

DUS MV mid-size USV platform

MID-SIZED ELECTRIC USV FOR HYDROGRAPHIC AND NEARSHORE SURVEY OPERATIONS

The DUS MV mid-size USV platform is designed for hydrographic data acquisition. in inland, river and nearshore waters. Developed from the proven V3000 vessel concept in collaboration with Van Oord's hydrographic survey team, the platform combines multi-sensor situational awareness with autonomous navigation software, redundancy in mission-critical components and robust cybersecurity. Its shallow draft allows access to hard-to-reach areas, while the compact, always ready-to-operate configuration enables rapid deployment and easy transport. The standardized vessel architecture accommodates flexible payload integration for a range of survey and monitoring applications.



KEY FEATURES

Proven concept with track record

Multiple vessels based on the MV platform have been deployed in projects worldwide, demonstrating their suitability for operations in demanding environments.

Emission-free operations

Fully electric vessel with no gears, lubricants or toxic fluids, enabling silent, clean, and sustainable operations with minimizing ecological impact.

Precision control in manoeuvrability

The patented USV Dynamic Positioning system enables precise control with multiple navigation and positioning modes for challenging conditions.

DEMCON | UNMANNED SYSTEMS

SPECIFICATIONS MV USV PLATFORM

MAIN PARTICULARS

Hull material:	Aluminum (marine grade)
Structural design:	Load bearing hull (no cradle needed), 5x watertight lockable compartments
Notations & compliance:	DNV-CG-0264 (AROS)

DIMENSIONS

L.O.A.:	Range: 3.00-6.00 m
Breadth:	Range: 1.10-1.40 m
Height:	1.30 m - 2.00 m (mast up/down)
Draught:	0.45 m
Dry weight:	Range: 300-600 kg

PERFORMANCE

Speed (max):	8.0 knots
Endurance (max):	57.5 km-13.5 hours (@2.3 kts), 35 km-4.5 hours (@4 kts), 15 km-1.5 hours (@5.5 kts)
Range (max):	70 km
Seaworthiness:	Sea state 4

POWER & PROPULSION

Bow Thruster(s):	1x 5 kW direct rim driven
Main Thruster(s):	2x 11 kW direct rim driven
Power:	2x 5 kWh lithium battery
Fast charger:	2900 W (230 V), 0-100% in <4 hours
Range extender:	*(HVO) bio diesel, fuel cell***

COMMUNICATION

Data links:	Cellular: 2 x dual 4/5 G LTE modems, Satellite: Starlink, Satellite: Iridium, LOS: Wi-Fi 6
Interaction:	AIS Class B/A (VDES), VHF/UHF radio (VOIP), 1x WAN (Auto) load balancing, 1x Ethernet network, Cyber security

NAVIGATION

Navigation:	Primary GNSS INS (RTK) Dual antenna (0.015° Roll & Pitch 0.05° Heading), Secondary GNSS INS survey setup (client system integration), Gyro compass, ENC interface (ADMIRALTY Vector Chart Service Online)
Navigation lights:	Portside, Starboard, Mast/Stern light, Orange light
Situational Awareness Sensors:	AIS Class B, 360° Daylight camera (4 sensors), 25W Radar, 32 line LiDAR

PAYLOADS

Integration:	Powerbocks and network switch for easy 3rd party integrations
Moonpool:	Various sensor/robotic system payloads
Moonpool size:	Range: max 0,68-0,80 m
Winch:	*DUS Smart Mini Winch***

OTHER EQUIPMENT

Handling & transport:	3x mooring/hoisting cleats and handrails , *Hoisting equipment, road trailer, workshop trollies, container/ deck mount, lower deck air cargo crate***
Launch & recovery:	*Crane RC magnetic automatic lifting hook, crane cradle, ramp/slipway trailer***

REMOTE OPERATIONS

Wireless control unit:	1
ROC boxes:	Dual LTE, WAN input for office or vessel LAN internet, Wi-Fi 6 LOS link, Fail over system for 110/230VAC (no outages), Back up battery for black out, 4 x 230VAC socket (no outages), Redundant power supply electronics, Electronic fuses for monitoring & resetting electronics, Humidity & temperature sensor
Computers:	High Level Mission Computer, Real Time Control Computer, Safety PLC, Survey Data Acquisition Computer
Network:	2x Separate CANbus network (M12 IP67), Ethernet network (M12 IP67), Power distribution network (M12 IP67 each component electronically fused)
Safety Sensor network:	Water sensor per compartment, Temperature & humidity per compartment, Sensors all hatches

SAFETY SYSTEMS

Emergency stop:	Emergency stop button on each corner vessel, Emergency Stop button on each remote, Emergency Stop software
Redundancies:	Redundancy in flotation (multiple compartments), Redundant Batteries, Redundant Propulsion, Redundant Steering, Redundant Power Supplies Electronics, Redundant Positioning Systems, Redundant camera system, Communication system with multiple fallbacks, Fault tolerant networks

SOFTWARE*

Demcon Uncrewed Mission Software:	ROC operator interface for mission planning and execution, vessel monitoring and situational awareness
Demcon Advanced Control & Navigation System:	Manual assisted, dynamic positioning and autonomous navigation control modes
Demcon Safety System:	Safety rules, safety actions, emergency stop handling, collision warning, obstacle avoidance and return-to-home functionality
Demcon Logging & Monitoring Software:	Local or cloud based time-based vessel data logging, system monitoring, diagnostics and support tooling

**For more information about software see flyer DUS USV SOFTWARE*
***Optional*

Performance depends on configuration and environmental conditions

GET IN CONTACT

Our vessels are fully customizable and built to necessity. To get more information about possibilities, options and requirements, contact us through e-mail or call us.

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