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APACHE 5

ADVANCED HYDROGRAPHIC DRONE

MARINE SURVEY & CONSTRUCTION

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ADVANCED SINGLE BEAM MARINE DRONE

APACHE5 is a professional high-performance USV solution with integrated professional single beam echo sounder. It features detachable triple-hulled vessel to match various environmental constraints such as open space lake or shallow draft channel without worrying about running aground.

The APACHE5 bathymetric survey solution embeds the CHCNAV absolute straight-line technology which enables a fully automatic pre-determined course in autonomous mode in adverse current and flow conditions. The survey projects can be completed in both manual and automatic cruise modes.

ONE-MAN OPERATION

Allow one operator to cope with most of remote deployment conditions.
Made of macromolecule polyester carbon fiber and Kevlar fiber-glass weighting 10 kg without sensors. It can be carried by a single person during the entire project from on-site transport, installation, calibration and mission processing.

HIGH PERFORMANCE TRIPLE-HULLED VESSEL DESIGN

Versatile USV solution for offshore, coastal and inland water and lakes surveys.
Its dual detachable floating bodies keep the hull balanced even in the rapid current situation. Removing the floating bodies allows operation in shoals, channels and shallow rivers without run aground.

ABSOLUTE LINEAR TECHNOLOGY

Maintain a perfect straight sailing course even in complex current conditions.
Integrate high precision GNSS positioning and heading technology to ensure high accuracy bathymetric survey in fully autonomous mode.

HIGH RESOLUTION VIDEO CAMERA

Real-time video stream up to 2 km.
The video feed increases mission efficiency and safety in case of emergency; or unpredictable situations (riverfront survey, grounding…) especially when completing out of line-of-sight survey or bad weather conditions.

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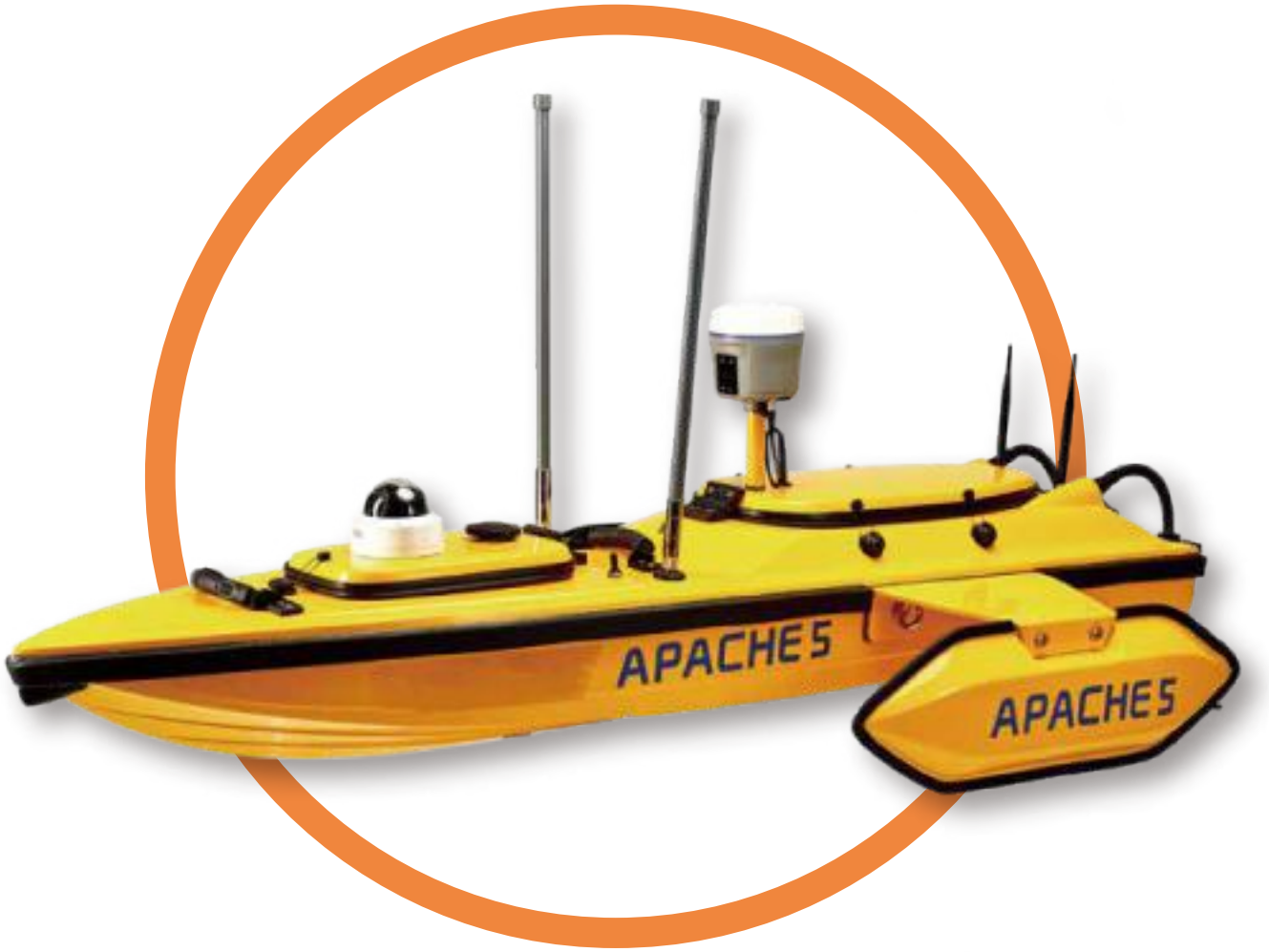
PROFESSIONAL
MARINE DRONE



MATCH ADVERSE CURRENT CONDITIONS

SPECIFICATIONS

Physical	
Size (L X W X H)	160 cm × 38 cm × 24 cm (5.2 ft x 1.2 ft x 0.8 ft)
Weight (w/instrument and battery)	< 30 Kg (66.1 lb) < 10 Kg (22.0 lb)
Material	Macromoleculepolyester carbon fiber
Type	Triple-hull vessel
Maximumspeed	5 m/s
Draft	0.15 m
Maximumload	35 kg
Wave resistance	1.25 m
Electrical	
Power consumption	300 W
Li-ion battery capacity	40000 mAh, 18.5 V
Navigationmode	Auto/Manual
Operating time[1]	2 hours (can be extended with additional
Communications	
Communication	UHF, network bridge
UHFfrequency	900 Mhz - 5.0 GHz
Communicationdistance	Up to 2 km
Communicationport	RS232 / Internetaccess
Hydro Survey Software	
CHCHydro Survey 7 software for collecting RAW data, base map import, mapping, positioning, drawing the USV track real-time, data	
Video Camera Specification	
Adjust angle – horizontal	0° to 355°
Adjust angle – vertical	0° to 75°
Conversion mode	ICRinfrared filter
Video compression	H.265, H.264, MJPEG
Camera	3 megapixel
Infrared irradiation range	10 m to 30 m
Maximumimagesize	2048 × 1536
Storage	Micro SD/SDHC/SDXC card (128 GB)
Communicationport	RJ45 10 M / 100 M adaptive
Operating temperature	-30°C to +60°C (-22°F to +140°F)
Humidity	≤ 95% condensation

D230 Singlebeam Echo Sounder	
Size (L x W x H)	24 cm × 16 cm × 5 cm (0.8 ft x 0.5 ft x 0.2 ft)
Weight	0.9 kg (2.0 lb)
Measure range	0.3 m to 200 m
Resolution	0.01 m
Accuracy	±0.02 m + 0.1% x D (D = depth of water)
Frequency	200 KHz
Sound velocity adjust	1300 m/s to 1700 m/s
Pulse power	300 W
External power	10 V DC to 30 V DC 100 V AC to 240 V AC
Operating temperature	-30°C to +60°C (-22°F to +140°F)

*All specifications are subject to change without notice.
*Operating time varies based on temperature.