



09/06/2025

לכבוד: משתתפים פוטנציאליים - מכרז פומבי מס' 10/2025 – רכישת סירה לצרכי מחקר

הנדון: הודעה מס' 1 - תשובות לשאלות הבהרה

מס'	סעיף	פירוט השאלה/בקשה להבהרה	תשובה
1	עמ' 4- סעיף 1	כל יום איחור 2,000 ₪ זה מוגזם, עושים הכל על מנת שלא יהיה איחור אך בפרויקטים כאלה יכול להיות ו- 2,000 ₪ ליום זה סכום גבוה מאד אם אפשר להוריד ל- 500 ₪	הבקשה מתקבלת באופן חלקי. סכום הקנס יופחת לסך של - 1,000 ₪ ליום.
2	עמ' 14- סעיף 1	ערבות - רשום 30,000 ₪ ו-20,000 ₪, מה הנכון?	הכוונה לסך של 30,000 ₪ מצ"ב טופס מתוקן, כמו כן, תוקף סיום הערבות תוקן ליום 30.9.25
3	עמ' 24 סעיף 7.3.4d	אבקש הבהרה לגבי ה-A frame אם יש שרטוט או תמונה של מה הכוונה? ידוע שזה קשת אחורית אבל רעיון עם הכננת?	ראו להלן סרטוט ותמונה. שימו לב! התמונה להמחשה בלבד.
4	עמ' 22- סעיף 7.3.4a	צריך לבדוק אם ניתן להעמיס טון על מטר רבוע האם בכוונה בחלק אחד או יש דרישה להעמסה של כמה טונות ביחד? – לפרט את הדרישה?	הכוונה לעומס מפורס של טון למטר רבוע, כלומר – על כל מטר רבוע ניתן להעמיס טון. בכל מקרה לא יועמס על הספינה יותר מהאמור בסעיף 3.7 בעמ' 4
5	עמ' 25- סעיף 8.4.1	הדלק גם צריך להספיק 24 שעות של הגרטור, השאלה אם במקרה של מנועים חיצוניים בנוזל עדיין רוצים גרטור דיזל ואז מיכל דלק דיזל בנפרד או ניתן גם להתקין גרטור בנוזל?	במפרט העדכני אין אופציה למנועי בנוזל אי לכך שאלה זו מתייתרת. מצ"ב המפרט המעודכן.
6	כללי	לבקש דחיה משמעותית, לפחות 30 יום, בתאריך הגשת שאלות הבהרה למכרז שבנדון. מדובר בסירה מורכבת, עם מפרט מאד ספציפי, מרובה במערכות ובציוד שנרכש בנפרד ואין באמת יכולת לדון ברצינות בפרטי הפרטים ובמשמעויות מול היצרנים, ואלה מול ספקיהם, כדי לבחון ולדון במשמעויות, ולהתאים את השאלות לסוגיות שעולות. החודש שניתן מאז פרסום המכרז פשוט לא מספיק ע"מ להתקשר עם יצרן ולהיכנס לעובי הקורה ברמת המקצועיות הנדרשת, ובמיוחד כשמדובר בתקופת שיא מבחינת ההכנות לעונה והלחץ הנילווה במספנות ובקרב יצרני המערכות.	הבקשה מתקבלת. המועד האחרון להגשת שאלות הבהרה ידחה ליום 18.6.25 ובהתאם המועד האחרון להגשת הצעות ידחה ליום 6.7.25 עד לשעה 12:00.



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התחנה
הרכבת בילי ופסא



ידיד המזרח
YARD HAMIZRACH



החברה לפיתוח יפו העתיקה בע"מ
סמטת מזל דגים 17
יפו העתיקה 6803636
טל' 03-7761222

אוצר מפעלים בע"מ
כ"ג יורדי הסירה 1, ת.ד. 6041
תל-אביב 6106001
טל' 03-5441405

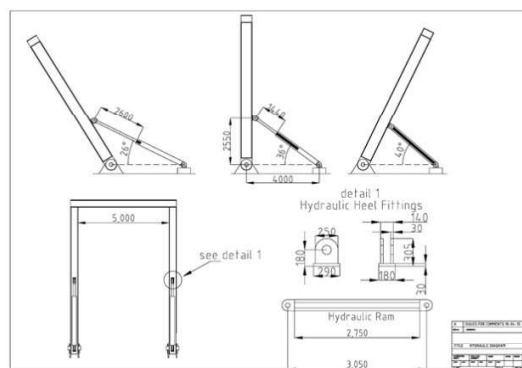
אתרים בחוף תל-אביב
חברה לפיתוח אתרי תיירות בת"א-יפו בע"מ
הארבעה 21, תל-אביב 6473921
טל' 03-5640100



מס'	סעיף	פירוט השאלה/בקשה להבהרה	תשובה
		אנו מתייחסים ברצינות רבה למכרז, למפרט, ולכל סעיף בדרישות, והדוחק אינו מאפשר את תשומת הלב הנדרשת.	

דוגמאות ל A frame הידראולי

התמונות להמחשה בלבד !! ואינן מהוות המלצה או העדפה.



הודעה זו מהווה חלק אחד ובלתי נפרד ממסמכי המכרז ויש לצרפה להצעה במכרז, כשהיא חתומה על ידי המציע. אי צירוף המסמך להצעה כאמור, עלול לפסול אותה.

חותמת + חתימת המציע



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ידי המזרח
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החברה לפיתוח יפו העתיקה בע"מ
סמטת מזל דגים 17
יפו העתיקה 6803636
טל' 03-7761222

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הארבעה 21, תל-אביב 6473921
טל' 03-5640100

אתרים בחוף תל אביב – חברה לפיתוח אתרי תיירות בת"א-יפו בע"מ

מכרז פומבי דו שלבי מס' 10/2025 לרכישת כלי שייט

הודעה על דחיית מועדים

אתרים מבקשת להודיע לציבור על דחיית מועדים במכרז שבנדון, כמפורט להלן:

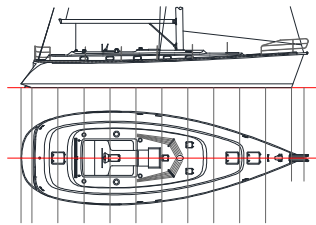
1. המועד האחרון למשלוח שאלות הבהרה ולבדיקת הערבות הבנקאית ידחה ליום 18.6.25 בשעה 16:00.

2. המועד האחרון להגשת הצעות במכרז ידחה ליום 6.7.25 בשעה 12:00 במשרדי הנהלת אתרים ברחוב הארבעה 21 בתל אביב (קומה 6 – מגדל פלטינוס).

ניתן לעיין במסמכי המכרז באתר האינטרנט של חברת אתרים בכתובת www.atarim.gov.il

שאר תנאי המכרז יישארו ללא שינוי.

בברכה, אתרים בחוף תל אביב
חברה לפיתוח אתרי תיירות בת"א-יפו בע"מ



The Israel Oceanographic and Limnological Research (IOLR) organization



&

Atarim Group



Research Boat Specification
English version Draft No. 6
March 2, 2025.

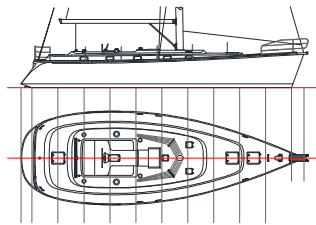
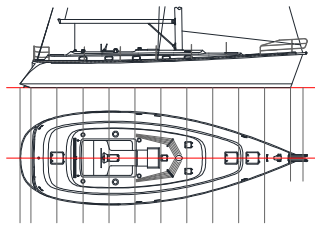


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1. General:

The Israel Oceanographic and Limnological Research (IOLR) organization, in collaboration with the Atarim Group, is seeking to procure a research and service vessel for operations along Israel's coastal shelf in the Mediterranean Sea. The vessel will also be equipped to assist other vessels in firefighting and respond to flooding emergencies.

2. Purpose:

2.1 Routine Operations:

2.1.1 Deployment, operation, and retrieval of various oceanographic instruments such as Rosette samplers, CTD sensors, grabs and towed instruments (e.g. plankton net).

2.1.2 Deployment, operation, and retrieval of gliders and remotely operated vehicles (ROVs).

2.1.3 Conducting surveys, shallow marine mapping, and research activities including diving operations.

2.1.4 Performing routine maintenance and oversight at marinas.

2.2 Emergency Operations:

2.2.1 Assisting with firefighting on vessels.

2.2.2 Assisting with floodings on vessels.

3. General Specifications:

3.1 Hull Type:

Monohull or multihull.

3.2 Vessel Length:

Between 9.5 – 12 meters.

3.3 Vessel Width:

Minimum 3 meters.

3.4 Maximum FB Draft (Fully Loaded):

65 Cm.

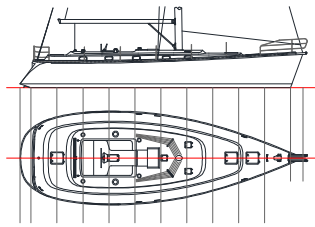
3.5 Propulsion System:

Twine engines in one of the following configurations:

3.5.1 Option 1: Dual diesel inboard engines with direct drive configuration.

3.5.2 Option 2: Dual diesel inboard engines with V- drive configuration.

3.5.3 Sterndrive configuration will **not** be accepted.



3.6 Minimum Cruising / economic Speed:

25 Knots under full load.

3.7 Full Load Displacement:

Full load displacement will include crew and passengers, personal equipment, and research gear, totaling 2,000 kg.

3.8 Passenger and Crew Capacity:

Boat will be Authorized to carry 12 crew & passengers.

3.9 Minimum Range at cruising / economic speed:

250 Nautical miles.

3.10 Dead Rise Angle:

17 Degrees min.

3.11 Construction Material Options:

One of the following construction materials:

3.11.1 Marine-grade aluminum.

3.11.2 Marine-grade HDPE (high-density polyethylene).

4. Registration and Licensing:

4.1 The vessel must fully comply with all requirements set forth by the Israel Ministry of Transport for commercial use. It will be registered as a research/service boat under the relevant authorities. The Seller shall be responsible for managing and completing the entire registration process with the Israel Ministry of Transport, ensuring full compliance and successful registration. The registration process shall be deemed complete only upon official confirmation of successful registration by the relevant authorities.

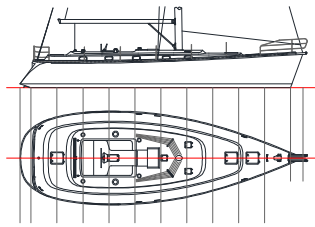
4.2 The vessel radio station must fully comply and register both with all requirements set forth by the Israel Ministry of Transport and the Israeli ministry of communication.

5. Design and Construction Standards:

5.1 The vessel and its systems will be designed and built according to ISO category B standards or superior (IACS classifications).

5.2 All systems and components on board will be marine grade, produced by reputable manufacturers, ISO / CE / AYBC approved (or similar) that are represented in Israel and appropriate to their mission.

5.3 Special attention will be given to watertight compartment, buoyancy and damaged stability conditions, aiming to keep the boat afloat under any circumstances.



6. Construction Materials:

One of the following construction materials:

6.1 Marine-Grade Aluminum Construction:

6.1.1 The vessel will be built of marine-grade aluminum (series 5000) per the relevant standards. The hull's bottom plate will have a minimum thickness of 6 mm and will include reinforced impact keel protection.

6.1.2 Extruded materials like profiles and pipes will be marine grade aluminum from 5000 or 6000 series.

6.1.3 Quality certificates for plates and extruded materials must be provided and approved before construction.

6.1.4 Appropriate welder certifications must be provided and approved before construction.

6.1.5 NDT (non-destructive testing) reports for welds must be submitted after the construction of the metal structure.

6.2 HDPE Construction:

6.2.1 The vessel will be built out of marine grade HDPE (PG 100) panels and will include reinforced keel protection.

6.2.2 Material quality certificates must be provided and approved before construction.

6.2.3 Appropriate welder certifications / training must be provided and approved before construction.

6.2.3 NDT reports for all welds must be submitted upon completion of the HDPE structure.

7. Functional Design from Bow to Stern:

7.1 Forward Deck:

7.1.1 A safe crew operation station, including a compliant handrail, accommodating at least one crew member.

7.1.2 Two mooring devices, one on each side of the bow.

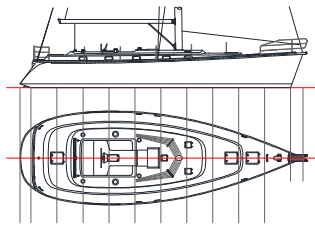
7.1.3 An anchoring system, including anchor, anchor chain, electric windlass including rope capstan and anchor chain storage.

7.1.4 Firefighting station with a water cannon mounted on the bow or on a tripod.

7.1.5 Access to the bow deck through a doorway in front of the wheelhouse.

7.2 wheelhouse:

7.2.1 The superstructure will be positioned at the mid / forward deck of the boat leaving a large aft working deck.



7.2.2 The superstructure will include:

- a. Steering console equipped with all control and monitoring systems, accommodating both seated and standing operation seats for the skipper and one additional crew member. The console will include two shock-absorbing seats (non-riding type).
- b. Dual-seat workstation for laptop and / or desktop use.
- c. Dual seating area with a table and at least two additional chairs.
- d. Refrigerator with a minimum capacity of 200 liters.
- e. Electrical Toilet with a shower unit, accessible from the outer rear of the wheelhouse.
- f. Wet sample standing processing and organization station, located outside the rear of the wheelhouse.

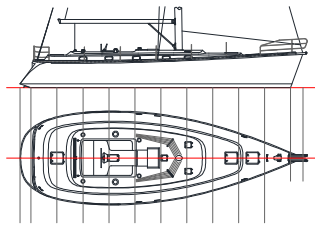
7.3 Aft Work Deck:

7.3.1 The aft deck will occupy at least 40% of the vessel's total length and span its entire width.

7.3.2 The aft deck will be one level and flat, equipped with at least 6 evenly spread female threaded 10 mm eye bolts lashing points for equipment loading, securing, and operation.

7.3.4 The aft deck will feature:

- a. Load capacity of at least 1 ton/m².
- b. Minimum 1-meter-wide opening at the stern for lowering equipment.
- c. Electric / hydraulic marine crane with a 1-ton-meter safe working load lifting capacity. The crane will be located mid aft deck, as close as possible to the side and will include a 6 mm wire winch. For more details, please see appendix no1 - Maxilift M 110 S spec sheet.
- d. Stern located A-frame (electric/hydraulic) with a 500 kg safe working load lifting capacity. One of the A-frame perpendiculars will be equipped with electric/hydraulic 500 kg safe working load rope winch with self-tailing and foot operating switch. The rope capstan will be appropriate for continuous use of at least 20 min. 3 A frame blocks base will be evenly spread on main beam and will be also adequate for rope direction snatch blocks will be positioned on A-frame for combined use of both A-frame and rope winch.
- e. Rigid, compliant handrail with removable/openable sections as needed.
- f. Lockable storage compartments in the boat's bulwarks if applicable.
- g. Six (6) foldable / quick dismantling seats.
- h. Four mooring devices, one on each side of midship & one on each side of the stern. Stern mooring devices will be reinforced for research equipment towing.
- i. Aft deck will contain four (4) 12 l diving tanks secured storage stations.



7.4 Diver Access Doors:

7.4.1 One side of the boat on the aft deck (opposite to multibeam station) will consist of a diving door with a detachable ladder for boarding and exiting.

7.4.2 Diving ladder storage will preferably be located on wheelhouse sidings to be used as wheelhouse roof access ladder.

7.5 General Deck Features:

7.5.1 The aft deck will be designed as flat surface deck, will contain self-draining capabilities, drainage openings will be closable or fitted with appropriate non-return valves if applicable.

7.5.2 rubber fender or equivalent material that will be preapproved with a minimum base width of 15 cm will encircle the vessel, except at the stern.

7.5 all under deck lower compartment will be fitted with appropriate watertight manholes that will allow easy access and the use of the compartment for storage.

8. Systems:

8.1 Propulsion System:

8.1.1 Dual-engine and propulsion system either:

- a. Dual diesel inboard engines with direct drive configuration.
- b. Dual diesel inboard engines with V drive configuration.

8.1.2 The propulsion system must have consistent service representation in Israel.

8.1.3 Propulsion system will include necessary accessories such as throttle controls, digital control panels, wiring, wireless connection, starter batteries, etc.

8.1.4 Remote wireless control station for the propulsion and steering systems.

8.2 steering system:

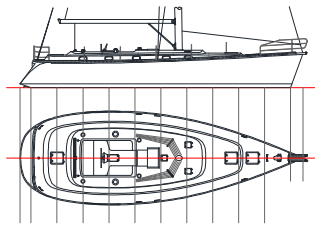
Electric / hydraulic steering system will be installed

8.3 Electrical Systems:

8.3.1 vessel will feature AC (220V/ 1 phase) and DC (12V) electrical systems. Isolated floating systems will be required for aluminum hulls. Where aluminum hull is provided, certification for permissible electrical leakage levels must be provided. Appropriate 3 kw UPS system will be installed for all research-related equipment – please see appendix no 5 for Eaton UPS system details (or alike).

8.3.2 AC System Components will include but not be limited to:

- a. Sound shield, single phase, min 5 kw, 1500-1600 rpm range, diesel generator.
- b. Generator will consist independent starting battery.
- c. Shore power to generator selector switch.
- d. Main and sub-distribution panels.
- e. Isolating transformers for aluminum hulls.



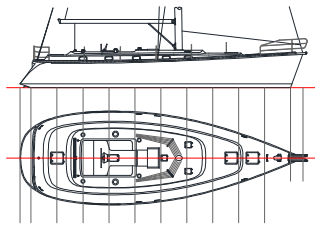
- f. 80-amp battery charger.
- g. Marine water-cooled air-conditioning system, min 850 BTU per one of wheelhouse cubic m.
- h. Water heater.
- i. Waterproof single-phase service outlets.
- j. 25-meter shore power cable.
- k. Galvanic isolator.
- l. Work lights (led) on the wheelhouse, bow deck, and aft deck.
- m. 2000-watt AC-DC transformers with built-in sockets.
- n. minimum of 6 Israeli standard 220 v indoor sockets in the wheelhouse, and minimum of 2 watertight protected 220 v outdoor sockets at the aft deck.

8.3.3 DC System Components will include but not be limited to:

- a. Wheelhouse windshield wipers and spray washing system.
- b. 5 Gallon/h freshwater pump.
- c. Marine type electric toilet.
- d. 720 Amp/h deep cycle gel hose battery set.
- e. Anchor chain windlass with rope capstan.
- f. Remote control search light.
- g. 800-Watt Foot operated electrical winch (up to 16 mm rope) mounted on A-frame perpendicular.
- h. Crane system.
- i. A-frame system.
- j. Horn
- k. Two (2) 12 volt and two (2) USB sockets in helm station.
- l. Bilge pumps.
- m. Emergency flood pump watertight power socket on aft deck.
- n. Windlass with rope capstan.
- o. Cabin led lights.
- p. Nav led lights.
- q. Saltwater deck wash pump

8.4 Fuel System:

8.4.1 The system will include two fuel tanks (one for each engine), capable of sustaining 10 hours of operation at cruising at an economic speed of 25 knots (under full load). Fuel capacity will also support 24 hours of generator consumption above engine consumption.



8.4.2 Components will include but not be limited to:

- a. Fuel manifold for flexible operation, each tank will be able to supply each one of the consumers solely and parallel.
- b. Primary and secondary filters with water separators for each consumer.
- c. Emergency valve shut-off system.
- d. Each tank will be supplied with min 350 mm diameter inspection hatches and easy access to instruments and components above it.
- e. fuel gauges.

8.5 Freshwater System:

8.5.1 Minimum 200-liter freshwater tank, with inspection hatch and easy access to instruments and components above it.

8.5.2 Cold and hot water supply to sinks, shower and exterior aft deck open shower.

8.5.3 Electric freshwater pump (12V) accompanied by an accumulation tank.

8.5.4 Water gage.

8.6 Sanitary Water System:

8.6.1 100-liter wastewater tank.

8.6.2 Dual-direction valve for sea or deck discharge.

8.6.3 Wastewater tank gauge.

8.7 Saltwater deck wash system:

A saltwater washing system will be provided on the aft deck.

9. Navigation and Electronics:

9.1 Multifunction display and chart plotter

9.1.1 Min 12-inch or larger touchscreen.

9.1.2 Capability to upload geo referenced images (Geo TIFF format or equivalent).

9.2 GPS antenna.

9.3 High resolution depth sounder and fish finder up to 200 m of depth, min 1 kw CHIRP transducer. transducer, min 1 kw CHIRP.

9.4 Wind speed and direction indicator.

9.5 Fixed marine VHF radio with DSC and loudhailer.

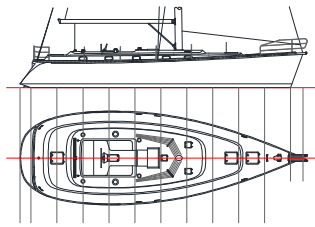
9.6 Handheld marine VHF radio with an additional battery.

9.7 AIS (Automatic Identification System) transceiver type B.

9.8 24-mile Radar dome.

9.9 Emergency Position Indicating Radio Beacon (EPIRB).

9.10 auto pilot system.



10. Safety Equipment:

The boat must comply with the Israeli transport regulations for commercial vessels under 24 meters as follow:

10.1 Twelve (12) IMO type 1 personal flotation devices for all authorized crew & passengers, marked with vessel registration numbers and equipped with lights.

10.2 Two (2) mounted life buoys with self-activating lights and 21-meter ropes.

10.3 12 Persons IMO Inflatable life raft (hard canister), including cradle and hydrostatic release to be mounted over wheelhouse roof.

10.4 Six (6) safety harnesses with lifelines.

10.5 Pyrotechnic equipment:

10.5.1 Two (2) orange floating smoke marks.

10.5.2 Four (4) red parachute flares.

10.5.3 Six (6) handheld red flares.

10.6 Minimum of 3 liters per person of drinking water.

10.7 Main & secondary Anchors:

10.7.1 Main anchor will be supplied with adequate chain and secondary anchor will be supplied with rope.

10.7.2 Anchor weight, chain, and rope specifications based on vessel length as follows:

Boat length	Anchor weight (kg)		Chin / Roope diameter (mm)			
	Main anchor	Secondary anchor	Main anchor chain	Main anchor rope	secondary anchor chain	secondary anchor rope
8.00-8.99	10	5	8	12	6	10
9.00-9.99	11	5	8	12	6	10
10.00-10.99	13	6	8	12	6	10
11.00-11.99	15	7	8	12	6	10

10.7.3 Minimum mooring chain or rope length: 70 meters.

10.8 Emergency tiller (if applicable).

10.9 First aid kit (Israeli transport regulation type 3) for commercial vessels. Please see appendix no. 2 for list of content.

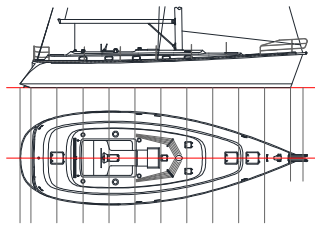
10.10 Daytime signaling kit:

10.10.1 Three (3) black balls

10.10.2 One (1) black cone.

10.11 lights:

10.11.1 Navigation lights



10.11.2 Anchor light.

10.11.3 Restricted ability to maneuver lights.

10.11.4 not under command lights.

10.12 Signaling flags set.

10.13 6" Diameter magnetic compass with illumination.

10.14 Hand compass for bearings.

10.15 Israeli flag.

10.16 Fire extinguishers (non-Halon):

10.16.1 Three (3) 3-kg mounted extinguishers.

10.16.2 Adequate automatic fire extinguisher system in each engine compartment.

10.17 Automatic fire alarm in each engine compartment.

10.18 Bilge pumps:

10.18.1 Manual bilge pump with suction capability across all compartments.

10.18.2 Electric bilge pumps for each one of watertight compartments including automatic noise bilge alarms and manual / off / automatic switch panel.

10.18.3 Portable submersible pump (12V) with a minimum capacity of 1,200 gallons per hour, 10-meter hose, 20-meter power cable and adequate water proof socket on aft deck.

10.19 Two (2) buckets for water removal.

10.20 Marine binoculars (7x50).

10.21 Swim ladder for water access.

10.22 Heliograph signaling mirror.

10.23 Logbook.

10.24 Handheld flashlight with backup batteries.

10.25 Radar reflector (for non-metallic vessels).

11. Firefighting pump and accessories:

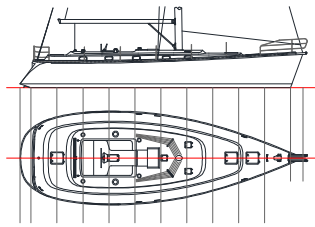
11.1 Onboard permanent installed firefighting self-priming pump with a minimum flow rate of 1,200 liters/min.

11.2 Intake Sea chest with shut-off valve and primary filter for seawater.

11.3 Post operation freshwater rinsing option.

11.4 Firefighting cannon on a post with a minimum flow rate of 1,200 liters/min.

11.5 Two additional water outlets with hoses (2" or 3") and two turbojet nozzles with a minimum flow rate of 250 liters/min each.



12. Additional Requirements:

12.1 Noise Insulation:

Noise levels must comply with Israel transport standards and remain below the harmful noise threshold of 80 dB(A) @ 75% of max engine rpm, eliminating the need for hearing protection during vessel use.

12.2 Heat Insulation:

The wheelhouse structure will be insulated against heat.

12.3 Non-Slip Decking:

The deck surface will feature anti-slip material or coating.

12.4 Anti-Fouling Paint:

The underwater hull will be coated with anti-fouling marine paint system from approved brands (e.g., International, Tambour, Danbar if applicable).

12.5 Portable Fenders:

Six portable fenders will be provided.

12.6 Mooring Lines:

Six (6) 16 mm-diameter, 8-meter-long mooring ropes will be supplied.

12.7 Tow Line:

22 mm, 100-meter-long towing rope will be supplied.

12.8 Shade and Weather Protection:

A canopy will cover approximately two-thirds of the deck area (including wheelhouse roof), allowing quick removal or folding without interfering with crane or A-frame operations.

12.9 throw hulls and related faucets will be marine grade (class approved) plastic type.

13. Further installation:

13.2 Appropriate "Sea keeper" dynamic stabilizer system base will be installed (mechanical & electrical infrastructure – on monohull only).

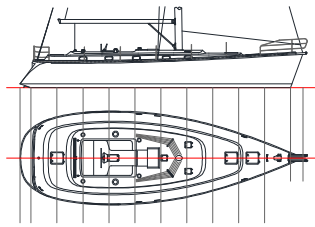
13.3 An adequate bow thruster tunnel will be installed. (mechanical & electrical infrastructure)

14. research related installation:

Research related equipment is not included in this tender but research related infrastructure including structural mount, electrical and communication wiring should be provided as follows:

14.1 CTD winch base will be mounted, if stability allows, on the aft wheelhouse roof. For CTD winch spec and drawings – please see appendix no. 3.

14.2 Multi beam Sonar Mount will be installed on either starboard or port side of the aft deck. For multibeam spec and drawings – please see appendix no. 4.



15. Optional (will be quoted separately & individually):

15.1 two (2) wheelhouse shock-absorbing seats (above the two at the helm station).

15.2 Installation of adequate Sea keeper dynamic stabilizer system (on monohull only).

15.3 Installation of adequate bow thruster system.

15.4 Galley - Electric stove top, microwave, coffee station.

15.5 Bluetooth music system.

15.6 IR night vision camera.

15.7 engine transmission will include trolling valve for future DP system use.

15.8 Forward looking depth transducer.

15.9 wheelhouse openable side windows.

16. Spare parts & tools kit:

16.1 Main engines spare parts and 1st maintenance kit including filters, belts, impellers, oils etc.

16.2 Generator spare parts and 1st maintenance kit including filters, belts, impellers, oils etc.

16.3 Fire pump spare parts and 1st maintenance kit including filters, belts, impellers, oils etc.

16.4 any special tool required on boat systems.

17. Technical Documentation:

The following technical documentation will be supplied upon hand over of the vessel:

17.1 Two hard copies and one digital copy of the operator's manual, including:

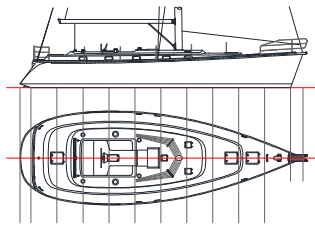
- a. General description of the vessel and its systems.
- b. Safety instructions, warnings, and special notes.
- c. System schematics and specifications.
- d. Maintenance schedules and operator-level procedures.

17.2 Vessels drawings:

- a. General arrangement.
- b. Construction and sections.
- c. Systems.

17.3 vessels calculations:

- a. Stability book.



b. Hydrostatic parameters.

17.4 Catalogs for all installed systems and equipment.

18. Quality Assurance and Acceptance Testing:

18.1 The buyer reserves the right to visit the manufacturer facility and inspect the building process upon prescheduling during the process.

18.2 Builder will supply weekly progress reports including photos.

18.3 Prior to delivery, the supplier will invite the buyer inspector to assess the boat together with the compliance with tender requirements (PDI) at builder's site.

18.4 Final delivery will take place at costumer site – Tel Aviv Marina – Israel.

18.5 Upon successful final inspection, the client's representative will issue a signed acceptance certificate.

19. Training and Support:

19.1 The supplier will train the client's staff in vessel operations, system usage, safety protocols, and basic maintenance upon arrival at Tel Aviv Marina - Israel.

19.2 Training will be conducted by certified builder instructors.

19.3 Training will occur within a specified period following delivery and continue until operational knowledge is fully transferred.

20. Spare Parts:

20.1 The supplier guarantees spare part availability for five years post-delivery.

20.2 All replacement parts must meet or exceed the quality of the original components.

20.3 The client may purchase spare parts at their discretion.

21. Warranty:

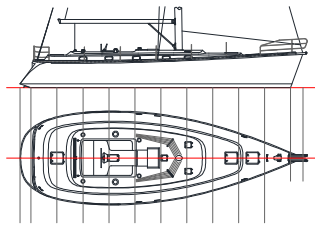
21.1 The supplier's warranty for goods supplied, including all items provided by subcontractors (if any), begins upon delivery to the customer and extends for the following periods:

a. Boat hull & wheelhouse: 5 years.

b. Electrical leakage damages: 5 years. (for aluminum construction only)

c. Propulsion system: As provided by the component supplier, but not less than 1 year.

d. Installed systems and equipment: As provided by the component supplier, but not less than 1 year.



21.2 The warranty for a defective part shall be extended by an additional four months starting from the date of repair, replacement, or improvement, whichever occurs later.

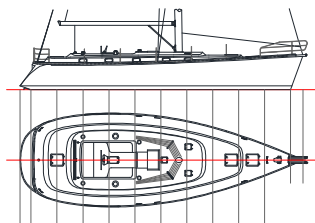
21.3 If, during the warranty period, a nonconformity is identified between contractual requirements and the equipment provided, the supplier shall rectify the issue immediately upon a written request from the buyer, without prejudice to other contractual obligations.

21.4. Any part requiring repair three times during the warranty period shall be replaced by a new part.

21.5 Repeated faults in the same equipment during the warranty period shall be classified as an "epidemic fault," requiring:

- a. Investigation of the fault to identify its source, causes, prevention methods, and rectification, with a detailed fault analysis report provided to the company.
- b. Immediate preventive treatment or repair of all similar items supplied under this contract.
- c. Extension of the warranty for the affected item by an additional year.
- d. Significant faults in safety systems, as determined by the company's representative, shall be handled similarly to epidemic faults.

21.6 Disputes regarding warranty enforcement shall be resolved by a representative appointed by the buyer, whose decision will be final. However, dispute resolution will not delay the supplier's obligation to perform repairs.



Appendix no. 1
Creen spec



SCHEDA TECNICA
TECHNICAL SHEET



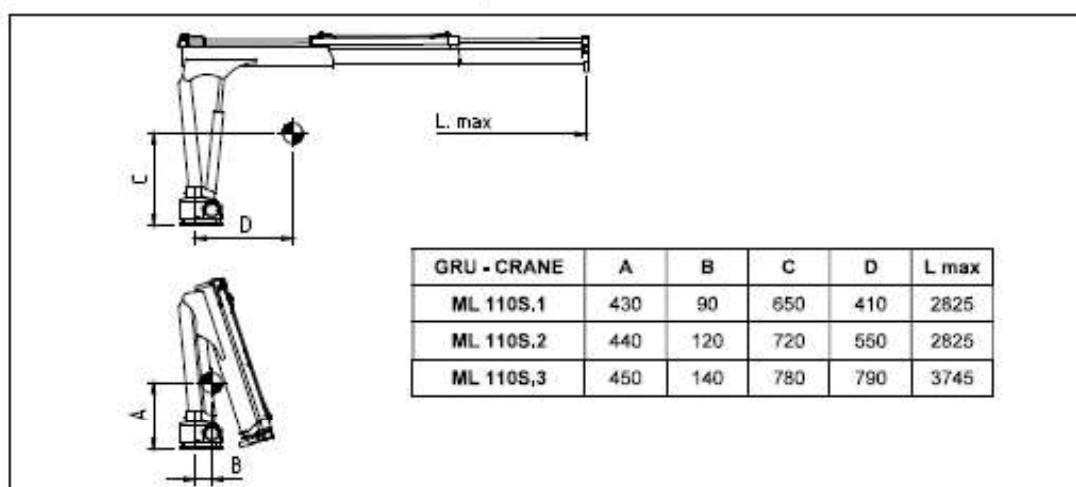
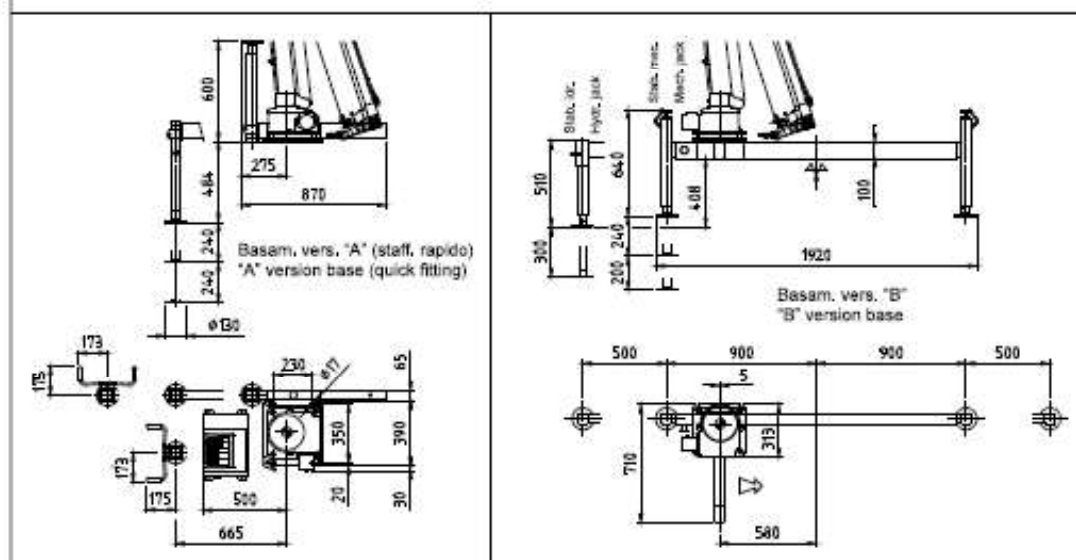
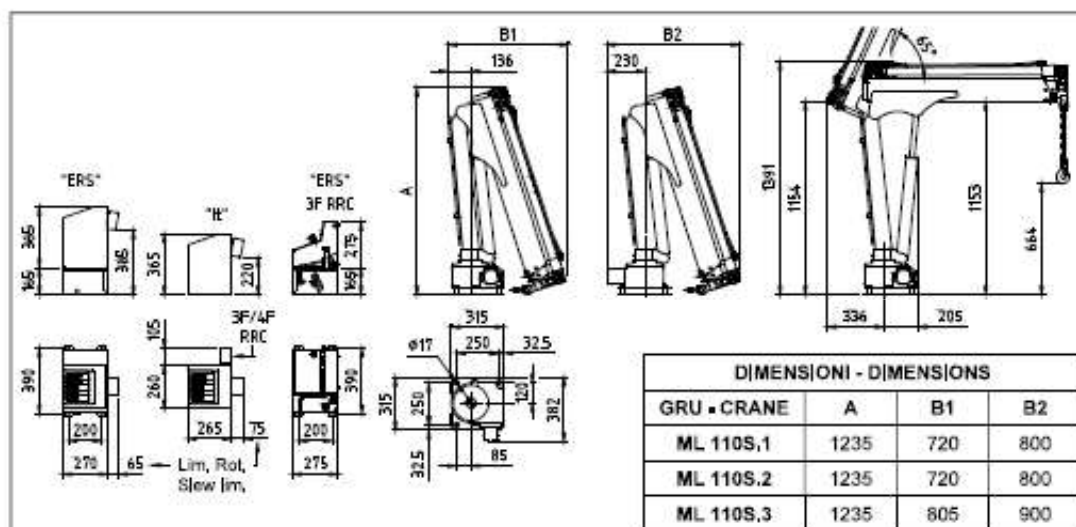
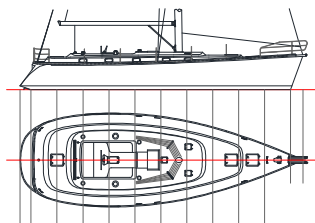
110S

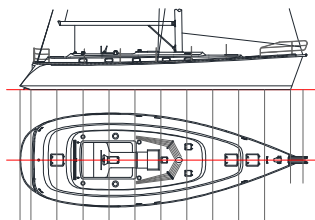
Cod.: MP.0.216 I-GB
Rev.: 4
Ed.: 11/23



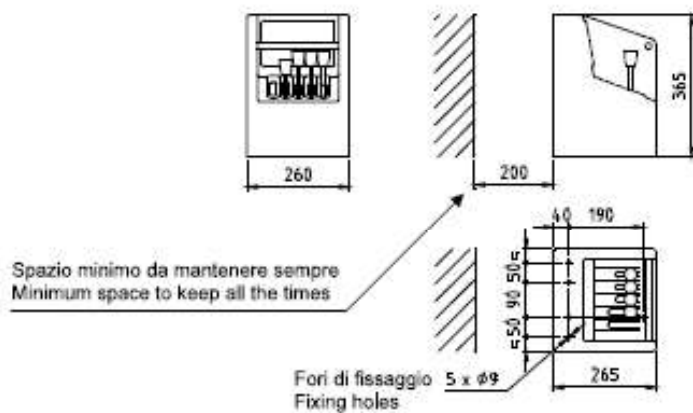
Next Hydraulics®
RAISE YOUR EXPECTATIONS



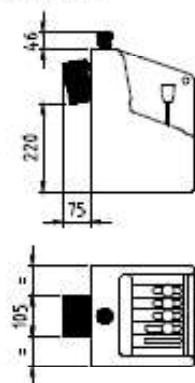




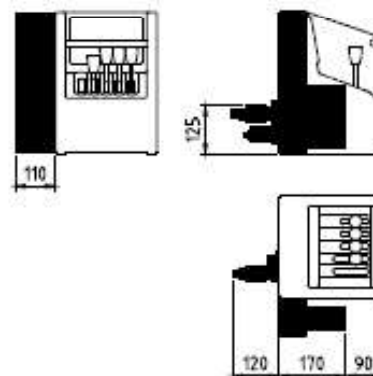
Consolle standard per versione H / Standard control station for H version



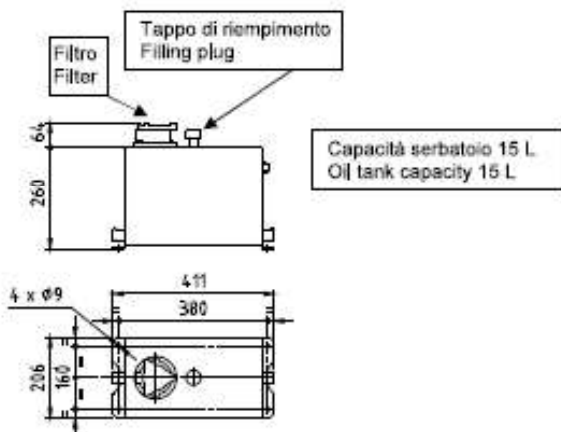
Versione H con limitatore di rotazione /
H version with slew limiter

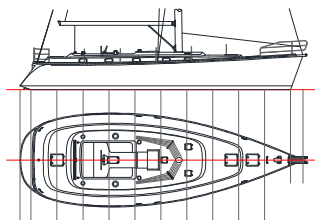


Consolle per versione H con comando a distanza /
Control station for H version with remote control



Serbatoio olio per versione H
Oil tank for H version





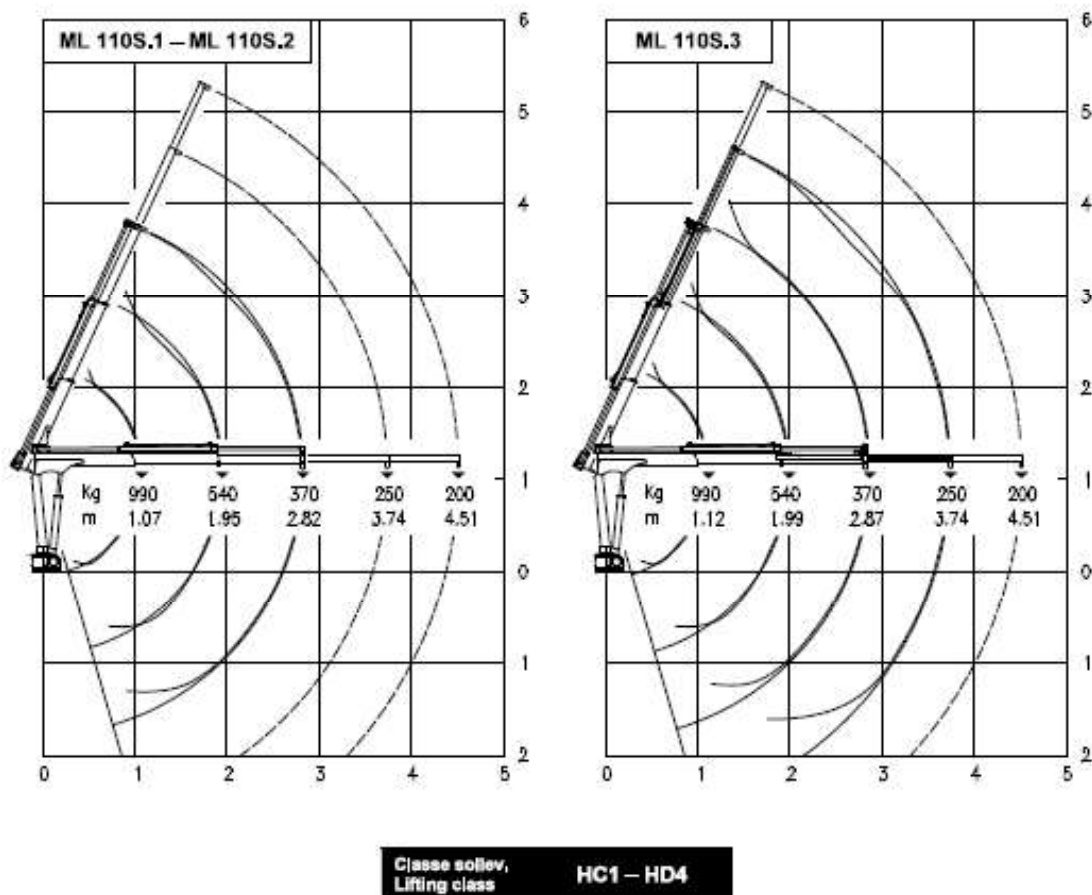
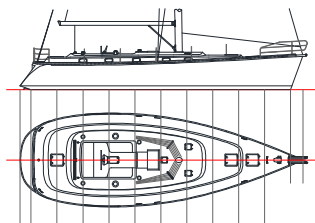
DATI TECNICI - TECHNICAL DATA	U,M,	VERSIONE – VERSION		
		ML 110S,1 ERS-H	ML 110S,2 ERS-H	ML 110S,3 ERS-H
CAPACITÀ DI SOLLEVAMENTO CRANE RATING	kNm	10		
N° SFILATE STANDARD (IDRAULICHE) STANDARD EXTENSIONS N°, (HYDRAULICS)	N°	1H+1M	2H	3H
SBRACCIO STANDARD STANDARD OUTREACH	m	2,82	2,82	3,74
ANGOLO DI ROTAZIONE SLEWING ANGLE	°	330°		
INCLINAZIONE MASSIMA MAXIMUM ANGLE SLOPE	°	5°		
COPPIA DI ROTAZIONE SLEWING TORQUE	kNm	1,2		
ALTEZZA SOLLEVAMENTO MAX. DALLA BASE MAX. LIFTING HEIGHT FROM CRANE BASE	m	3,4	3,4	4,4
PORTATA CONSIGLIATA SUGGESTED OIL FLOW	l/min	4+6		
PRESSIONE MAX. DI ESERCIZIO MAX. WORKING PRESSURE	bar	200		
PESO GRU BASE VERS. "H" BASIC CRANE WEIGHT VERS. "E"	kg	105 125	125 145	155 175
PESO BASAM. VERS. "A" (STAFF. RAPIDO, 1 STAB. MEC.) "A" VERS. BASE WEIGHT (QUICK FITTING, 1 MECH. JACK)	kg	40		
PESO BASAM. VERS. "B" CON STABILIZZATORI ESTENDIBILI "B" VERS. BASE WEIGHT WITH EXTENDABLE STABILIZERS	kg	64+88		
PESO TRAVERSA 2 STABILIZZATORI ESTENDIBILI BEAM WEIGHT WITH 2 EXTENDABLE STABILIZERS	kg	58+62		
ASSORBIMENTO MOTORE GRU ELETTROIDR. 12V MOTOR ABSORPTION FOR ELECTROHYDR. CRANE 12V	A min/max	70/210		
ASSORBIMENTO MOTORE GRU ELETTROIDR. 24V MOTOR ABSORPTION FOR ELECTROHYDR. CRANE 24V	A min/max	35/105		

SPECIFICHE ARGANO - WINCH SPECIFICATIONS	U,M,	
ARGANO TIPO DIRETTO MAX. (3° STRATO) MAX. WINCH SINGLE LINE CAPACITY (3° LAYER)	kg	300
DIAMETRO FUNE ROPE DIAMETER	mm	5
LUNGHEZZA FUNE ROPE LENGTH	m	12
PESO KIT ARGANO WINCH KIT WEIGHT	kg	15

VERSIONE - VERSION	DESCRIZIONE	DESCRIPTION
"ERS" 12/24V	ELETTROIDRAULICA	ELECTROHYDRAULIC
"H"	IDRAULICA	HYDRAULIC

VERS.	ROTAZIONE SLEWING (rpm)	TEMPI DI FUNZIONAMENTO			OPERATING TIMES					
		SOLLEVAMENTO LIFTING (sec)		DISCESA LOWERING (sec)	USCITA EXTENSION OUT (sec)			RIENTRO EXTENSION IN (sec)		
		p min	p max		110S,1	110S,2	110S,3	110S,1	110S,2	110S,3
"ERS" 12/24	2,5	13	30	14	7	18	25	5	13	18
"H" (PTO)	2,5	13		14	7	18	25	5	13	18

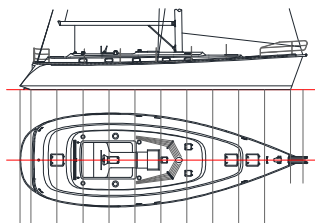
p min: pressione min. di esercizio – min. working pressure
p max: pressione max. di esercizio – max. working pressure



by Next Hydraulics Via Mediterraneo n°6, 42022 Boretto (R.E.) Italy

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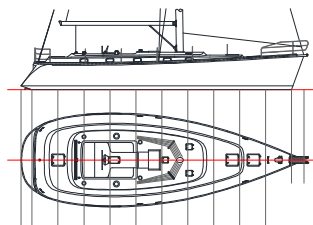




Appendix no. 2

Type 3 first Aid Kit content

Index	Description	Units	Quantity
1	Plastic hand splint	unit	1
2	Dressing scissors	unit	1
3	Rubber tourniquet (200 cm)	unit	2
4	Sterile semiplastic gauze bandage	unit	10
5	Band-Aid / bandage	unit	10
6	Medi Pour tape	unit	1
7	Petrolatum gauze strip	unit	1
8	Sterile gauze pad (3x3 cm)	unit	2
9	Pad for skin disinfection	unit	10
10	Iodine pad	unit	10
11	Personal field bandage	unit	8
12	Medium field bandage	unit	2
13	Burn bandage	unit	1
14	Medical triangle bandage	unit	10
15	Cotton wool	kg	0.1
16	Safety pin	unit	10
17	Polidin ointment (20 g)	unit	1
18	Saturated solution (100 ml)	unit	1
19	Disposable tweezers	unit	1
20	Non-sterile surgical gloves	unit	4
21	CPR mask (adult + kid)	unit	1
22	First aid book	unit	1
23	Wool blanket (1.80 x 1.00 m)	unit	2



Appendix no. 3 UPS system specifications

Marine & Offshore
Single phase UPS

Eaton 9SX Marine UPS

1000/3000 VA



DNV-GL type approved 9SX Marine UPS with installation kit and Marine filter.



9SX graphical LCD

Advanced protection for:

- Bridge systems
- Navigation systems
- Communication systems
- Small computer and automation systems



EATON
Powering Business Worldwide

Online double conversion UPS Successor of the market-leading 9130 Marine UPS

Performance and Availability

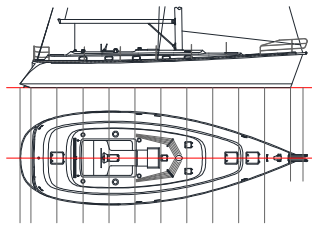
- Double-conversion topology. The Eaton 9SX Marine constantly monitors power conditions and regulates voltage and frequency.
- The internal bypass allows service continuity in case of internal fault, a maintenance bypass is also available (as option) for easy replacement of the UPS without powering down critical systems.
- With coated boards and hi-temperature compatibility, 9SX Marine is designed for Marine & Offshore environments.
- Stronger, longer battery life: Eaton ABM® battery management technology uses an innovative three-stage charging technique that extends battery life by up to 50%. 9SX Marine also provides recommended replacement date for batteries.
- DNV-GL type approved UPS (with Installation kit and Marine filter)

Manageability

- The new graphical LCD provides clear information on the UPS's status and measurements on a single screen. Enhanced configuration capabilities are also available.
- The 9SX Marine can meter energy consumption. kWh values can be monitored using the LCD or Eaton's Intelligent Power® Software.
- Load segment control enables prioritised shutdowns of non-essential equipment to maximise battery runtime for critical devices.
- 9SX Marine offers Serial, USB connectivity, plus an extra slot for an optional communication card. Eaton's Intelligent Power® Software seamlessly integrates with leading virtualisation environments and cloud orchestrations tools.

Flexibility

- Configurable to frequency converter operation (50 -> 60Hz and 60 -> 50Hz), or Marine mode (output frequency follows input frequency).
- Easy to install, mounting rails can be bolted or welded to the deck/bulk head or shelf. Installation kit includes vibration absorbers that are mounted under the UPS cabinet.
- More runtime can be added with up to 4 external hot-swappable battery modules, able to run systems for hours if necessary. The additional battery modules are automatically recognized by the UPS.



Eaton 9SX Marine UPS



- 1 Remote Power Off connector (configurable)
- 2 Slot for Management card
- 3 External battery module (EBM) connector with automatic detection (RJ11)
- 4 Relay output

- 5 USB and serial ports
- 6 Input/Output connections with locking system
- 7 Marine filter
- 8 Installation kit (vibration dampers)

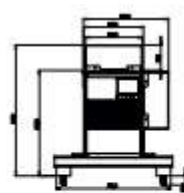
Technical specifications

	1000 VA		3000 VA	
Rating (VA/W)	1000 VA/900W		3000 VA/2700W	
Form factor	Tower			
Electrical characteristics				
Technology	On-line double-conversion with Power Factor Correction (PFC) system			
Nominal voltage	200/208/220/230/240V			
Input voltage range	180-276V without derating (up to 120-276V with derating)		200-276V without derating (up to 140-276V with derating)	
Input frequency range/THDi	40-70Hz, 50/60Hz auto-selection, frequency converter mode			
Connections				
Input	1 IEC C14 (10A)		1 IEC C20 (16A)	
Outputs	6 IEC C13 (15A) sockets		6 IEC C13 (10A) sockets + 1 IEC C19 (16A) socket	
Switched Output Group	2 outlet groups			
Batteries				
Typical backup times* (minutes)/load	300W	500W	800W	1000W
9SX1000	24	14	7	
9SX1000 + 1 EBM/+ 4 EBM	90/370	56/230	33/130	
9SX3000	78	45	29	17
9SX3000 + 1 EBM/+ 4 EBM	298/1100	175/630	108/427	68/255
Battery management	ABM or temperature compensated charging method, automatic battery test, deep discharge protection, automatic EBM recognition			
Communication				
Communication ports	1 USB port + 1 serial RS232 port + 1 mini-terminal block for Remote Power Off + 1 mini-terminal block for Output relay			
Communication slot	1 slot for Network-M2, WDSW-M2 or Relay-M5 cards			
Operating conditions, standards and approvals				
Operating temperature	0 to 40 °C			
Typical noise level	41dB		45dB	
Safety	IEC/EN 61010-1, UL 1719, CSA 22.2			
EMC	IEC/EN 61010-2, FCC Class B, CISPR22 Class B			
Approvals & marking	DNV-GL, Type approval, CE, AEB report (TUV), dLGA / EAC / RCM			
Dimensions H x W x D in mm/Weight				
UPS	250x90x387/15kg		346x214x412/34kg	
EBM	250x90x387/19kg		346x214x412/48.7kg	
Customer service and support				
Warranty	3 years			

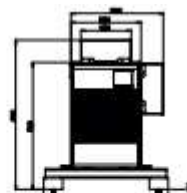
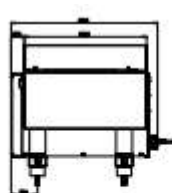
* Backup times are approximate and may vary with equipment, configuration, battery age, temperature, etc.

Parts numbers	9SX 1000VA Marine	9SX 3000VA Marine
UPS Tower	9SX1000M	9SX3000M
Installation kit **	9SXKIT	9SXKIT
Marine filter *	9SXMF30	9SXMF30
EBM Tower **	9SXEBM06T	9SXEBM06T
2m battery connection cable	EBM2BL3ET	EBM2BL3ET

* Installation kit and Marine filter are required for DNV-GL type approval. ** 2m battery cable required to install EBM with a 9SX Marine UPS



9SX1000M



9SX3000M

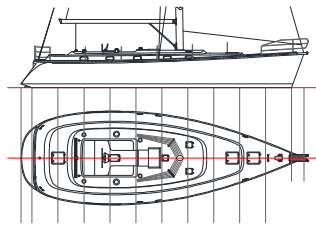


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Appendix no. 4 CTD winch system specifications and drawings

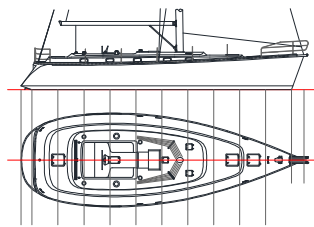


AGO
ENVIRONMENTAL ELECTRONICS LTD

Product brochure:
QUOTE #25-002
2HP DBW-5V WINCH

© 2023, A.G.O. Environmental Electronics, Ltd.


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info@agoenvironmental.com
T: +1 (250) 386-4015



OVERVIEW

The DBW-5V is the new "vertical" configuration of A.G.O. Environmental Electronics' flagship DBW-5/6 winch model. Inspired by A.G.O.'s original CSW-6/7/9 "Classic" winches. It's versatile frame can be outfitted with drivetrain and drum combinations that are ideal for a wide range of lighter applications, e.g. shallow side scan sonar work.

It features a sturdy bolt-together aluminum plate-and-bar frame that makes it much lighter compared to similarly sized steel-frame winches. Its fully enclosed frame helps meet common equipment safety requirements, and like all A.G.O. electric winches, it includes features for emergency manual hand cranking to recover payloads in power-loss events.





Rated capabilities


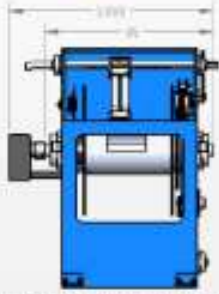
Cable capacity	Up to 500m of Ø 123' (3.12mm) A210134 1-conductor steel-armoured EM cable	
	Core	Full drum
Line speed (@50Hz)	0 to ~127.8 ft/min (38.9 m/min)	0 to ~139.5 ft/min (42.5 m/min)
Maximum line pull	296 lbs (134 kg)	288 lbs (130 kg)
Electric brake hold	1043 lbs (473 kg)	954 lbs (432 kg)

Drivetrain has been configured specifically according to the loads expected during use with max 500m of the cable specified above and an SBE55 6 x 8L rosette with SBE19plus CTD. Check with A.G.O. to verify winch's capabilities against other cable and payload combinations before using winch with other cables or payloads.


Nominal dimensions

Weight	333 lbs 151 kgs
L	29 in 73.66 cm
W	25 in 63.5 cm
SRW	29 in 73.66 cm
H	36 in 91.44 cm
ML	24.875 in 63.2 cm
MW	14.5 in 36.83 cm
MD	For 1/2" bolts For M12 bolts

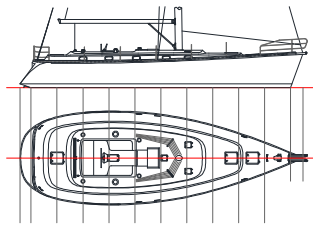



Exact dimensions may vary slightly from nominal. Overall weight varies depending on winch's specific drivetrain and feature configuration. Images shown may not represent all features quoted.



Quote #25-002 DBW-5V Winch | 2



FEATURES AND OPTIONS

Per winch configured for quote #25-002

Drivetrain		Upgradable?
Motor	TechTop 2HP 1800RPM 145TC IP44 painted steel 180VDC motor	
Electric brake	KEB 12ft-lb 56C/145TC NEMA4X aluminum electric brake	
Gearbox	Varvel RT60 20:1 sealed aluminum right-angle gearbox	
Chain	Tsubaki Neptune #40 steel chain with specialty corrosion-resistant plating	Yes ¹
Sprockets	26:60 steel sprockets	
Bearings	Bearings with painted steel housings and steel inserts	Yes ²

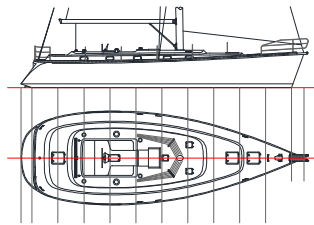
Mechanical features included on winch		Upgradable?
Levelwind	Stainless steel diamond reversing screw mechanical levelwind system driven from drum by sprocket-and-chain drivetrain	
Dog clutch	Dog clutch integrated into drivetrain can be manually disengaged to allow the drum to freewheel for rapid payout or emergency manual hand crank recovery	
Sprocket-assisted manual backup	Additional peripheral sprocket-and-chain drivetrain makes manual hand cranking of heavy loads easier in emergencies	Yes ³
Drum disk brake	Drum includes manually-actuated anodized aluminum disk brake for controlling drum speed during freewheeling and manual hand cranking	
Drum pin lock	Brake disk can have a pin inserted through holes around its edge to hard-lock the drum and prevent rotation	

Electrical features included on winch		Upgradable?
Winch input power	Winch requires 208-230VAC 1-phase power, 50 or 60Hz (speed specs listed for nominal 50Hz input but also verified for 60Hz)	
Operation interface	FWD/REV direction switch and speed knob controls integrated into winch-mounted KBRC-240D motor controller unit	Yes ⁴
Status indicators	Motor controller includes three small motor status indicator lights: Green = Winch is running, Yellow = E-Stop active, Red = Overload/error	
Cable length	3m (10ft) long power cable	
Slip ring	SRC032-2T w/ RMG-2 pigtails (Includes mating pigtails)	

Available upgrade and add-on options

All options will incur additional costs

- Chain upgrade: **Stainless steel chain** for #40 drive chain and #35 auxiliary chains
- Bearing upgrade: Bearings with **thermoplastic housing and stainless steel bearing inserts**
- One-way drum ratchet add-on: **Ratchet** prevents drum from unwinding during hand cranking
- Operation interface upgrades: **Handheld wired remote** simple controller or joystick controller options
- Extended cable lengths upgrade: **Extended cable lengths** available to suit site needs
- Wire counting accessory: **EWG-6 wire counting system** with SR12 encoded snatch block sheave



Appendix no 5. Multibeam system specifications and drawings

NORBIT
- explore more -

PS-190002-3

NORBIT CARBON FIBRE "PORTUS" MOUNTING POLE

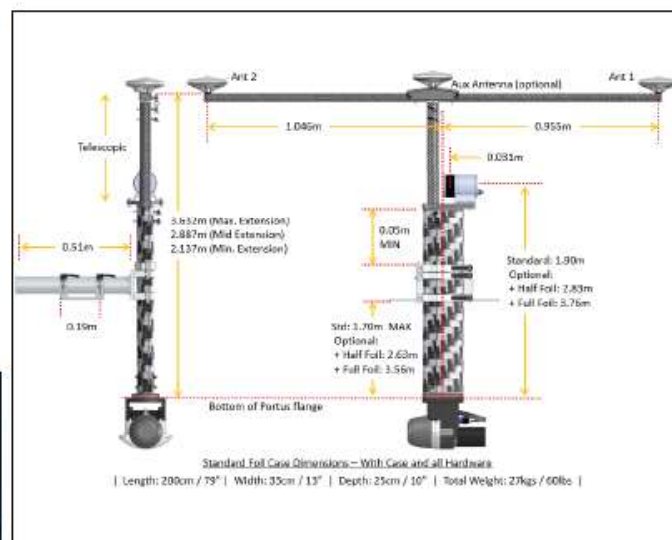
Built specifically for NORBIT's integrated sonar systems the new PORTUS Pole fits in a single airline checked luggage case. With a combined weight of 60lbs/27kg, including wheeled hard ski case, it is safely transported to your next vessel of opportunity and set up by a single person. Multi-directional carbon fibre weave shaped from a streamlined body provides unprecedented rigidity while enabling sustained survey speeds of 8-knots with pole fully extended. The new MK3 kit incorporates a 3-position telescopic mast with fixed/known offsets and repeatable patch test alignments for rapid and accurate construction (dredge), infrastructure or clearance surveys. May be setup without tools and on nearly any vessel. Setup, power on and explore more!

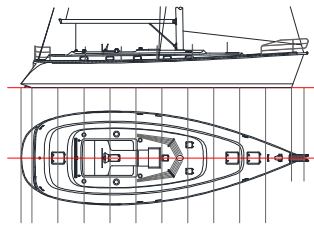
- ✓ Designed specifically for NORBIT Integrated Systems
- ✓ Corrosion Resistant & Fully Hydrodynamic
- ✓ Flex-Free Carbon Fibre
- ✓ Collision Kick-Up - Survey at 8 knots
- ✓ Ultra-Lightweight, Complete kit: 18.6kg (41lbs)+Case 8.6kgs (19lbs)
- ✓ Airline Accepted Single Checked Luggage Piece
- ✓ Ultra-Fast Mobilisation - Repeatable Offsets/Patch Test
- ✓ Built-In Cable Protection/Management



Including

- ✓ Sonar Mounting Pole 1.85m (6')
- ✓ Telescopic Mast:
Low 0.25m (0.8ft)
Mid 1m (3.3ft)
High 1.7m (5.7ft)
- ✓ LIDAR Mounting plate
- ✓ Draft Clamp
- ✓ Wheeled Hard Case
- ✓ Quick set-up instruction Video





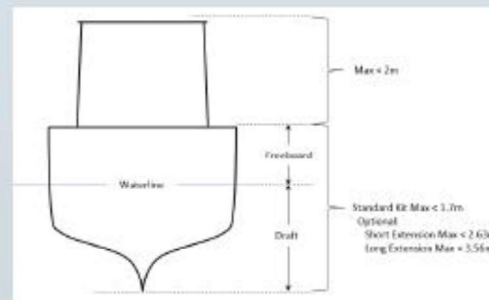
PORTUS mobilization on USACE vessel

NORBIT
- explore more -



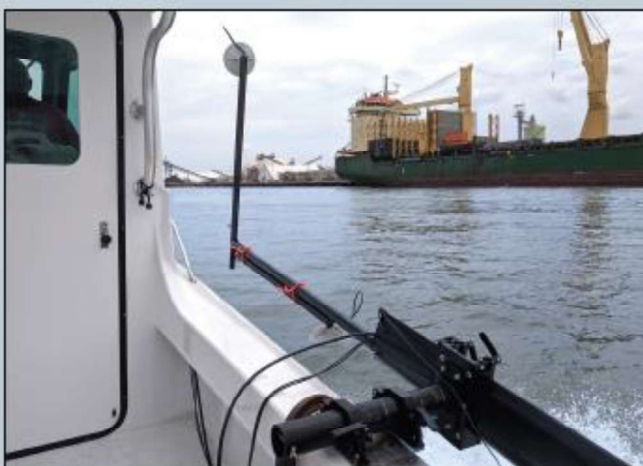
Easily transport to or from your vessel.

Complete kit (less gunwale assembly) with installed NORBIT integrated system, suite weighs under 20kg.



Re-install without tools.
Survey ready in a couple of minutes.

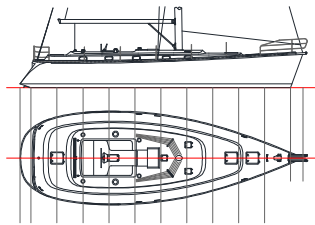
Offsets and patch
test alignment values
are repeatable, once
measured. Rapid &
Accurate.



Easily configurable to transit mode.

Forward antenna bar detaches (remove one ball-lock pin) and attach to antenna mast using the included Gear Ties.

Once on-site, re-insert forward antenna bar, power on system and commence surveying.



OTS MINI MOUNT

Our Mini Mount was designed with today's smaller sonar systems in mind. The Mini Mount Features our standard hydrodynamic mast with a max length of 6' (1.83M) and with any flange required by the customer attached to the mast. The Mount's mast is capable of being rotated up and out of the water for high speed travel to your next survey site. Once there the mast can be rotated back down and re-located using the location ring attached to the X-pole. The Mini Mount is highly transportable and is an excellent choice for vessels of opportunity.

OPTIONS

- GPS Antenna
- Lidar Mount
- Split Mast (for ease of shipping or travel)

