

GUARDIAN – Agile unmanned recovery vessel



Shipbuilder:..... **Coastal Workboats**
Designer:..... **Chartwell Marine**
Vessel's name:..... **Guardian**
Owner/Operator:..... **Zelim Ltd**
Country:..... **United Kingdom**
Flag:..... **MECAL Approved, Workboat Code 3**
Total number of sister ships already completed (excluding ship presented):..... **0**
Total number of sister ships still on order:..... **0**
Contract date:..... **Unspecified**
Delivery date:..... **December 2024**

Guardian is a groundbreaking unmanned recovery vessel (URV) designed to enhance maritime safety through cutting-edge technology and innovative design. Developed by Zelim, the vessel represents a paradigm shift in rescue operations by prioritising efficiency, reliability and reduced risk to human operators.

At 8.4m in overall length and 2.5m in overall beam, Guardian is compact yet powerful. Its displacement of 3.8tonnes (departure condition) ensures stability and agility in challenging environments, while its aluminium construction adheres to ISO 12215 Category D standards for strength and durability. This marine-grade aluminium hull is paired with a sleek, hydrodynamic design, enabling the vessel to reach speeds of over 30knots, powered by a 400hp (298kW) Bukh VGT SOLAS diesel engine and an Alamarin AJ285 waterjet.

Guardian's standout feature is its unmanned operation capability, which leverages cutting-edge autonomous and remote-controlled technologies. The integration of the Sea Machines SM300 system allows the vessel to be operated remotely, ensuring operator safety by removing personnel from hazardous environments. Additionally, the vessel is equipped with Zelim's patented SWIFT recovery conveyor, a system designed for rapid and secure recovery of casualties from

the water. The conveyor ensures that Guardian can efficiently retrieve and stabilise individuals while maintaining stability in adverse conditions.

Safety is paramount in Guardian's design. A self-righting bag system is incorporated to enhance survivability in extreme conditions, ensuring the vessel can right itself in the event of capsizing. Non-slip surfaces across the deck, along with strategically placed reflective patches on the sponsons, provide operational safety and visibility during day or night operations. The robust hull features reinforced towing and mooring points, including an aft towing bollard and strategically placed cleats, allowing for versatility in operations.

The vessel's advanced bridge electronics, including the ZOE Intelligent Detection system and integrated radar, enhance situational awareness for remote operators. Dual GNSS sensors, proximity ultrasound sensors, and an automatic radar plotting aid (ARPA) ensure precise navigation and obstacle avoidance in complex environments. Guardian is also equipped with a painter release and a Henriksen HHSR12 lifting hook, enabling seamless launch and recovery operations.

The design is compatible with existing fast rescue craft (FRC) cradles and features an inflatable collar that provides buoyancy and protection during rescue operations. The vessel's innovative paint scheme, featuring luminous yellow and anthracite grey colours, ensures visibility while reinforcing its robust and modern aesthetic.

TECHNICAL PARTICULARS

Length, oa	8.33m
Breadth, moulded	2.55m
Depth, moulded	1.885m
Gross tonnage	3.5
Displacement	3.5tonnes
Lightweight	3tonnes
Deck space (total)	8m²

Max speed	30knots+ (dependent on sea state)
Range	200nm

Propulsion

Main engine(s):	
Number of engines	1
Make	Bukh
Model	VGT SOLAS
Output of each engine	298kW

Waterjet(s):

Number of waterjets	1
Make	Alamarin
Model	AJ285

Other deck machinery/equipment:

- SWIFT recovery conveyor for rapid unmanned personnel and equipment recovery
- Henriksen HHSR12 hook

Bridge electronics:

Radar(s)	Furuno
Autopilot	Sea Machines
GMDSS	Raymarine
GPS	Furuno
Gyro	Furuno
Chart plotter	Furuno
Engine monitoring system	Furuno

Other communication systems: ZOE Intelligent Detection system for situational awareness

Onboard capacities:

Fuel oil	170litres
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Complement:

Number of crew	3 or unmanned
Number of passengers	3
Number of cabins	0

Other significant or special items of equipment:

- Self-righting bags for vessel stability in case of capsizing
- Mooring cleats (port and starboard)

Classification

Classification society	MECAL-approved
Notations	MCA Workboat Code Class 3

