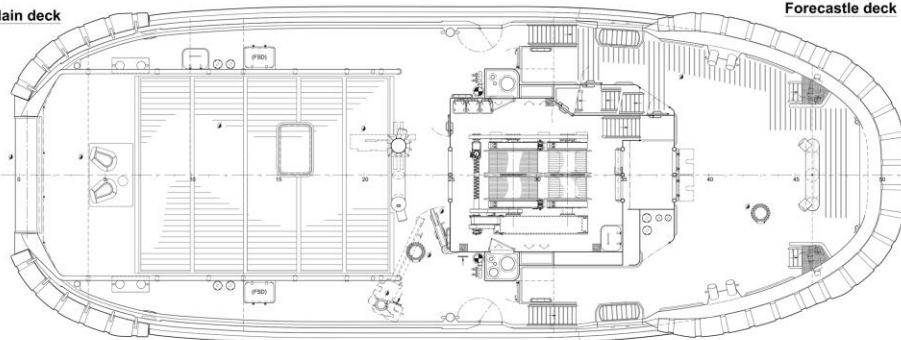
Searchlights 2x Norselight 2000 W
Radar system (X-band) Furuno FAR 2117
Ø Radar system (S-band) Furuno FAR 2117
Ø ECDIS Furuno FMD-3200, incl. maps of navigational area
Compass (magnetic) Cassens & Plath Reflecta 11
Ø Gyro compass Navigat 100
Autopilot Simrad AP-70
Speedlog Furuno DS-80
GPS Samyung SGN-500
Echosounder Furuno FE-800
Intercom
CCTV 15" monitor with camera's covering ER, accommodation, deck and winch
VHF 2x Cobham Sailor 6222 (one with DSC)
VHF hand-held 2x Jotron TRON TR-20
UHF Motorola DM4400
Navtex Furuno NX-700-A
AIS Samyung SI-70AR
Ø SSB Furuno FS-1575
Ø Inmarsat 2x Furuno Felcom 18
EPIRB Jotron Tron-60S
SART Jotron TRON SART 20
Anemometer Gill Instruments GMX500
Ø Weather fax Samyung SFAX-500R

*Item marked with Ø are optional equipment

AZIMUTH STERN DRIVE TUG 3413 ICE

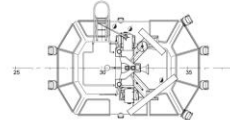


Main deck

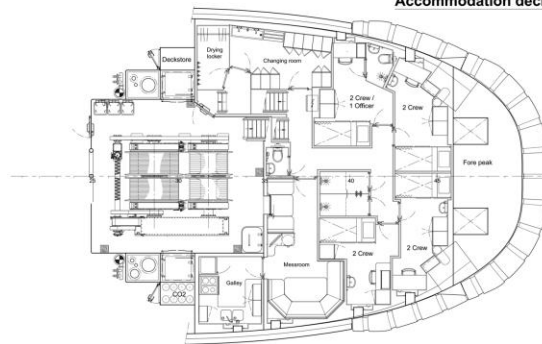


Forecastle deck

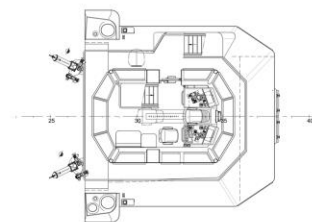
Top deck



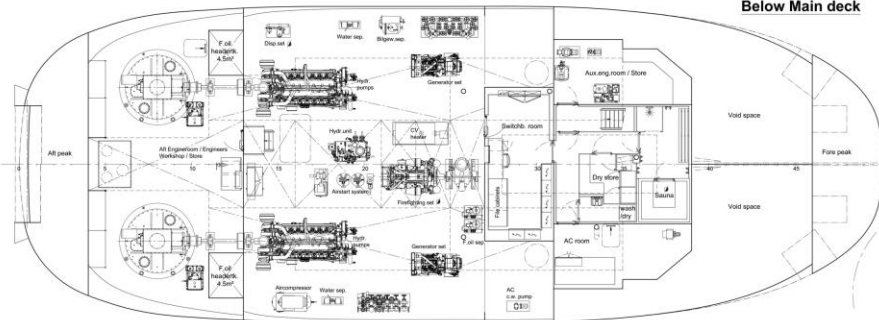
Accommodation deck



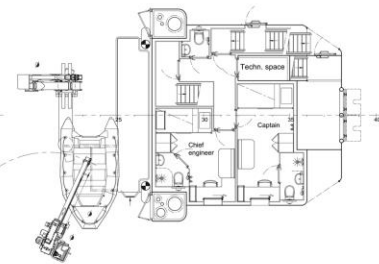
Bridge deck



Below Main deck



Officer's deck



DAMEN SHIPYARDS GROUP

Avelingen-West 20
4202 MS Gorinchem
The Netherlands

P.O. Box 1
4200 AA Gorinchem
The Netherlands

phone +31 (0)183 63 99 22
fax +31 (0)183 63 21 89

info@damen.com
www.damen.com

© No part of the leaflet may be reproduced in any form, by print, photo print, microfilm, or any other means, without written permission from Damen Shipyards Group