

# Azimuth Stern Drive Tug 3413 ICE



## GENERAL

Basic functions	Harbour and (LNG) terminal (un)berthing (push-pull), escort, coastal and offshore towing, icebreaking/management, fire-fighting, oil pollution control, pilot and personal transfer and salvage operations
Classification	Bureau Veritas I ✱ HULL ✱ MACH Escort Tug Unrestricted Navigation AUT UMS ICE CLASS IA SUPER INWATER SURVEY Fire Fighting Ship E Salvage Tug SYS-NEQ 1 Oil recovery second-line COLD (-40, -40)
Polar code	Compliant
Painting	Epoxy paint system, abrasion resistant low friction ice coating on hull

## DIMENSIONS

Length overall	33.45 m
Beam overall	12.53 m
Depth at sides	5.65 m
Draught aft	7.10 m
Displacement (98%)	1140 t approx.
Gross tonnage	570 t

## TANK CAPACITIES

Fuel oil (incl. long range tanks)	130.1 m <sup>3</sup>
Fuel oil	107.4 m <sup>3</sup>
Fresh water	17.4 m <sup>3</sup>
Sewage	8.6 m <sup>3</sup>
Dirty lubrication oil	5.4 m <sup>3</sup>
Clean lubrication oil	2.8 m <sup>3</sup>
Bilge water	8.6 m <sup>3</sup>
Foam	10.0 m <sup>3</sup>
Urea	5.0 m <sup>3</sup>
Recovered oil	28.8 m <sup>3</sup>

## PERFORMANCES

Bollard pull ahead	72 t
Bollard pull astern	68 t
Speed ahead	14 kn
Ice performance	3 kn in 1 m first-year level ice, 8 kn in 1.1 m first-year floe ice

## AUXILIARY EQUIPMENT

Generator sets (suitable for parallel operation)	2x Caterpillar C9.3 TA, 230/400 V, 313 kVA, 50 Hz
Emergency generator set	1x Caterpillar C4.4 TA, 230/400 V, 103 kVA, 50 Hz
Shore power	125 A
General service pumps	2x Azcue CA-50/3B, 27 m <sup>3</sup> /h at 3.4 bar
Bilge water pump	Azcue CA-32/05, 3.6 m <sup>3</sup> /h at 1.1 bar
Bilge water separator	Facet CPS-2.5 B MK III + EBM14X1, 0.5 m <sup>3</sup> /h (15 ppm)
Emergency firefighting pump	Azcue CA-50/3B, 27 m <sup>3</sup> /h at 3.4 bar
Fuel transfer pump	Azcue CA40-1B, 12 m <sup>3</sup> /h at 1.2 bar
Fuel oil purifiers (dynamic)	2x GEA Westfalia OTC-2-02-137, 1150 l/h
Fuel oil purifiers (static)	4x CJC PTU 27/81 MZ-E2PWZ
Cooling system	Box cooled + anti-growth system
Fresh water pressure set	Azcue MO-19/10
Sewage pump	Distrimex B40 6.6 m <sup>3</sup> /h at 1.5 bar
Sewage treatment plant	Selmar Blue Sea 2500
Exhaust gas after treatment	IMO Tier 3 Selective Catalytic Reduction system (SCR) for propulsion engines, main generator sets and fire fighting engine
LNG-terminal operations	Fixed gas detection, EEBD's
Hydraulic system	Electrically driven hydraulic pumps
Compressed air system	2x compressors and air bottles for starting and service air
Oil pollution control	Oil recovery equipment excluded
Fifi set	Driven by Caterpillar C12, FIF1 pump 1000 m <sup>3</sup> /h incl. water spray
Fifi monitors	2x 360 m <sup>3</sup> /h, water/foam
Water spray	Approx. 400 m <sup>3</sup> /h

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## DECK LAY-OUT

<p>Anchors Anchor winches</p> <p>Towing winch fore Double drum (side by side, in heated winch room)</p> <p>Towing winch aft Double drum (side by side, in heated winch room)</p> <p>Hydraulic guide pins Container fittings Capstan aft Capstan fore Crane</p> <p>Towing hook aft Stern roller</p> <p>Flush gob eye</p> <p>Rescue boat + davit</p> <p>Platform/ladder</p> <p>Fendering</p>	<p>2x 585 kg Pool (High Holding Power) 2x DMC, hauling speed anchor part minimal 9 m/min</p> <p>1x DMC hydraulically driven winch High pull/low speed 35 t up to 10 m/min, slack rope speed up to 35 m/min, brake 200 ton, 2x 130 m rope Euroflex 96 mm + 20 m forerunner Euroflex 96 mm</p> <p>1x DMC hydraulically driven winch With spooling device, high pull/low speed 30 ton up to 11 m/min, slack rope speed up to 37.5 m/min, 200 ton brake, 2x 480 m steel wire 54 mm + 20 m forerunner Euroflex 96 mm</p> <p>Hydraulic tow line guide pins instead of manual 2x 20'</p> <p>1x DMC electrically driven, 5 ton at 15 m/min 1x DMC electrically driven, 5 ton at 15 m/min Heila HLRM 65-4S 4.65 ton at 12.72 m with 5 ton winch</p> <p>Mampaey SWL 100 ton SWL 100 ton, length approx. 3.7 m, diameter 1.2 m (incl. removable bulwark)</p> <p>Centreline recessed connector on aft deck with steel cover plate</p> <p>1x SOLAS approved 4-meter inflatable rescue boat with 25 hp outboard engine, operated by rescue boat davit</p> <p>Port side and starboard side fore deck against the bulwark, boarding platform at centre line bow, pilot ladders</p> <p>D-fender at sides, cylindrical fender at transom corners, cylindrical and W-block bow fender with water spray, tyre fenders bow, sides and aft</p>
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## ACCOMMODATION

For max. 10 persons (MLC compliant), insulated and finished with durable modern linings, acoustical ceiling in the wheelhouse, mess room and cabins, floating floors with floor heating and oil fired heated/air-conditioned. Officer's deck with captain's cabin, chief engineer's cabin and toilet. Accommodation deck with four double crew cabins, galley, mess/dayroom, dry store, sanitary facilities, changing room and drying locker. Below main deck with laundry, dry store, wellness room with changing room and shower.

## NAUTICAL AND COMMUNICATION EQUIPMENT (GMDSS A3)

<p>Mast Searchlights Radar system (X-band) Ice radar system Radar system (S-band) ECDIS DGNSS GLONASS/GPS Compass (magnetic) Gyro compass Satellite compass Autopilot Echo sounder Speed log Intercom CCTV</p> <p>VHF (with DSC) Fire-Fighter radio (UHF) VHF hand-held AIS SSB (MF/HF) Navtex Inmarsat systems Iridium terminal EPIRB SART Air-band communication Sound reception system VDR Anemometer / weather station</p>	<p>Fixed 2x Norselicht 2000 W Transas NR 4000 MFD 19 Rutter Sigma S6 Transas NR 4000 MFD 19 Transas NS 4000 Standard Plus 19 Cobham (Thrane &amp; Thrane) SAILOR 6570 Cassens &amp; Plath Reflecta 11 Sperry Marine Navigat 100 JRC JLR-21 Sperry Marine Navipilot 4000+ BASIC Skipper ESN100 Consilium SAL R1a, WT Phontech CIS 3101 19" monitor with 14 camera's covering ER, accommodation, deck and winch rooms</p> <p>2x Cobham (Thrane &amp; Thrane) Sailor 6222 5x Cobham (Thrane &amp; Thrane) Sailor 3965 Fire Fighter 3x Cobham (Thrane &amp; Thrane) Sailor SP3520 Cobham (Thrane &amp; Thrane) 6280 Cobham (Thrane &amp; Thrane) Sailor 6310 MF/HF 150 W JRC NCR-333 2x Cobham (Thrane &amp; Thrane) Sailor 6110 Mini-C 1x Cobham (Thrane &amp; Thrane) Sailor 4300 L-band 1x ASNP-M COSPAS-SARSAT GPS/GLONASS/Galileo class 1 2x Dreif Hand-held Icom IC-A114 Jotron Phontech 8300Mk2 Consilium VDR F2 2x Morsvyzavtomatika "periscope" anemometer / weather station</p>
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