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New 3700bhp Utility Tug



Listing ID - 3728

Description 40m 3700bhp AHT Utility Tug

Date 2021

Launched

Length 40m (131ft 2in)

Beam 11.80m (38ft 8in)

Draft 3.80m (12ft 5in)

Note 45-56T Bollard Pull

Location East Malaysia

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Price USD 3.5m

Price Notes Delivery, in 2-3 months after MOA signed

40m 3700bhp AHT Utility Tug

LOA: 40m

Breadth Moulded: 11.80m

Depth Moulded: 4.60m

Designed Draft: 3.80m

F.O. Capacity: 370 Litres

F.W. Capacity: 100 Litres

B.W. Capacity: 43

Trial Speed: 11-12 knots

Deadweight: 345 tons

Deck Loading: 5 tons

Clear Deck Area: 150 (Approx.)

Bollard Pull: 45-56 ton (Approx.)

Propulsion Systems

Main Engine: Two (2) units x Mitsubishi S16R-MPTK Marine Diesel Engine Rated 1,850 BHP @ 1,650 RPM c/w Reintjes WAF- 773 Gearbox Ratio 6.440:1 with Classification Certificate and EIAPP.

Generator: Three (3) units x CAT C6.6 Marine Diesel Engine c/w Alternator 143KW, 415V, 3PH, 1500 RPM (*Power Management System with Auto Synchronize*)

Propeller & Kort Nozzle : Two (2) units of Solid 4 Blades Manganese Bronze Propeller (Men trade, Malaysia or equal) c/w Mild Steel Kort Nozzle

Stern Tubes & Shafting

Stern tubes shall be fitted with inboard and outboard Deep Sea Seal and to be oil lubricated.

Two (2) stern tube oil tanks are to be fitted and arranged to feed each stern tube by gravity.

Forged steel tail shaft and intermediate shaft to be sized in accordance to rules requirements.

Forward and aft bearing to be of white metal and intermediate shaft bearing to be of roller type.

Propeller shaft brackets are to be the "Y" type, of fabricated mild steel construction, upper part to support shaft aft bossing and lower part to prevent wires entering nozzle thus protecting propellers c/w rope guards.

Steering Gear Systems

Two (2) 2.0-tons Independent electro-hydraulic steering gear for twin screw arrangement of sufficient torque capable of 2 x 35° operational is to be fitted in the steering gear room. System to be completely independent c/w 2 pumps, incorporated with mechanical stops in the S/G system.

Working angle of rudders to be 35° port and starboard. The total turning time for 70° helm angle is to comply with Class requirement. Mechanical stops shall be fitted as per classification requirement.

Steering gear control to be from forward and aft consoles in wheelhouse. Rudder angle indicators to be mounted at both forward and aft steering positions.

Engine Control System

Electronic Engine Control: 2 station twin engine controls for mechanical throttle and mechanical clutch

Control Consoles in Bridge: Forward and aft engine maneuvering control consoles and main winch controls to be installed at the bridge and fitted with all required instruments. Main engines shall be controlled remotely by electrical power from the wheelhouse including all safety features for safe operation of the vessel from the wheelhouse.

Engine Control Console in Engine Control Room: One (1) separate engine-maneuvering stand is to be provided and shall be incorporated in control console which is to be fitted with instrument panels with all necessary temperature and pressure gauges, tachometer and etc. Emergency handling of main engines shall be provided according to Classification Society.

Deck Machinery & Equipment

Anchor Windlass: 30mm electro hydraulic anchor windlass c/w double gypsy and double warp end of 350mm diameter base on class requirements (Marine Equipment, Singapore)

Anchor: Two (2) units of 900-kgs Stockless Bower Anchor, based on class requirements. (China Make)

Chain Cable: Fourteen (14) shackles of 30mm dia. Grade u2 stud link cable, based on class requirements. (China Make)

Towing Winch: One (1) unit of 60-tons Drum Pull @ 6m/min (1st Layer), 120-tons Brake Holding Waterfall Double Drum Towing Winch. Both drums capacity of 48mm Dia. x 1000m c/w wheel house & local control system (Marine Equipment) (*Steel Wire Rope supplied by Owner*)

Tugger Winch: Two (2) units 5-tons x 10m/min Single Drum Hydraulic Tugger Winch. Drum capacity of 22mm Dia. x 250 m. with local control system (Marine Equipment)

(*Steel Wire Rope supplied by Owner*)

Shark Jaw: One (1) set of 200-tons schematic hydraulically operated anchor handling fork (hydraulic refreshable shark jaw) to be installed in center line on main deck aft (Marine Equipment)

Towing Pin: One (1) set of 200-tons schematic hydraulically towing pin, refreshable type to be installed in center line on main deck (Marine Equipment)

Capstan: Two (2) units of 5-ton x 12m/min Hydraulic Vertical Capstan c/w local control. (Marine Equipment)

Service Crane: One (1) unit of 3-ton Hydraulic Service Crane with telescopic outreach from 5M – 8M c/w local control. (Marine Equipment)

Stern Roller: One (1) unit of 150-ton SWL Mild Steel Stern Roller (Marine Equipment)

Wooden Sheathing: Wooden sheathing of 50mm thick is to be fitted on aft main deck area.

Bow Thruster System

One (1) unit 5.0 tons Schottel Bow Thruster Model: STT1 transverse to be installed.

The unit to be driven by a CAT 3406 @ 480hp Diesel Engine and complete with fixed pitch propeller.

Control of the thruster shall be from FWD & AFT positions in wheelhouse.

Sewage Treatment Plant

One (1) unit of Sewage Treatment Plant sufficiently rated for 20 crew member with the Annex IV MARPOL TREATY 73/78 and approved by Government of Korea - IMO resolution MEPC.159(55) Approved Type (Korea Make)

Fuel Oil Purifier

One (1) unit of Alfa Laval fuel oil Purifier PA605 with automatic self-cleaning type @ 1850 L/HR capacity.

Pumps, Plumbing & Piping

Bilge / Ballast Pump : Two (2) units ITUR Centrifugal Pump of 36m³/hr. at 35m total head.

GS / Fire Pump : One (1) unit ITUR Centrifugal Pump of 36m³/hr. at 35m total head.

Fuel Oil Cargo Pump: One (1) unit DESMI Centrifugal Pump of 50m³/hr. at 50m total head.

Fresh Water Cargo Pump: One (1) unit DESMI Centrifugal Pump of 50m³/hr. at 50m total head.

Fuel Transfer Pump: One (1) unit ITUR Gear Pump of 10m³/hr. x 20m total head.

Sludge Oil Pump: One (1) unit ITUR Gear Pump of 2m³/hr. x 20m total head.

Thruster Fuel Transfer: One (1) unit ITUR Gear Pump of 0.6m³/hr. x 20m total head. (Engine Fuel Transfer pump)

FW Pressure Set: One (1) unit Southern Cross CBI 4-40 Ejector Pump of 7.8m³/hr. at 34m head c/w 300Ltr pressure Tank.

Standby Pressure Set: One (1) unit Southern Cross CBI 4-40 Ejector Pump of 7.8m³/hr. at 34m head for Standby only.

SW Pressure Set: One (1) unit Southern Cross CBI 4-40 Ejector Pump of 7.8m³/hr. at 34m head c/w 300Ltr pressure Tank

Hot Water Circulating: One (1) unit Southern Cross HBN Multi Stage Transfer Pump of 3.5m³/hr. at 15m head

Air-condition SW Cooling Pump: Two (2) units KSB Etanorm Centrifugal Pump of 36m³/hr. at 35m total head. One unit is for Standby only.

Refrigeration Cooling: Two (2) units KSB Aquavane Centrifugal Pump of 15m³/hr. at 21m total head. One unit is for Standby only.

Power Pack Cooling: One (1) unit KSB Aquavane Centrifugal Pump of 12m³/hr. at 21m total head.

Electrical

All Electrical Cables and accessories (switch boxes, bulbs & etc.) will be of marine type. Running of Electrical Cable to be installed in proper trunking.

The electrical installation is to be made in accordance with the requirements of the Classification Society and IEC latest regulation.

All electrical and electronic equipment shall be accordance with modern technology for easy maintenance and simple operation. This shall include all control systems and electronic equipment as well as electrical components in engine room, engine control room, accommodation, and bridge including on deck.

Wheel House Equipment

Steering and control console fitted with instrument panel, 2 station main engine control (KOBELT or equal), switches for navigation lights, searchlights, floodlights, horn buttons, intercom & PA systems, rudder indicator, and clear view screens.

In addition to navigational and electrical equipment, the following items shall be supplied and fitted in the wheelhouse:-

Flag lockers c/w one (1) set of International Code Flags and National Ensign.

Two (2) binocular boxes c/w Binoculars 7 x 50mm

Stainless steel storm rails on consoles all around.

Chart table with drawers under and with save-all end slit on table top edge for the charts

Chart table lamp with dimmer

Two (2) Helmsman chairs with arm rest, upholstered, adjustable in height and with foot rest

Book shelf and racks of sufficient size

Upholstered settee, hat pegs, coffee table and coat hooks

One (1) anemometer – readout in bridge

One (1) Marine air horn

One (1) 300mm diameter brass ship bell

One (1) Marine clock

Two (2) 2000W searchlight with under deck controls. (1 FWD and 1 AFT)

One (1) Aneroid barometer

One (1) Inclinator, bulkhead mounted type

One (1) Chronometer

One (1) set signal lamp

Six (6) numbers of 220V power points

Black curtain all around except FWD of Wheelhouse

Radio & Navigation Equipment

One (1) GMDSS Radio Equipment for A3 (FURUNO or equal)

FURUNO RC-1800T

FURUNO FS-1570

FURUNO FELCOM-15 Inmarsat-C (LRIT Compliance)

FURUNO FELCOM-15 SSAS Inmarsat-C

FURUNO FM-8800S Marine VHF x 2 sets

One (1) Satellite Compass (FURUNO SC-50 or equal)

One (1) Autopilot System (ANSCHUTZ NP-60 or equal)

Two (2) GMDSS 2-way VHF Transceivers (Mc MURDO R2 or equal)

One (1) 96NM Radar (FURUNO FAR-2117 MK3 or equal)

One (1) Echo Sounder (FURUNO FE-700 or equal)

One (1) GPS Navigator (FURUNO GP-150 or equal)

One (1) Navtex Receiver (FURUNO NX-700B or equal)

One (1) Doppler Speed Log (FURUNO DS-80 or equal)

One (1) AIS (FURUNO FA-150 c/w PE500 Heading Sensor or equal)

One (1) EPIRB (Mc Murdo E5, 406 MHz or equal)

One (1) Weather Fax (FURUNO FX408 or equal)

One (1) Wind Indicator (Davis Anemometer or equal)

One (1) Magnetic Compass (DAIKO SR-150PK or equal)

Ship Communication

One (1) set Electric Engine Telegraph

One (1) set Talkback/Public Address System (Ving or equal)

One (1) set Battery less Telephone System (Ving or equal)

Ridge Navigational Watch Alarm System

One (1) set Wheelhouse Watch Alarm Main Unit

One (1) set Flush Type Reset Panel with dimmer

Three (3) sets Flush Type Alarm Panel

One (1) AC/DC Converter

Navigation Lights

All in accordance with BV Classification Society's Specification and requirement of the Singapore Government Authority for the intended trade of the subject tug.

Engine Room

The engine room is to house the main engines, generators, pumps and compressors facilitate easy access for operation and maintenance. Machinery with exposed moving parts which constitute a potential danger to personnel shall be protected with screens, handrails or both. All wet and / or slippery areas shall be provided with non-skid walking surfaces. Mild steel chequer floor plates fastened by stainless steel countersunk screws are to be laid. In addition to main engine and generators, the following items shall be supplied and fitted in the engine room:-

One (1) 0.50 m³/hr. Oily Water Separator (Korea make)

Two (2) Twin Rancor Fuel Filter

Two (2) Engine Room Blower Fan 28"

One (1) Lube Oil Tank c/w sight glass

One (1) Engine Telegraph

One (1) Tool Bench c/w bench vice

One (1) Tool Cabinet

Engine Control Room

Main switchboard

Machinery control console (MCC)

Office chair

2 power points 220/1/50

One (1) packaged air-conditioner

Hot Water Calorifier

Marine Hot Water Centralized Heating System complete with 150 Ltr tank (Korea Make)

Mess Room

One (1) mess room situated on the main deck as shown on the General Arrangement drawing is to be fitted out generally as follows:-

Upholstered chairs or settee(s) with stowage under

Dining table(s) with formican top and edge fiddles

One (1) side board and cabinet

Wall and ceiling light with on/off switch

One (1) clock, battery quartz type

Four (4) 220/1/50 power sockets

One (1) color T.V. 32" c/w DVD player

Galley

Galley corner fitted with Stainless Steel Sink and Drawers and Shelving below, Dandling Cupboards.

- One (1) 4 x Burner Hot Plate with Oven
- One (1) Two-door Stainless Steel Refrigerator
- One (1) unit 8" blower fan
- Three (3) spare point (to be located at appropriate location)

Wash Place & Toilet

- One (1) WC pedestal c/w seat and lid, toilet roll holder and grab rail
- One (1) shower cubicle with hot and cold F.W. supplies, grab rail, curtain, soap dish and separate scupper drains
- One (1) washbasin with hot and cold F.W. supplies c/w water trap
- One (1) mirror with tray and light
- One (1) towel rail
- Two (2) coat hooks
- One (1) extractor grille

Accommodation–Master/Chief (Single Cabins)

- 1 built-in berth of 2000mm x 900mm x 150mm foam mattress with drawers and bunk light
- 1 desk with drawers and light
- 1 upholstered chair
- 2 built-in wardrobe c/w shelf, hanger rod and hooks with lifejackets stowage on top
- 2 coat hooks on back of door
- 1 quartz battery clock
- 1 command talkback system
- 1 x 4 drawer steel filing cabinet with locks
- 2 x 300mm dia. scuttles with deadlight covers
- 2 power points 220/1/50
- 1 attached toilet module or alternative

Accommodation–Two-Man Cabins

- One (1) two-man cabins, situated on the forecastle deck are to be fitted identically as follows:
- 1 x 2-tier berth of 2000mm x 800mm x 150mm foam mattress c/w bunk light, blackout curtains, drawers under and ladder for the upper bunk
- 1 desk with drawers and light
- 1 upholstered chair
- 2 built-in wardrobes c/w shelves, hanger rods & hooks with lifejackets stowage on top
- 2 coat hooks on back of door
- 2 power points 220/1/50
- 1 attached toilet module or alternative

Accommodation–Four-Man Cabins

- 2 x 2-tier berth of 2000mm x 800mm x 150mm foam mattress c/w bunk light, blackout curtains, drawers under and ladder for the upper bunk
- 1 desk with drawers and light
- 1 upholstered chair
- 4 built-in wardrobes c/w shelves, hanger rods & hooks with lifejackets stowage on top
- 4 coat hooks on back of door
- 1 x 300mm dia. scuttles with deadlight covers (for those are on the main deck)
- 2 power points 220/1/50
- 1 attached toilet module or alternative

Cool & Freezer Room

The cool and freezer room are to be situated as shown on the General Arrangement. They are to be cooled by a fully automatic refrigerating plant with seawater cooling pump. Deck, sides and deck head are to be insulated with foam plastic respectively. The internal finish will be covered by plywood with stainless steel for side and ceiling. Thickness and type of insulation are to be in accordance with the recommendation of the manufacturer for the refrigeration machinery.

The door is to be stainless steel insulated door with door alarm connected to the wheelhouse and able to open from inside.

CO2 Room & Fire Alarm / Detection System

Situated on the main deck as per General Arrangement Drawing to store the CO2 bottles and to be outfitted to meet the rules and regulation requirement.

Galley exhaust ducting and Main engine room shall be protected by means of a "total flooding" fixed CO2 central bank fire extinguishing system.

The required CO2 amount shall be stored in CO2 bottles. The CO2 cylinders are to be stored in well-ventilated CO2 room situated on the main deck.

The release of the system is to be made pneumatically from the release box, placed outside the protected space and in the CO2 room.

The release box is to be provided with door switches for start of alarm and stop of ventilation and fuel oil system. Automatic audible and visual warning is to be provided in the room and the alarm is to sound prior to any release of CO2.

Partition Wall, Wall Lining & Ceiling

All bulkhead linings, paneling and ceilings shall be of approved type Soft core arrangement - (low flame spread).

Ceiling and sidewall of the wheelhouse to be properly installed with thermal insulation.

All doorways shall be of approved type fire retarded A0, B15 & C doors & doors for the engine room to be with self-closing arrangement.

All internal space to have a clear height of 2 meter from floor to ceiling.

Fenders

Sufficient 'W' Rubber Fenders on forward bow and steel fender & tires all round at appropriate places. All tire fenders shall be secured by steel eye lugs on top and below each fender tires.

Painting, Hull Finish & Cathodic Protection

All external surface of bottom and side plating of the steel hull to be sweep blasted before applying three (3) coats of marine paints (Hempel Brand) of good ship building practice c/w paint specification issued by manufacturer.

Zinc Anodes of suitable numbers are to be of Stainless Steel Bolt and Nut type shall be fitted for external protection of hull, rudders, sea chests, thrusters and propellers against galvanic corrosion.

Material And Scantling

Keel Plate: 12mm

Bottom Plate: 10mm

Side Plate: 10mm

Main Deck Plate: 9mm/12mm

Bulkheads Plate: 8mm/9mm

Bulwark Plate: 8mm

Superstructure: 6mm/8mm

Air-Conditioning (CARRIER Brand)

One (1) central air handling unit shall be provided with two (2) compressors, each sized for 100% capacity to be provided. Toilet/shower, changing room, store rooms and other spaces shall not be served by the air-conditioning

system but to be ventilated by forced ventilation and exhaust blower (with minimum 50mm Hg static pressure head). The galley is to be provided with spot air-nozzle and separate ventilation.

Fire dampers to be fitted where necessary and to rules requirements.

In addition to the central air conditioner system, one (1) additional 28,000 BTU split unit air conditioner having sufficient capacity to maintain the wheelhouse temperature below 25°C when the main air-con unit inarguable.

External Fire Fighting System

External firefighting system is to be as generally stated below and is required to meet 1200m³ /120m head (Fire Fighting System, Singapore)

Fire pumps

One (1) seawater pump (FFS, Norway) each 1200 m³/hr. at 14 Bar. Pump to be driven by Main Engine (Mitsubishi S16R-MPTK @ 1,850hp) Power Take Off (PTO).

Independent sea suction and piping system for the pump. The pump casing to be cast steel, shaft acid proof steel & impeller of Al-Bronze.

Capacity: 1200 m³/hr.

Head: 120 MLC

Pump Speed: 1800rpm

Power Absorbed: Maker requirement

Driver Power: Maker Requirement

Fire Monitors (water/foam)

Two (2) units water foam monitors (one with double barrel for foam discharge). Electrical remote control from the wheelhouse.

Two (2) hand wheels for emergency manual control also built on the monitors.

Capacity: 600 m³/hr.

Inlet Pressure: 10 bar

Throw Length: 120m from bow

Reaction Force: 15.92 N

Swivels and Swivel: Bronze

Barrel: Acid proof steel, according to requirement Fif

Throw Height: 50m measured vertically from sea level assuming a mean impact area located at a horizontal distance not less than 60 m from nearest part of vessel. Horizontal and vertical movement with limit stops restricting monitor discharge on any part of the vessel.

Foam shall be introduced to the monitor from branch pipe directly and expansion in the foam barrel for application.

Monitor control

One (1) main control panel – logic for operation of monitors.

One (1) joystick panel for installation in wheelhouse with the following remote functions. Elevation and rotation of monitors

Clutch in/out operation of fire pumps.

Sea Chest

One (1) independent sea chest for external firefighting is to be fitted.

Fire Fighting Equipment

A fireman and seven (7) hydrants are to be installed, four (4) on various deck levels, two (2) in engine room and one (1) under deck bow thruster compartment.

15M class approved type fire hose c/w brass coupling and nozzle is to be supplied and stowed alongside each hydrant in a protective box.

All nozzles to be dual jet/spray type and incorporating shut-off type. International shore connection is to be fitted.

Fireman's Outfit

One (1) aluminum asbestos protective clothing
One (1) breathing apparatus – oxygen tank and mask
One (1) fireman's axe
One (1) safety lamp of portable battery type
One (1) set of gloves and boots
One (1) length of lifeline

Portable Fire Extinguishers

Fire extinguishers as required by the classification and Government Authority are to be supplied and installed. For guidance, they are as follows:

Position

Wheelhouse: 4.5 kg. CO2
Forecastle Deck Accommodation: 4.5 kg. dry powder
Main Deck Accommodation: 4.5 kg. dry powder
Galley: 4.5 kg. CO2
Radio Station: 4.5 kg. CO2
Steering Gear Compartment: 4.5 kg. dry powder
Engine Room: 45 liters foam - mechanical 4.5 kg. dry powder 4.5 kg. dry powder
Under Deck Store Compartment: 4.5 kg. dry powder
Mess Room: 4.5 kg. CO2

A complete set of replacement charges are to be supplied by builder.

Fire Blankets

Two (2) off to be provided in engine room and galley respectively.
Fire Axe: One (1) off

Life Saving Equipment

The following lifesaving equipment shall be provided on board the vessel and shall be of the latest designed which comply with the manufacturers' standard and meet the international rules and regulations.

Life Raft (20 persons x 2 sets)

Inflatable life raft for 20 persons
Double skinned canopy, inflatable floor and weather tight seal
Provided with hydrostatic release, and in accordance with SOLAS standard

Life Buoy-Ring (8 sets)

According with SOLAS standard
Made from plastic or fiber
Comply with grab line and reflective panels
Launching device from wheelhouse quick release]

MOB - Light and Smoke Signal (2 sets)

Light and smoke signal
Automatic/manual emergency lifebuoy marker
Orange smoke and two lithium battery

The unit is to be constructed of corrosion-resistant materials and is to be fully weather protected until operated

Light Buoy Light

2 sets

Self-Contained Line Throwing Apparatus

4 projectiles

Parachute Distress Signal

12 units

Red Hand Flare Distress Signal

6 units

SOLAS Standard Synthetic life jackets with reflective tape, whistle and light

First Aid Kit

1 set

Classification

BV Class (Ocean Going)

Certificates

Builder's Certificate

Certificate of Classification

Cargo Ship Safety Construction Certificate

Cargo Ship Safety Equipment Certificate

Cargo Ship Safety Radio Certificate

International Tonnage Certificate

International Load Line Certificate

International Oil Pollution Prevention Certificate

International Sewage Pollution Prevention Certificate

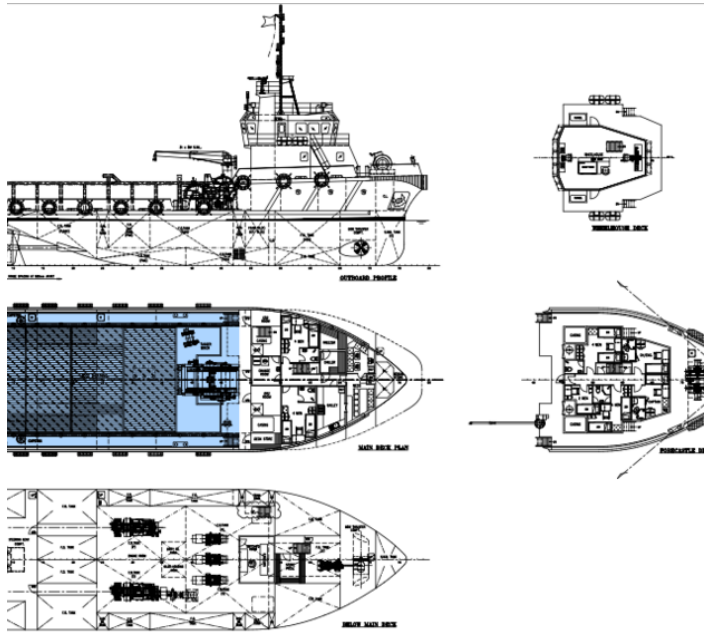
Statement of Compliance with the requirements for the Prevention of Pollution by Garbage

International Air Pollution Prevention Certificate

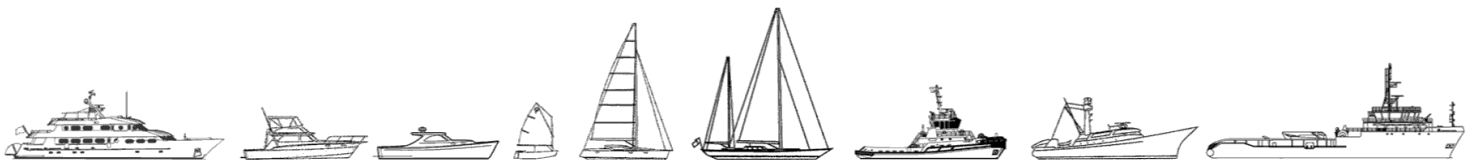
Drawings

One (1) set of Original drawing

Two (2) sets of Copies drawing



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