

# Azimuth Stern Drive Tug 3413 ICE

STANDARD



## » PICTURE OF SIMILAR VESSEL

### GENERAL

Basic functions	Harbour and (LNG) terminal (un)berthing (push-pull), escort, coastal and offshore towing, icebreaking/management, anchor handling, buoy handling, 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) Ø Clean Ship Ø Green Passport EU Ø Anchor handling
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
Freeboard main deck midship in 98% loading condition (approx.)	1.10 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>
Ø Dispersant	6.3 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	125 A, Ø separation transformer
Shore power	2x Azcue CA-50/3B 27 m <sup>3</sup> /h at 3.4 bar
General service pumps	Azcue CA-32/05 3.6 m <sup>3</sup> /h at 1.1. bar
Bilge water pump	Facet CPS-2.5 B MK III + EBM14X1 0.5 m <sup>3</sup> /h (15 ppm)
Bilge water separator	Azcue CA-50/3B 27 m <sup>3</sup> /h at 3.4 bar
Emergency firefighting pump	Azcue CA40-1B 12 m <sup>3</sup> /h at 1.2 bar
Fuel transfer pump	2x GEA Westfalia OTC-2-02-137, 1150 l/h
Fuel oil purifiers (dynamic)	4x CJC PTU 27/81 MZ-E2PWZ
Fuel oil purifiers (static)	Box cooled + anti-growth system
Cooling system	Azcue MO-19/10
Fresh water pressure set	Watermaker Sailor C S 3/21 3840 l/day
Ø Fresh water maker	Distrimex B40 6.6 m <sup>3</sup> /h at 1.5 bar
Sewage pump	Selmar Blue Sea 2500
Sewage treatment plant	Offline filtration system for main engines and/or azimuth thrusters
Ø Lubrication oil filtration	IMO Tier 3 Selective Catalytic Reduction system (SCR) for propulsion engines, main generator sets and fire fighting engine
Exhaust gas after treatment	CO <sub>2</sub> fire extinguishing system for main engines and generator sets
Ø Exhaust extinguishing	Fixed gas detection, EEBD's
LNG-terminal operations	Electrically driven hydraulic pumps
Hydraulic system	2x compressors and air bottles for starting and service air
Compressed air system	Dispersant pump set with 2 spray booms
Ø Oil pollution control	Oil spill recovery equipment not included
Oil pollution control	Driven by Caterpillar C12, FIFI pump 1000 m <sup>3</sup> /h incl. water spray
Fifi set	2x 360 m <sup>3</sup> /h, water/foam
Fifi monitors	Approx. 400 m <sup>3</sup> /h
Water spray	

\*Items marked with Ø are optional equipment

# Azimuth Stern Drive Tug 3413 ICE

STANDARD



## » PICTURE OF SIMILAR VESSEL

### DECK LAY-OUT

Anchors	2x 585 kg Pool (High Holding Power)
Anchor winches	2x DMC hauling speed anchor part minimal 9 m/min
Towing winch fore	1x DMC hydraulically driven winch
Double drum (side by side, in heated winch room)	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
Towing winch aft	1x DMC hydraulically driven winch
Double drum (side by side, in heated winch room)	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
Hydraulic guide pins	Hydraulic tow line guide pins instead of manual 2x 20'
Container fittings	
Capstan aft	1x DMC electrically driven, 5 ton at 15 m/min
Capstan fore	1x DMC electrically driven, 5 ton at 15 m/min
Crane	Heila HLRM 65-4S 4.65 ton at 12.72 m with 5 ton winch
Towing hook aft	Mampaey SWL 100 ton
Stern roller	SWL 100 ton, length approx. 3.7 m, diameter 1.2 m (incl. removable bulwark)
Flush gob eye	Centreline recessed connector on aft deck with steel cover plate
Ø Towing pins and chain stopper	1 Ø 350 mm forks (SWL 300 ton), 2 Ø 350 mm towing pins with flaps for vertical locking (SWL 150 ton)
Ø Tugger winches	2x DMC hydraulically driven, pull 10 ton up to 25 m/min, brake 20 ton, 50 m steel wire 26 mm
Ø Deck covering	Wooden aft deck (Larch)
Ø Anti slip	Anti-slip bars fore deck
Rescue boat + davit	1x SOLAS approved 4-meter inflatable rescue boat with 25 hp outboard engine, operated by rescue boat davit
Ø Buoy handling	Buoy chain clamp, partly removable bulwark (in combination with crane)
Platform/ladder	Port side and starboard side fore deck against the bulwark, boarding platform at centre line bow, pilot ladders
Fendering	D-fender at sides, cylindrical fender at transom corners, cylindrical and W-block bow fender with water spray, tyre fenders bow, sides and aft

### 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, sauna with changing room and shower.

### NAUTICAL AND COMMUNICATION EQUIPMENT (GMDSS A3)

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

\*Items marked with Ø are optional equipment



# Azimuth Stern Drive Tug 3413 ICE

STANDARD

