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NEW BUILD - 12m Fast Interceptor Craft.



Listing ID - 1679

Description NEW BUILD - 12m Fast Interceptor Craft

Date Built to Order

Launched

Length 12m (39ft 4in)

Beam 4.2m (13ft 9in)

Draft 0.68m (2ft 2in)

Location ex factory, China

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1, GENERAL

1.1 General Description

This specification describes the design and construction of the proven reliable, tactically seized, rough sea-going 12M aluminium vessel which will be arranged as a Heavy-duty Fast Interceptor Craft (hereafter referred to as "vessel") to use in coastal and offshore waters, with equipment and capacities to focus on below missions:

- a. Special Ship/boat Boarding;
- b. Maritime Counter Hijacking Operation;
- c. Exercise on-board Offshore Platform and merchant ship;
- d. Landing and recovery of troops;
- e. Coastal and offshore patrol;
- f. SAR operation.

The vessel will be constructed to a high commercial standard with particular attention to minimising noise transference and vibration while enhancing structural rigidity and integrity, and offering best crew comfort and mission-capability.

Principal particulars:

LOA: 12m

Hull Length: 10.7m

Beam Overall: 4.2m

Hull Beam: 3.4m

Chine Beam: Approx. 3.2m

Depth(at hull side of midship): Approx. 1.9 m

Freeboard(at bow in static condition): Approx. 1.45 m

Freeboard(at bow in dynamic condition): Approx. 1.60 m

Draft (hull): Approx. 0.68 m

Displacement (lightship load): Approx. 5.0 tonnes

Displacement (full load): Approx. 7.0 tonnes

Deadrise(Forward entry): 55-65 deg. subject to the level of speeds

Engines: 3 x SUZUKI DF350 350HP @ 3700-4000RPM or 2 x SUZUKI

Max. speed: 55 knots at half-load and 100% MCR/Beaufort Scale sea state two/clear hull

Cruising speed: Approx. 35 knots

Fuel capacity: 2 x 550L to give a combined capacity of 1100L

Range: No less than 130 NM at max. speed and no less than 170 NM at cruising speed

Compliment: 14 persons (10 shock-mitigating seats fitted)

Seakeeping ability: Sea state six

Construction: marine grade aluminium

Compliance: CE Class B

1.2 Design and Attributes**i. Vessel Layout:**

The vessel is laid out with the hull to include one reinforced anti-collision fore peak tank, one void tank with watertight access hatch for stowage of manual operated anchor and its dedicated nylon rope, one fuel tank compartment and one void space for stowage of service items while the deck is laid out with open console covered by hardtop to accommodate the control station with shock-mitigating seats for fourteen troops/passengers together with lockers under the console station, one deck coaming with vertical hatch-accessed battery installation besides two large-sized gravity draining ports to run through the portside and starboard bottom, and two lockers located inboard of the raised bulwark on the fore deck at the bow as per shown in the GA drawings.

Taking in mind for intention of stable, efficient and long voyage navigation in the special adverse conditions of tropical Eastern African Seas to cater tough mission in Somalia, the vessel is specially laid out with best available ergonomics for improved comfort, better sustained duty-efficiency and capability, highlighted as follows:

The console station is centrally located to offer a flexible platform for a variety of electronics while the fore windows are designed to be forward facing so as to effectively and efficiently stop the burning sun from shining directly onto the dashboard to secure easy and precision data obtaining from the instruments;.

The deck is designed with 360 degree of walk around the whole console, featuring wide side decks and raised deck bulwarks together with grab rails for unrivalled crew maneuvering safety in all handling conditions;

The collar is designed to be heavy-duty, over-sized EVA foam coated with 4mm elastomeric polyurethane, and is to be bonded to the specially moulded D-shaped/half-round installation channel at the gunwale, thus achieving best safety and durability to ensure the highest level of protection to the hull against strong, frequent impact by other vessel in boarding/disembarking;

II. Hull Form

The hull is well proven and will be variable deadrise deep V high performance planning in form, incorporating a fine forward entry, two well immersed and full-length outer tunnels(also called revised reverse chine), extended waterline

length, wide chine beam, high freeboard, flared bow above waterline, slightly curved down buttock lines from stern transom till 3/4 of waterline length, down angled and wide chine flats on bottom sides of the mid hull body, giving a softer ride and safer handling with superior stability in all sea conditions, providing high speed maintained in waves while also having the capability to self correct when running in following seas.

III. Seakeeping Ability:

III.I Seakeeping Ability in Head Seas

Seakeeping ability in head seas for any planing hull is dependent on trim angle and deadrise of the V-shaped hull bottom that encounters the wave. In our design, we have given strict control on longitudinal center of buoyancy(Lcb) and Longitudinal center of gravity(Lcg) so that there will be no big change to distance between Lcb and Lcg no matter at displacement speeds or fully planing speeds, making the vessel ride with extremely low trim at the bow, thus the vessel will be able to run much flatter with the forward fine entry formed by approx. 65 deg. of high deadrise to be always in best effective contact with water to efficiently cut through head seas, ensuring truly soft, smooth, high speed and comfortable riding quality with no significant hull slamming even in high waves.

IV Seakeeping Ability in Following Seas, Side/Quartering Waves

Seakeeping ability of a planing hull in following seas, side/quartering waves is dependent on dynamic stability of the vessel. No matter what type of boat it is, the dynamic stability of the vessel will be subject to the capability of the underwater hull configuration in gripping/locking water so that the tracking course cannot be easily affected by outside factors/forces generated by following seas and side/quartering waves. In order to achieve superior dynamic stability for top quality in safety against steep following seas and side/breaking waves, below trade-offs have been made in the hull form design:

- 1) Chine flats to be slightly down angled and well immersed into water till 3/4 of waterline length, which will work with the deep V underwater main hull body and the two full-length outer hull tunnels to give superior grip to the water to better enhance the stable tracking capability even in the event of being strongly impacted by breaking waves.
- 3) Low L/B ratio on the well immersed chines to give dynamic beam to ensure high quality of running attitude no matter in big following seas or breaking waves.
- 4) Each heavy equipment/machinery to be carefully selected and to be laid out at a possibly low position of the V hull bottom with the wheelhouse and tank positioned close to the longitudinal center of gravity so as to lower down the vertical center of gravity while also lock the position of longitudinal center of gravity of the vessel for improved stability with little impact to the riding trim no matter what tank loading scenario it is, which is of vital importance in maintaining high quality running in following seas, high speed turning and side waves.
- 5) High buoyancy bow with lots of flares above waterline to give superior response to waves even at crash stop to ensure that the bow will not swamp when coming across with big, steep following and side waves, thus to also achieve fully dry ride.

V. Static Stability:

The underwater hull section features low L/B ratio at the main chine, full-length outer hull tunnels and wide, slightly down-angle chine flats, which will come to generate strong grip to the water with significant lateral resistance to stop the vessel from rolling even in the event of moving weights casually distributed on the deck so as to get best-in-class static stability always in place for top quality in safe boarding and disembarking.

VI. Damaged Stability:

The hull is divided by three watertight bulkheads to form four watertight sub-divisions to meet class and flag state requirements for damaged stability and will remain afloat and upright with flooding in any single main compartment.

VII. Deck Condition:

The vessel is designed with high freeboard along the waterline length and incorporates with wide, slightly down-angled reverse chines flats, spray rails, raised deck towards the bow and large draining port for gravity draining to work with flared bow to ensure truly dry deck at all speeds and maneuvering conditions.

VIII. Quality of Comfort:

The hull has been carefully traded off using our technical insight with special attention to quality of comfort to ensure the crew and passengers in best energetic condition with high level of mission-concentration even after long-time navigation:

The designed comparably low L/B ratio on the main chines gives best compromise for stability with high GM figure to secure stable and comfortable riding.

The best-in-class control for riding trim helps secure the fine forward entry will be always in best contact with water to smoothly and softly cut through waves which is another important factor in deciding real-world riding comfort in tough conditions due to the fact that hull slamming can be largely avoided.

IX. StrongBow Protection:

The bow will be structurally reinforced to enhance abrasion resistance and then to be externally protected with over-sized, heavy-duty EVA foam collar in order to ensure that the bow structure can absorb all reasonable loads/impacts transmitted and to give good seagoing abilities, ensuring extremely strong protection for pushing and boarding mission.

X. Boarding Safety:

Particularly to cater boarding safety and low speed maneuvering quality, the vessel is designed to feature a bow boarding platform with safety grab rails and push knee/cut-off bow protected by heavy-duty EVA foam collar as shown in the GA drawings.

X. Attributes:

The vessel will be designed to provide the following attributes:

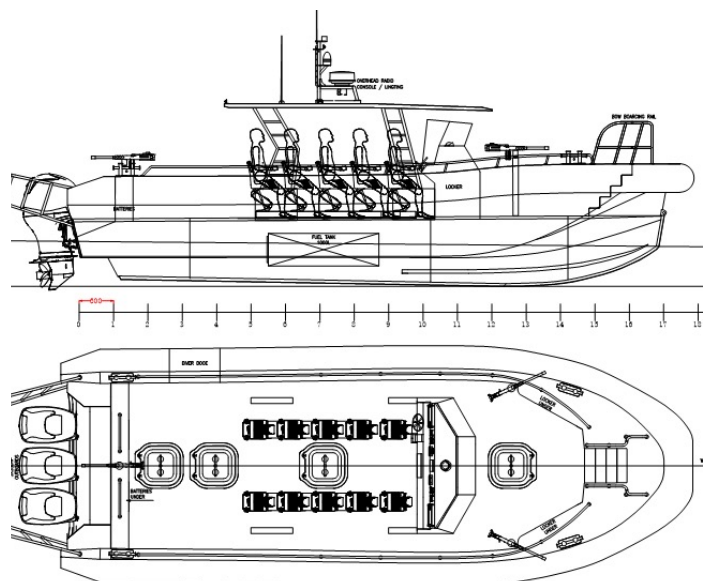
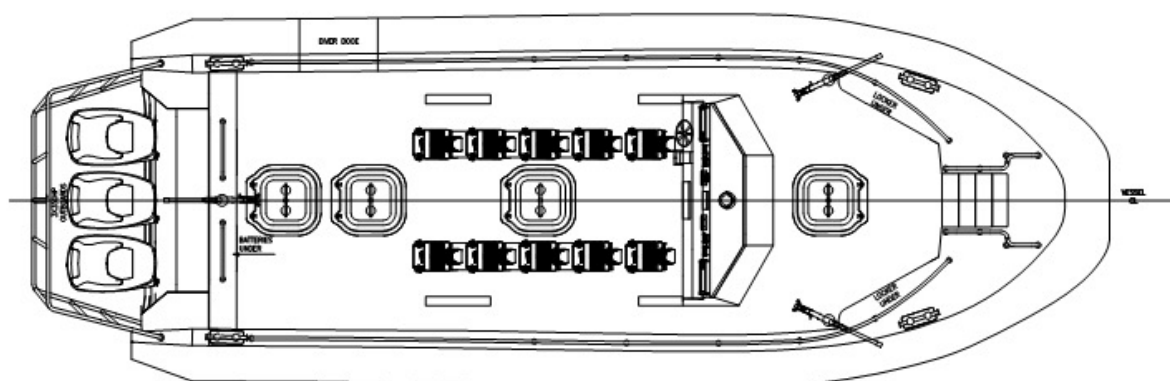
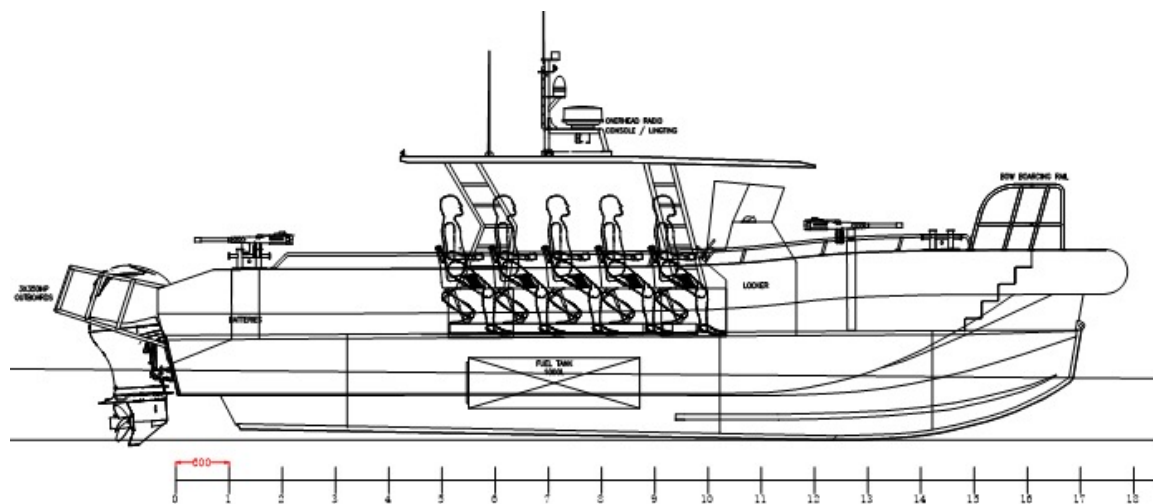
- 1) Shall be sea going and capable of undertaking sea voyages under its own power at any design loaded condition and draught.
- 2) Shall be capable of working in coastal and offshore waters of Somalia, regardless of sheltered, unsheltered or open seas with waves up to sea state five.
- 3) Shall offer stable platform with all-around maneuvering quality throughout the whole deck from fore deck to the aft deck.
- 4) Shall be applicable for good day helm visibility.
- 5) Shall be good for handling control in all defined conditions with low noise.
- 6) Shall offer a structural life span of 10 years under normal operations and reasonable maintenance, allowing for 500 hrs/year of government use.

XI. Operation Conditions:

The vessel and equipment package will be suitable for operation in tropical weather conditions of Somalia, detailed as below:

Ambient Air Temp.: Max 40 deg. C
Seawater Temp.: Max 30 deg. C
Relative Humidity: Max 85%
Sea Conditions: Sea state five according to the Beaufort Scale

As a special note, max. speed at open throttle may be slightly reduced due to impact to performance in max. power output of the two outboard motors when at extreme weather with sea water temperature higher than 35 deg. C.





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