DESERT POWER

HIGHLAND

DESIGNS LLC

SYSTEMS









Advanced Integrated Technologies

Desert Power Designs/Highland Systems are R&D companies which specialize in development and implementation of state-of-the-art technology into production. Our highly qualified engineering team comprises of industry professional's from a wide range of defense backgrounds specializing in manufacturing of armored vehicles, submarines, UAV.

Desert Power Designs/Highland Systems R&D capabilities encompassing all aspects of innovation, unparalleled technical expertise and advanced technology. We specialize in integrating advanced technologies into our products and use it to enhance and support our manufacturing capabilities, increasing our products efficiency and performance, this enables us to deliver innovative and effective solutions to our customers.

We are specialists at design and production of wheeled and amphibious combat vehicles for military and security application, submarine's, UAV's, underwater drones.

KRONOS SUBMARINE

MADE IN THE UAE

Desert Power Designs LLC/Highland Systems have developed a unique submarine, which has no analogues in the world and can perform a wide range of tasks:

- Military purpose
- Rescue work
- Underwater engineering works

This is the world's first gliding submarine.

The submarine has a unique hydrodynamic hull, which makes it possible to maneuver underwater like an airplane in the sky. It also guarantees high speed performance both submerged and surfaced.

The hull of the submarine is made from steel and of high-strength composite material.

Possibility of operation in any climatic conditions, from equatorial waters to the Arctic.

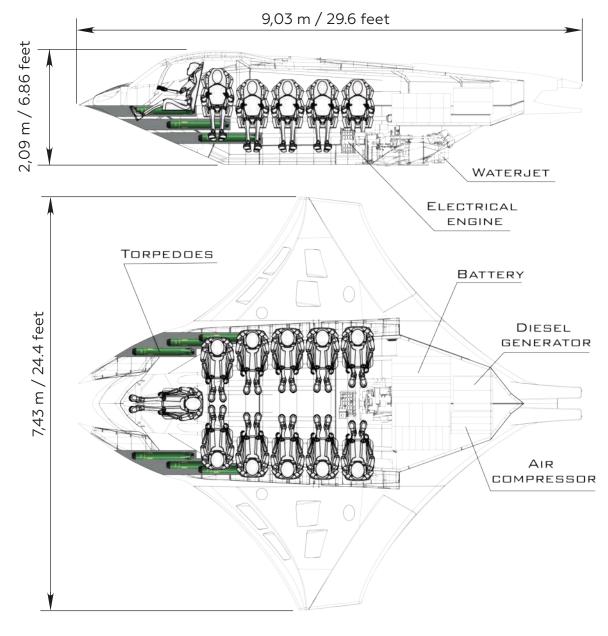
Low signature for detection systems, high degree of radio interference. Silent power plant.

While designing, advanced engineering solutions were applied.



KRONOS SUBMARINE

Location of the crew and main elements



BLACK SCORPION TORPEDOES

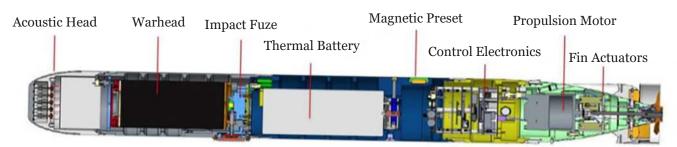
Kronos Submarine can be equipped with a small size torpedo system "Black Scorpion" made by Italian defense manufacturers Leonardo. With range of 3000 m.

Kronos submarine with "Black scorpion" torpedoes can also be remotely operated and used as a ROV/drone.

With the "Black Scorpion" torpedo system fitted to Kronos it can neutralise all surface and underwater threats and in general defend itself from hostile aggressors.



Main Characteristics



- Length
- Weight in air
- Operative depth range
- Presetting system
- Speed
- Acoustics
- Exploder

1100 mm, 5" diameter

<20 kg

NATO shallow water

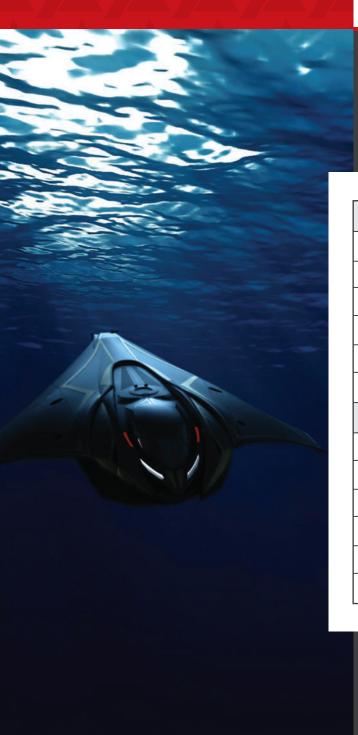
magnetic interface

>XX knots

active/passive

impact/time delay/flat battery





SPECIFICATIONS

KRONOS SUBMARINE. MADE IN THE UAE

DIMENSIONS	
Width	24.4 feet (7.43 meters)
Length	29.6 feet (9.03 meters)
Height	6.86 feet (2.09 meters)
Carrying Capacity	up to 6614 lbs (3000 kg) on water
Curb Weight	26455 lbs (12000 kg)
Seating Capacity	11
PERFORMANCE	
Fuel	Diesel
Max Speed on Water	43.2 Knots (80 km/h)
Max Speed under Water	27 Knots (50 km/h)
Working depth	328 feet (100 meters)
Max critical depth	820 feet (250 meters)
Air supply	36 hours

SPECIFICATIONS

KRONOS SUBMARINE. MADE IN THE UAE

RANGE	
Hybrid Mode	54 hours
Generator Only Mode	36 hours
Battery Only Mode	18 hours
Electric Engine Power	1200 hp/2,400 Nm
PERFORMANCE	
Full Battery Charging Time	1,5 hours
Air refueling	1,5 hours
Engine Type	Electric Engine
Folding wings for transportation	





- The interior space of the submarine's cabin
- Adaptive lighting
- Automated life support system
- Onboard air conditioner system
- Air Dryer
- Heater
- CO scrubber



- Steering hydraulic powered
- 25 kW, diesel/petrol genset
- Throttle electronic throttle control handle.
- Battery designed for marine purpose, sealed box. System is fitted with an isolator and emergency link in case of individual battery failure (Safety standards EEC Directive 93/112/EC)
- Onboard 12V 10 Kw
- Onboard 24V 12 Kw
- GPS / Chart Plotter Unit SIMRAD, with echo sounder
- Onboard air compressor 300 bar
- Underwater / surface radio stations
- Night Vision cameras (360 degree)
- Emergency ascent system
- Emergency firefighting system
- Emergency (additional) life support system
- Bilge pumps
- Additional Maneuvering System (Active Maneuvering System)
- Adaptive interior lights

OPTIONAL EQUIPMENT

KRONOS SUBMARINE. MADE IN THE UAE

- Manipulators
- Samplers
- Electronic periscope
- External scanners and analyzers
- Onboard underwater drone
- Onboard quadcopter
- Surface autopilot
- Underwater spotlight
- Surveillance cameras (including special ones)
- External connections for air supply, electricity, etc.
- Chamber of dry opening of hatches
- Chamber of underwater exit from the boat (lock and pressure chamber)
- Equipment for underwater towing
- Modification for operation in arctic conditions
- 4- 6 Light Weight torpedoes
- Fresh water tank 200 liters
- Water closet







APPLICATIONS

KRONOS SUBMARINE. MADE IN THE UAE

- Research missions
- Exploration of the seabed
- Visual inspection of underwater locations and objects
- Monitoring of the state of underwater pipes and cables (including using additional external devices and sensors)
- Underwater rescue work
- Exploration
- Military purpose
- Operations in arctic conditions



UNDERWATER EQUIPMENT

To perform high-complexity underwater work at depths of more than 50 meters, such as underwater welding, inspection and repair of underwater pipes and cable wires, maintenance of offshore drilling platforms, inspection and maintenance of ships, and other works underwater, the Kronos submarine is equipped with Dutch company Novosub instruments and hardware: www.novasub.com

The equipment provides direct video / audio communication with the diver from the carrier ship, which guarantees a high level of engineering support and safety for the diver during underwater work.



KM37 | Kirby Morgan Helmet



Guardian | OTS Full Face Mask



R-VEST | Diver Harness



PROTEUS-W1 | Modular 19" rack system



ALPHEUS-C1 | Portable diver radio, video recorder and depth monitor



DVR3 | Digital video recorder



NSHEADSET6 | Double-ear PTT headset

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