



M.Y. Phoenix

Specifications

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LBP 130' (35.63m) DAVIE SHIPBUILDING LTD

General Specifications:

IMO NO:	7234272
TYPE:	Commercial Yacht
DISTICTIVE NOS:	V3RI6
BUILT:	Mfg-1973 / Model 1973 / Converted – 2008/2014
LAST DRY DOCK:	2016
BUILDER:	DAVIE SHIPBUILDING LTD
HULL MATERIAL:	STEEL
FLAG:	BELIZE
PORT OF REGISTRY:	BELIZE CITY
CLASS SOCIETY:	I.N.S.B.

Principle Dimensions:

LENGTH OVERALL:	39.85m
BREADTH:	9.14m
DEPTH:	4.88m
GT:	495T
NT:	149T

Machinery & Propulsion:

TOTAL POWER OUTPUT	1213KW
MAIN ENGINES	Caterpillar 3512 rated 1200 HP & Caterpillar 353 rated 420 HP. Father & Son Engines which are connected to a common gear box with separate Eaton Air Clutches for engagement.

Tanks Capacity:

FUEL TANKS	80,000 ltrs
FRESH WATER TANKS	18,374 ltrs
HOLDING TANK	9,463 ltrs
AVGAS TANK	900 ltrs (installed in 2014 & fitted with approved Electric Pump)

Flight Deck for Drone Operation:

CONSTRUCTED	2014
LENGTH	9m
WIDTH	11.40m
DECK LOAD CAPACITY	1 tonne per square metre
MATERIAL	Aluminium
DRONE RUN TIME EXPERIENCE	323 hours
DRONE FLIGHT TIME EXPERIENCE	298 hours

Accommodation - The Phoenix is certified to carry 23 persons on board

Owner's cabin:	sleeps 3
Captain's cabin:	sleeps 1
Chief officer's cabin:	sleeps 1
Chief engineer's cabin:	sleeps 1
Guest cabin #1:	sleeps 2
Guest cabin #2:	sleeps 4
Guest cabin #3:	sleeps 4
Crew cabin #1:	sleeps 2
Crew cabin #2:	sleeps 2
Crew Cabin #3:	sleeps 2

Electronics:

MF/HF Transceiver	FURUNO / FS-1575 / 3592-1422
MF/HF DSC encoder	FURUNO / FS-1575 / 3592-1422
MF/HF DSC watch receiver	FURUNO / FS-1575 / 3592-1422
INMARSAT	FURUNO / FELCOM-18 / 3598-7603
VHF No. 1	FURUNO / FM-8800S / 3565-4882
VHF No. 2	FURUNO / FM-8900 / 4504-3176
VHF DSC encoder	FURUNO / FM-8800S / 3565-4882
VHF DSC watch receiver	FURUNO / FM-8800S / 3565-4882
Handheld VHF (GMDSS 2-WAY) x 2	ENTEL / HT649 GMDSS / JHS07258, JHS 07296
EPIRB	MCMURDO / G5 Smarthfine Plus / 15869
NAVTEX	FURUNO / NX 500 / 8522-7323
GPS	FURUNO / GP-150 / 6446-1978
AIS	FURUNO / FA-150 / 004509
RADAR NO 1	FURUNO / FAR-28X7 / 4317-0280
RADAR NO 2	GARMIN / GMR 18HD / 1792A-GMR18
INMARSAT EGC	FURUNO / FELCOM-18 / 3598-7603
GYRO COMPASS	SIMRAD RGC 50
ELECTRONIC COMPASS	SIMRAD

WORKS CARRIED OUT 2014 AND 2016

Hull:

- Full Class Renewal Surveys completed and Certificate of Class issued (Mar 16)
- Full Ultrasonic Thickness Measurements carried out and report issued (Nov 15)
- Testing of Hull and Decks Steel repairs completed to class requirements (Jan 16)
- Underwater and Top Sides Hull completely blasted and recoated – SIGMA Alphagen 650 (Feb 16)
- Fuel, lube-oil, sewage and freshwater tanks cleaned and inspected.
- All Sea Valves overhauled/renewed and Tested (Feb 16)
- All anodes replaced.
- New Avgas Tank Installed
- Bathing Platform Rebuilt
- Fwd Port and Stb Fresh Water Tanks Blasted and Painted (Jan 16)
- Both Port and Stb Fish Holds Blasted and Painted (Mar 16)
- Bilges Blasted and Painted (Mar 16)

Machinery:

- Overhaul of Main Engine – by Maker's Technician (9,000 hours from overhaul)
- Overhaul of Aux diesel engine – by Maker's technician (1,000 hours from overhaul)
- Tailshaft withdrawn and calibrated. Hub & Blades overhauled and assembled with new seals (March 16)
- Rudder disconnected, Rudder Mechanism Overhauled, New hydraulic pipes and vales installed. All clearances recorded. All assembled back with new seals. (March 16)
- Propulsion Gearbox – Completely stripped down and rebuilt by Maker with new bearings
- Full electrical insulation test carried out on all electrical motors. (March 16)
- New Compressed air system, including compressors
- New Fire, Ballast, and Bilge Pumps;
- New Anchoring arrangement installed, including new Port & Stb Windlasses, new Anchors and Chains together with new Chain Lockers (Jan 16).
- Bow Thruster motor serviced by maker's technician, stem re-chromed to original state, all seals changed. (Feb 2016)
- Original keel coolers removed and replaced by heat exchanger (Feb 2016)
- Oil water separator serviced and certified (May 2014)
- New exhaust system and lagging fitted (May 2014)

Other:

- New Fire Detection System Installed
- New Air-conditioning system installed
- Galley hob and Oven renewed
- New Bilge alarm system

New Electronics:

- Completely new Radio Installation to Commercial Vessel Standards for GMDSS Areas A1, A2;
- **BNWAS** – Bridge Navigation Watch and Alarm System
- **AIS** – Automatic Identification System
- Depth Sounder and Speed Log
- New Seatel Satellite System with Wifi throughout
- CCTV System
- Wind Speed/Direction Indicator

PROPULSION

The vessel's propulsion system consists of a main and auxiliary engine (Father and Son) coupled to a common gearbox, driving a single variable pitch prop. Both are fed by separate fuel and control systems for safety and redundancy of the propulsion system.

Consumption of main engine and 100kW generator at 9 knots is 104 litres per hour.

Propulsion Shaft was withdrawn and propeller hub dismantled. Shaft and bearings calibrated and all assembled back with new seals in March 2016.

The “Father” Main Engine is a Caterpillar 3512 with 1,200 horsepower at 1200 max RPM. The “Son” engine is a Caterpillar 353 with 420 horsepower. The two engines are solid mounted, side-byside, on welded steel beds.

GEAR

The gear is a (rebuilt 2014) Lufkin 6600. Each engine has an Eaton Air Clutch for engagement. The gear turns at a single constant speed, with engines set at operating RPM, turning a steel 8" shaft with six bearings and a variable pitch propeller. The stern tube is a gravity fed oil filled tube. Shaft pulled Spring of 2016 with entire drive train renewed.

The Lipps propeller, with Kort nozzle, was reconditioned 2016 and is outfitted with Lipps electronic controls. There are three steering stations. The bridge, two bridge wings, all new in 2005. The steering gear is of Rolls Royce Tjeneford manufacture, completely rebuilt in 2016. Power for the steering system is supplied by two independent hydraulic power units, mounted port and starboard of the steering quadrant. Either one or both may be used to power the unit at any time; they may be switched over with no loss of steering function. The rudder post is 6" steel.

BOW THRUSTER

Thrustmaster, 250 HP, retractable bow thruster with Kort Nozzle. The unit rotates 360 degrees and can pull the vessel at 3 knots and serves as a 3rd back up "get home" propulsion. The unit is powered from a front mounted PTO, with HPD gear and triple pumps, on the "Son". The system has a separate oil reservoir tank, and raw water oil cooler with a Flomax #8 pump. There is a 240 VAC emergency pump to retract the unit if there were a failure of PTO. The thruster has operating controls at all four steering stations. It was completely rebuilt in March 2016.

FUEL SYSTEM

Three tanks, one in bow, two in lazarette, are integral with the hull. The total fuel capacity is approximately 80,000 litres. Each tank wall has an inspection man-hole and all have been inspected during drydock in 2016. Each tank has a 2" deck fill pipe and a deck vent. The fuel system is hard piped to the engine room with a manifold valve system and a 480 VAC transfer pump. The engines run off of, and return to, the forward tank. Fuel can be transferred to and from the aft tanks. An emergency mechanical shut-off is installed in the forward guest quarters above. A second shut-off is installed in the starboard deck locker, outside of and above the engine room. The fuel lines are hard piped to the fuel filters at each engine then USCG Type A-1 hose is used from the filters to the engines.

There are two additional tanks in the stern of the vessel that were converted to ballast tanks in 2009. These tanks could be reconverted to fuel tanks with minimal changes. The total approximate 53,000 litres.

FRESH WATER SYSTEM

Two tanks are integral with the hull. Starboard tank holds 11,806 litres and the port tank holds 6,567 litres. Both tanks have been opened, sand blasted, and painted with Amerilock 400. 3 pumps serve as primary pumps. Freshwater can be piped directly on board. Hot water is provided by a Bock diesel fired hot water heater, (new unit and exhaust stack 2005). The freshwater system is supplemented by a reverse osmosis Aqua Whisper 220 VAC water maker (new 2005). The unit is capable of making 6,813 litres of freshwater per day.

SANITATION

Head Hunter Tidal Wave, 240 VAC, Marine Sanitation Device with a 4,353 litres, polyethylene, holding tank, set in welded chocks in the bilge. 3,974 litres and 1,135 litres polyethylene tanks set in welded chocks in the bilge, for gray water with AC pump for overboard discharge. "Phoenix" is equipped with eight full bathrooms with Head Hunter toilets, sinks, and showers, Day Head. (All equipment, tanks, fixtures, and PVC plumbing are new 2014.) The Head Hunter sanitation device is capable of cleaning black water to enable overboard discharge.

VENTILATION

All cabins and common areas equipped with air conditioning, reverse cycle heat and Aqua Air control pads. The HVAC system is comprised of four Aqua Air units (new 2014). The engine room has powered ventilation with two 14" x 54" deck openings with manual dampers. The exhaust stacks are also power vented from the engine room to vent screens at aft side of stacks. All bathrooms have extractor fans.

The galley has powered ventilation over the stove to the outside of the vessel. All cabins, from the main deck up have bronze portholes, Diamond Sea Glaze windows and Joiner System steel doors.

The wheelhouse has bronze portholes, doors on each side, and Diamond Sea Glaze windows aft. The Owner's Suite has sliding Diamond Sea Glaze windows.

ELECTRICAL SYSTEM

The vessel has had the entire electrical system removed and replaced with new 2005 equipment, breaker panels throughout the vessel, and stranded copper wire. 480 VAC system with transformers for 240 and 110 VAC. There is one Caterpillar 320 KW generator attached to a Caterpillar 3406 engine. Two Northern Lights 99 KW generators with 12 volt start each having separate 12 VDC 8D batteries in approved boxes. The exhausts are dry stacks with drains and heat wrap running to the exhaust Towers (2014). All new (2005) stranded copper wiring and breakers panels throughout vessel. All heads and wet areas have GFI plugs. 480 VAC 60Hz 100 amp shore power connectors with main breakers, ship/shore selector safety switch. 12 and 24 VDC systems for electronics and emergency lights throughout vessel.

There are 4 battery chargers under the Wheelhouse:

- 1 X 12 V 40 Amp
- 1 X 12 V10 Amp
- 2 X 24 V 25 Amp

There is 1 battery charger in the Engine Room:

- 1 x 24 V 25 Amp

The dual filament navigational lights are equipped with a monitoring panel in wheelhouse. The vessel is wired with recessed lights and 110 outlets in all staterooms, cabins, galley and salon. 220VAC is available in the Work Room; Crew Lounge; Galley; and on Deck. The vessel has AC flood lights on all weather decks.

VIDEO EQUIPMENT

- 16 channel analog DVR recipe of 2 TB hard disk, which connects total 16 cameras,(all pro mariner) including 2 PTZ 360° movable cameras.
- Dual stream video compression; all channel real time.
- HDMI/VGA simulation video outputs.
- Real-time playback, Smart search, support multibrand camera, Panasonic, Pelco, Samsung, Sanyo , Sony , vevo attack etc. support 1 sata HDD up to 6 TB. 1 USB 2.0
- Multiply network monitoring web viewer CMS DSS smart PSS and smart phone DMSS.
- Advance intelligent function: trip wire intrusion abandoned missing detection alarm.
- 21 inch screen on the bridge, Wi-Fi connection abilities from all screens smart TV on board(5 Sony 4K)
- DVR abilities are to contain at least one full month plus, all recorded activities from the 16 channels in.
- On line control and view abilities off shore and on shore control abilities, Smart phone control, search, PTZ and visual. (Via Internet).
- All 16 camera include PTZ cameras have infrared (IR) abilities day a and night view.

INTERNET CONNECTIVITY AND WIFI SYSTEM

The Phoenix is equipped with a Sea Tel 6012 TxRx Antenna system including:

- 1.5m Ku-band Antenna
- Comtech 15 Watt BUC
- Swedish Microwave
- Quad band LNB
- IDirect Evolution X5 Satellite Router
- Times Microwave LMR-600
- Times Microwave New type Mate connector
- Cisco Analoge Telephone Adapter
- The Wifi is provided by 8 Peplink PepWave AP one wireless access points which are all controlled by the Pepwav dual WAN router
- The Inmarsat Sailor Fleet Broadband 250 provides a backup system for phone and internet connection.

CONSTRUCTION OVERVIEW

Originally Lloyd's classed, the hull is welded 3/8" steel plates over 3" x 5" x 5/16" steel angel frames set at 18" on center and ice sheathed. There are five structural bulkheads and 12 longitudinal stringers of 3" x 4" x 5/16". There are side stringers of 3" x 9" x 9/32". The frames are welded to each stringer. The hull is insulated with foil faced fiberglass insulation. There are 10" and 14" sea chests and three decks of 9/32" steel plate. New steel pipe 42" high rails have been installed around all deck spaces.

DECK HATCHES AND WATER TIGHT DOORS

There is a raised watertight scuttle hatch for forward locker. There is a two deck scuttles from the engine room and crews quarterdeck to foredeck. The engineering deck has a 3'x3' deck hatch, up to the main deck and two Freeman hatches to the starboard bil ge. The port bilge has a steel door and short ladder. The lazarette has a raised scuttle hatch. The engine room has three watertight doors, one from the main deck and one from the engineer's tool room The main deck and upper deck have a total of five steel doors to the side decks. There are 6 watertight doors, new in 2006, plus one in the Transom.

FIRE FIGHTING

Two Flo Jet 8 480VAC run off any generator or shore power. Both pumps are also used for bilge pumping with crossover valve manifold. There are firefighting stations at: the foredeck, engine room, main deck at engine room door; aft deck, aft crane deck and tool room. Each station is equipped with 100' or 50' hose and nozzle. A diesel powered emergency fire pump is located in the Lazarett. The engine room has a fire suppression system with four 100 lb. Carbon Dioxide cylinders with automatic release switches and a manual release at engine room door on the main deck. There is a general alarm system with activation switch in wheelhouse.

The vessel carries 31 ABC various sizes of portable fire extinguishers.

SAFETY

- Life rafts :
 - 25 person x 2 Lazilas
 - 15 person x2 Lazilas
- EPIRB : Mc Murdo 406
- SART: ACR Pathfinder 3
- Immersion Suits: 24 Stern/Narwhal/Lazilas
- 2 fireman's outfit with BA sets :Dragar/Sabre
- Inflatable lifejackets: 12 Lazilas
- Fixed Emergency fire pump
- NFS -320 Notifier by Honeywell integrated alarm system with 57 heat and smoke sensors
- 24 Volt emergency light system
- Emergency battery system for critical bridge equipment

DECK EQUIPMENT

New 2005, Palfinger Marine PK 60000M hydraulic crane, rated at 20 ton max lifting, 6,000 lbs at sea. The base is mounted on a 9/16" x 36" steel column that runs from the crane deck, down through the main deck, engineering deck and welded at all bulkheads and decks. Crane operation is at the crane or with a remote.

- Two capstons on aft Deck (2015)
- Two new anchors and winches (2016)
- Optional A frame capable of 10 ton lift
- Sample Winch
- Hoist Winch 10 ton

FAST RESCUE BOATS

Two rescue boats (Maker Ribquest) 6m long, installed Port and Stb., with 2.4m beam in Orange GRP. Maneuvered by Single Jockey Console on Centre line. Aft 'A' frame mounted with support bars and mooring cleats. Powered by 2 Outboard Yamaha F70AETX four stroke engine. Equipped with 4 lifting eyes, Marine loud speaker, All boat covers and Amber LED Strobe mounted to A Frame. RHIB's are hybrid type, 8mm special foam around an air bladder; if the RHIB is hit or punctured will retain it's shape and capability.

GALLEY

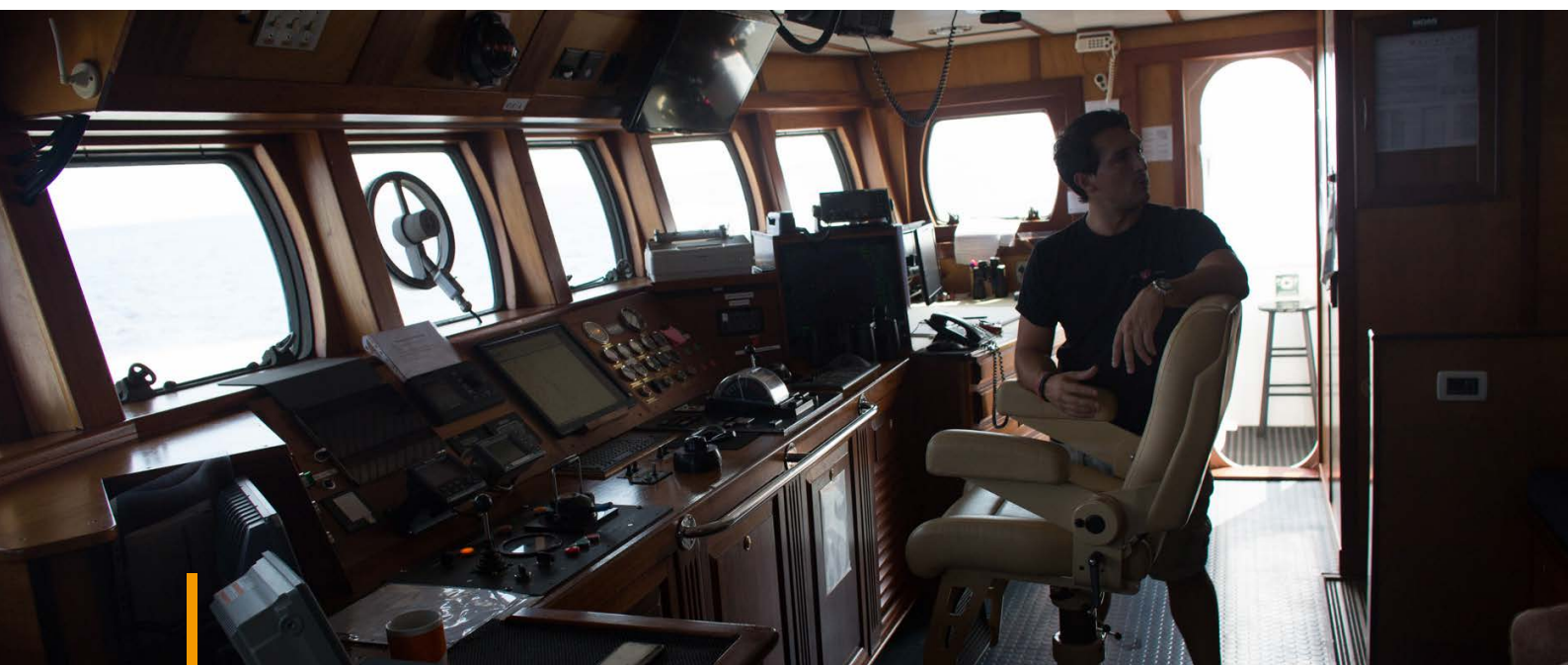
Large galley with two tables and built-in benches with seating for 15 plus. There is a True, double door, stainless Refrigerator and Freezer Unit, a Kitchen Aid Dishwasher, Jenn Air Range, Sharp Microwave and Bosch Oven. The Galley is finished with Cherry Cabinetry, Corian Countertops and rubber deck tiles. At the forward end of the Galley are 2 large tables capable of seating 15 with a flat screen TV, DVD and stereo.



Clinic

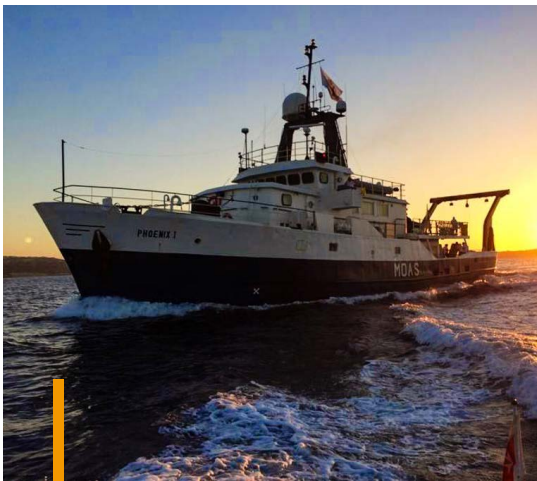


owners' cabin



Bridge

Flight Deck for Drone Operation



Optional A-Frame



Engine room

Captain's cabin



Workshop



Galley



Forecastle



CONTACT:

TANGIERS MARITIME Ltd

54, Melita Street,
Valletta VLT 1122,
Malta

Telephone: **+356 2778 0016**

Email: **info@tangiersmaritime.com**

