



DUS HSV high-speed USV platform

HIGH-ENDURANCE OFFSHORE USV FOR HYDROGRAPHIC SURVEY OPERATIONS

The DUS HSV high-speed USV platform is designed for survey, monitoring and support operations where rapid transit and deployment are required. The self-righting platform combines high-speed performance with modular payload integration and integrated navigation and situational-awareness systems. Designed in accordance with DNV Craft Class standards, it supports remote and autonomous operations through Remote Operating Centre software and includes the hardware and software required to meet IMCA and AROS operator certification requirements.



KEY FEATURES



Rapid Launch & Recovery

Optimized for launch and recovery from other vessels, with a self-supporting hull and containerized transport for efficient deployment.



Extended endurance

Capable of autonomous operation for more than 40 days, supporting long-term missions without the need for frequent resupply.



Fast transit & quick deploy

Achieves up to 20 knots and offers rapid transit and deployment, minimizing downtime and maximizing operational efficiency.



UNMANNED
SYSTEMS

SPECIFICATIONS HSV USV PLATFORM

MAIN PARTICULARS

Hull material:	Aluminium (marine grade)
Structural design:	Self-righting, round bilge, load bearing hull (no cradle needed), 7 watertight lockable compartments
Classification:	DNV
Notations & compliance:	DNV Craft, DNV-ST-0342 (G4), RP. Autonomy: According to DNV-CG-0264

DIMENSIONS

L.O.A. :	11.75 m
Breadth:	2.65 m (2.25 m transport width)
Height:	2.33-4.19 m (mast down-up)
Draught:	0.77 m
Dry weight:	5500 kg including average moonpool survey payloads
Gross Tonnage:	~11.0 T
Nett Tonnage:	~6.0 T

PERFORMANCE

Speed (max):	20 knots
Range/ Endurance/ autonomy (max):	2000 NM at 4 kts speed (~20 days), 1450 NM at 5.5 kts speed (~10 days), 550 NM at 20 kts speed (~1+ day)
Range (max):	2600 NM
Seaworthiness (survivability):	Sea state 7

POWER & PROPULSION

Main Thruster(s):	2x waterjets (class approved)
Bow Thruster(s):	Optional, 1x 15 kW electric bow thruster
Power:	2x Diesel engines (up to 350 kW, HVO, EPA Tier III / Stage V optional), 2x flywheel generator 4kW (Hybrid optionally)
Backup power:	1x 3.5 kWh IP67 emergency battery, charged by 2x 180 W solar panels (AIS & Lights always on), 2x 2.3 kW backup power supplies
Fuel:	HVO biofuel
Tank(s):	2x 1250 l (2x2 crosslinked tanks)
Fast charger:	2x 2900 W (230 V); each 48 V 5 kWh battery charges from 0-100% in <2 hours
Cooling:	Water inlets
Batteries:	2x 48VDC 5 kWh IP67 batteries, installed in two separated battery banks.

PAYLOADS

Integration:	Powerbocks and network switches for easy 3rd party integrations
Moonpool:	0.50 x 1.42 m (open from keel to deck), three interchangeable multifunctional moonpool brackets
Winch:	1 x Moonpool winch for smaller, SVP like, payloads
Open deck area:	Large open deck area
Launch & recovery system payloads:	For towed payload setups including deck winches and A-frame LARS

OTHER EQUIPMENT

Gyrostabiliser:	~6500 Nm
Handling & transport:	4x hoisting points, certified, mooring cleats, 40 ft container transportable, <i>hoisting equipment, road trailer, workshop/yard trollies, container/ deck mount, spreader bar lifting tool (adjustable for different weights)**</i>
Launch & recovery system:	<i>Crane RC magnetic automatic lifting hook, T.B.D. LARS system, cradle, ramp/slipway trailer**</i>

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:	Dual portside, Dual starboard, Upper mast light & lower mast light back up, Stern lights, Not Under Command lights, Restricted in ability to manoeuvre lights, Floodlights bow & stern
Situational Awareness Sensors:	AIS Class A, 360° Daylight camera (4 sensors), 360° Thermal/IR camera (6 sensors), Stabilised PTZ camera 30x Optical zoom, 25W Radar, 32 line LiDAR, Horn, microphone & speaker, Weather station

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

REMOTE OPERATIONS

Wireless control unit:	2
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
Mariphone (VHF over IP):	Mari phone IP67, Dual function for monitoring Ch.16 and/or call channel
Network:	2x Separate CANbus network (M12 IP67), Ethernet network (M12 IP67), Power distribution network (M12 IP67 each component electronically fused)
Safety Sensor network:	A Starboard & Portside Network, Water sensor per compartment, Temperature & humidity per compartment, Sensors all hatches, 2x Fuel level, 2x Coolant point level, 2 x Coolant temperature, Vibration sensors engines & gyro

SAFETY SYSTEMS

Fire:	Fire extinguisher per compartment with fire hazard, Automatic and remote activation possible
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 Power (engines/generator), Redundant Batteries, Redundant Propulsion, Redundant Steering, Redundant power Supplies Electronics (triple for emergency systems), Redundant Positioning Systems, Redundant main navigation Lights, Redundant camera system, Redundant communication system, Fault tolerant networks
Bilging:	2 bilge pumps engine compartments, (other compartments watertight)

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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