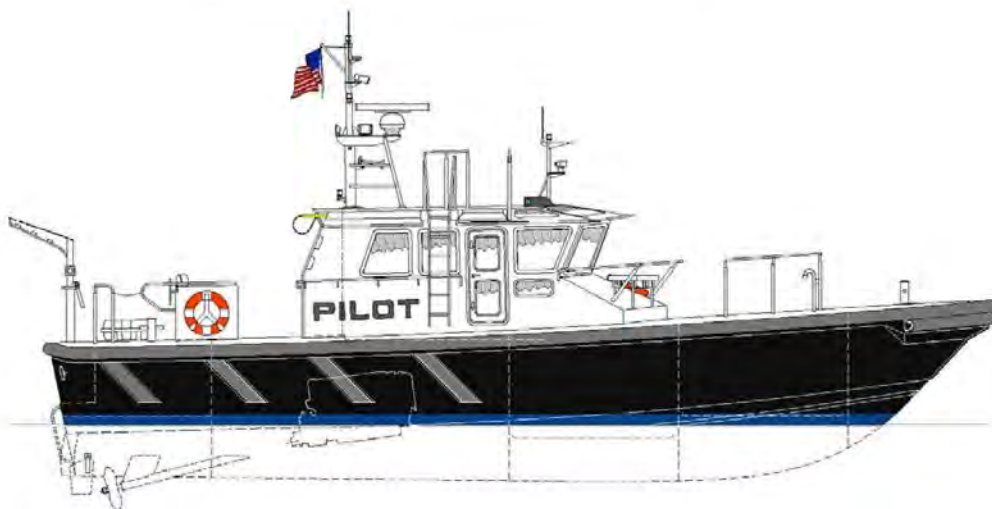
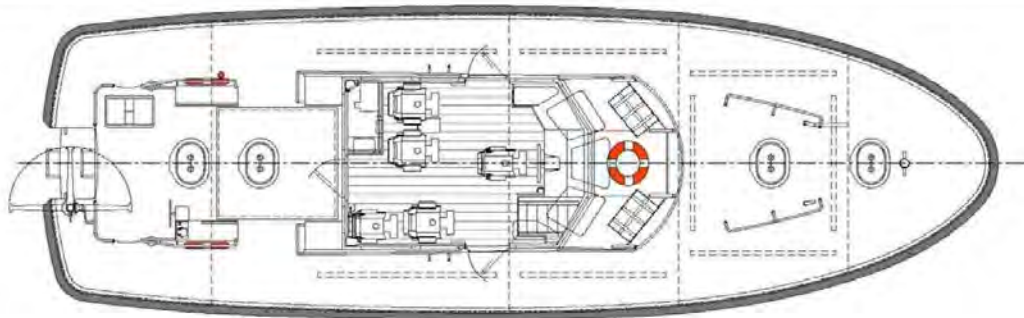


Tel: UK: +44 (0) 208 133 9203  
+44 (0) 745 238 4267  
USA: +1 (206) 866 5730  
AUSTRALIA: +61 (08) 6102 0192  
NIGERIA: +234 (0) 703 883 3437  
Skype:- alunow

## 16m Steel Hull Medium Speed Pilot Boat



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## The preliminary design particulars of the vessel, subject to client requirements and classification requirements as follows:

### General:-

Hull Type Semi-displacement, round bilge mono-hull  
Hull Material: Steel  
Wheel House: 5083 Aluminium

### Tankage:-

Fuel Oil Capacity 5,000 litres  
Fresh Water 250 litres  
Sullage 200 litres

### Propulsion Machinery:- (Subject to client requirements)

Engines 2 x FPT C13 770MHP or similar Marine Diesels @ 2300 RPM  
Gearbox 2 x Twin Disc MG 5114A or similar flange-mounted reverse reduction marine gearboxes. Reduction ratio: 1: 92 approx.  
Drives:- Conventional  
Engine / Gearbox Controls Twin Disc EC200 or similar electronic propulsion control system, single station

### Performance:-

Speed (full load)	25 Knots @ 100% MCR
Cruise	20 Knots (To be confirm subject to engines and drives)

### Classification:-

Classification Society- MCA or as required.

### Outfitting of Hull and Accommodation:-

Crew Two (2)  
Special Passengers Four (4)  
Helm Seating KAB Seating Marine 300K helm suspension seat or similar  
Pax Seating KPM Crew 100 MK5 or similar  
Crew & Passenger Facilities Restroom on lower deck complete with:  
WC with marine toilet (electric) and washbasin & showers  
1 x Table and settee  
1 x Bench with sink set in top, electric hob and cupboards below  
Accommodation fit out Bulkheads: lightweight, laminated Ayr-lite or similar & GRP panels  
Deckhead: lightweight, laminated Ayr-lite or similar panels  
Furniture: lightweight, laminated Ayr-lite or similar panels  
Floor-coverings: Vinyl (2.5 mm minimum)

### Air Conditioning & Fresh Air Ventilation:-

1 x "Marine Air Systems" air conditioning system, serving the wheelhouse/deckhouse and consisting of a Central Series Multi-Ton seawater cooled condensing unit (model CSP36HZ) or similar an induced air direct expansion air handling unit (model E12FD/Z) or similar; and, an induced air direct expansion air handling unit (model E24FD/Z) or similar, c/w seawater condenser pump and controller.  
1 x 250 mm duct fan for fresh air circulation within the wheelhouse/deckhouse and to provide fresh air make-up for the air conditioning system.  
1 x Forced fresh air ventilation system for restroom c/w ducting and air grille.  
1 x centrifugal inline sanitary exhaust fan, inclusive of flexible duct and cabin air grille.

### Wheelhouse & Deck:-

Windows 1 x set of toughened safety glass windows for the wheelhouse/deckhouse according to the classification society's glazing thickness and fixing requirements.

Windscreen Wipers (Wheelhouse / Deckhouse) 3 x Hepworth 50NM pantograph type windscreen wiper motor, 24VDC, heavy duty, c/w P615 wiper arm 26", B140 wiper blade 26", and multi-speed switch/control.

Railings will be arranged around the perimeter of the deckhouse and on the foredeck, as per the General Arrangement plan, to provided movement of the crew and the pilots around the main deck. Railings will also be fitted to the deckhead of the deckhouse, the wheelhouse console and other agreed locations as required for movement with the cabin.

### Hull Protection:-

Fenders Dfender system or similar will be supplied and installed along the sheer line of the main deck of the hull. This fender system, consisting of fender sections, made of polyethylene foam with a polyurethane elastomer skin.

### Navigation / Communications /Signaling / Search Equipment:- (Subject to client requirements)

Radar 4 kW, 48 nm,

GPS

AIS

Echo Sounder

Speed Log

Magnetic Compass

VHF DSC Class "E", c/w antenna

EPIRB 1 x Kannad 121 or simialr MHz c/w mounting bracket

Ship's Whistle

Searchlight

### Anchor & Mooring Equipment:

Anchor Windlass 1 x Maxwell VWC 3500 vertical windlass or similar with capstan head, electric, 3 phase, 50 Hz, c/w chain stopper, chain pipe, dual direction solenoids and up/down foot switches.

Anchor 1 x 52 kg HHP "Danforth" anchor or similar c/w 10metres of chain, swivels and shackles, and 120metres of 24mm diameter nylon rope

1 x 36 kg HHP "Danforth anchor or similar to be stowed on board as a spare

Bow Roller 1 x Custom fabricated stainless steel bow roller assembly

### Lifesaving, Fire Fighting & Safety Equipment:

Liferaft 1 x 8 person "Coastal Waters" liferaft c/w cradle, lashings and hydrostatic release

Lif jackets 8 x "Coastal Waters" adult lif jackets, each c/w self-igniting light, whistle and reflective tape.

Lifebuoys 4 x 30" SOLAS lifebuoys, 2 fitted with 27.5 m buoyant lines and 2 fitted with self-activating man-overboard (MOB) light or as per classification requirements.

Fire Extinguishers (portable) as required by classification

Fire Hydrants 2 x Fire hydrants c/w hoses, fittings & nozzles, with one hydrant on the aft deck and one hydrant on the foredeck; and, 1 x Fire hydrant c/w hose, fittings & nozzle in engine room

Fixed Fire Smothering System (Engine Room)

1 x Phirex "Mistex" water mist smothering system or similar, c/w thermal and smoke detectors, manual activation from outside engine room, siren and flashing yellow light

Fire Detection System 1 x Phirex 3 Zone fire detection system or similar (thermal and smoke) c/w control panel

First Aid Kit 1 x Type "E" first aid kit

## Ship's Systems:

### Steering System

An electro-hydraulic steering system will be used to manoeuvre the vessel. Hydraulic power for the system will be provided by hydraulic pumps driven off each main engine. One pump will have the capacity to operate the system while the other is on standby. Hydraulic steering cylinders fitted to the tiller arm of each rudder will give direction of the rudders on turning of the steering wheel at the main helm station. A tie rod will join the tiller arms of each rudder to give unison in direction. If required by class, a manually operated rotary pump will be fitted to the system to provide emergency steering in the event of failure of the main hydraulic system.

### Exhaust Systems

Exhaust systems for the diesel engines installed on the vessel will comply with the requirements of the respective engine manufacturers.

Exhausts for each main engine will lead from the exhaust outlet of the respective engine through the aft bulkhead of the engine room into the compartment immediately aft and on through the bulkhead to the steering flat before discharging overboard at the ship side just above the waterline and forward of the transom. A water-cooled silencer of GRP construction will be fitted into the respective exhaust line aft of the engineroom bulkhead. Cooling water from the respective engine's seawater cooling system will be introduced into the exhaust line forward of the silencer by a water injection unit fabricated from 316 stainless steel. A closing device will be fitted into the respective exhaust line immediately forward of the exhaust outlet at the shipside to provide for the servicing of the exhaust line while at sea. The exhaust pipework between the exhaust outlet of the engine and the aft engine room bulkhead will be fitted with thermal insulation as per classification society requirements.

The exhaust for the diesel engine of the auxiliary generating set will be fitted with a 2" (50 mm) Aqua-Lift type muffler, the outlet pipe of which will discharge at the ship side above the waterline. A modified butterfly valve will be fitted into the exhaust line inboard of the shipside exhaust outlet and will serve as a closing device.

### Bilge System

One bilge main with suction lines into each watertight compartment of the hull powered by a Jabsco type pump clutch driven from the main engine, sized according to Class requirements, with a back-up crossover to the electric firepump. The fire pump to be powered off the genset. Hand operated "Whale Gusher" type bilge pumps to be fitted for emergency use on failure of power/fire etc.

### Fire Main & General Service

One electric fire pump, with crossover connection to bilge system, piped to the three (3) fire hydrants and general service locations throughout the vessel (refer above).

### Seawater Cooling System

Supply of seawater from the sea chest integrated into the bottom hull structure to the diesel engines is via piping, suitably valved, to an elastic compensator / cooling pump built onto each diesel engine. Cooling water for the gearboxes is provided from a take-off of the seawater cooling of the respective main engine.

### Freshwater System

Fresh cold water, stored in a 100 litre capacity tank in the hull, is supplied to nominated tap outlets by a freshwater pressure pump system. Discharge of waste freshwater is directly overboard.

### Sanitary System Seawater

Supplied by the saltwater pump of the electric marine toilet, is used to flush the toilet. Discharged waste is flushed into a sullage tank (200 litre capacity).



A macerator pump mounted on the discharge outlet of the sullage tank macerates the waste before discharge either directly overboard or to a tank on shore.

#### Fuel Oil System

Fuel tanks, fabricated from steel plate and with a combined capacity of 5000 litres of fuel oil tank, are fitted into the hull (1 x centre-line tank located between the inboard engine girders in the engine room and 2 x wing tanks (1 port and 1 stbd) located in the compartment aft of the engine room).

Each wing tank will have a fill station at the main deck level and there will be a common balance line between the wing tanks with a take-off leading to the centerline tank to allow for transfer of fuel oil between tanks by gravity.

Each tank will be fitted with vent pipe, fitted with a vent cowl with anti-flash gauze, leading up to the main deck level. Fuel is supplied to the engines via S/S pipes fitted out with filters and valves, including a quick-acting fuel shut-off valve with cable actuator at the outlet of each tank. Fuel return lines take the surplus fuel back to the respective wing tanks.

#### Lube Oil & Dirty Oil Systems

Lube oil for the diesel engines is decanted from 20 litres oil drums, stowed in drum clamps in the tank room aft of the engine room, by means a hand pump and flexible hose.

Each diesel engine will have a hand operated lube oil extraction pump fitted for the decanting of dirty lube oil into drums on shore.

#### Engine Room Ventilation and Diesel Engine Combustion Air Supply

Two (2) suitably sized heavy-duty axial fans will provide air to the engine room to supply combustion air to the diesel engines and to ventilate the engine room. Air will be drawn in the engine room through air/water separators grilles fitted into the sides of the superstructure cowling fwd of the wheelhouse P & S and moulded-in duct chambers by the fans. Air will be exhausted out of the engine room via ducts P & S through the aft engine room bulkhead leading to air-out louvres located at the aft of the deckhouse P & S of entry door of the aft deck. The sizing of the respective air/water separators and louvres will be such to create a slight positive pressure within the engine room according the engine manufacturers requirements.

Fire flaps of an approved construction will be fitted in way of the duct inlets and outlets within the engineroom. In the event of a fire within the engine room, the fire flaps will be mechanical actuated from the main deck level by Morse cable to close off the flow of air through the duct. Fire flaps will be manually re-set via an adjacent inspection port positioned in the respective duct.

#### **Power Generation:**

Auxiliary Generating Sets 2 x Beta Marine21 or similar marine generator, rated 19.8kVA continuous @ 1500 RPM, 3 phase, 50 Hz

#### **Electrical System:**

415/220V, 50 Hz, 3 Phase AC, with insulated neutral, for general service and auxiliary equipment, light, navigational and electronic installation.

24V DC for navigational and electronic installation, alarm plant monitoring and governing.

On failure of the AC power supply, a switchover to emergency batteries (24V DC) will occur.

The electrical system will be designed and installed according to DIN and IEC standards and will be fully compliant with the rules, regulations and requirements of the Classification Society.



## Optional Extras:-

### Latchway Track System:-

A Latchway "Man Safe" track system, c/w harness (x2) each fitted quick-connect tractor assembly, can be supplied and installed to the railing of the deckhouse to provide increased safety for the crew and pilots when moving about the main deck and for pilots transferring from the pilot boat to another ship/vessel in adverse weather and sea conditions.

### Man Overboard Rescue Retrieval System:-

Retrieval System will be fitted to the stern of the pilot boat.

The cradle of the system is lowered and raised over the transom by a hydraulically operated rope winch on a support frame, which is fixed to the transom. The cradle incorporates a drop-down propeller guard to protect MOB patient from coming into contact with the rotating propellers as the pilot boat is manoeuvring astern to retrieve the patient from the water. An engine control station can be provided adjacent to the MOB system so that the Master has clear view of the patient during the rescue and retrieval procedure.

Details of the system will be provided on request.

Window anti-glare, UV protection, sun shade, window blinds by Sola-Cure.

**Offered without Ballistic Protection with Aluminium Wheelhouse.**

**Offered with Ballistic Protection to required level with option of Composite Wheelhouse for increased ballistic protection.**

Specifications and Equipment subject to client requirements  
Specification & Equipment subject to change without notice  
Specifications & Equipment subject to availability

All Prices are FOB Shipyard

Local taxes, applicable duties, port fees nor survey costs etc. are not included in specific offers unless stated

