

HUGIN

Autonomous Underwater Vehicle

AUV
Technical Data



HUGIN Autonomous Underwater Vehicle (AUV)

- Comprehensive payload suite for flexible operations
- Containerized for rapid mobilization
- Real-time acoustic command and data link

The HUGIN AUV is optimized for subsea survey, mapping and pipeline inspection. It is equipped with industry leading navigation solution and payload sensors including Synthetic Aperture Sonar (SAS), multibeam echosounder, sub-bottom profiler, color camera and laser profiler. HUGIN can operate autonomously or under supervision with communications through the HiPAP positioning system. This provides operators with real-time feedback of the HUGIN's activities, data samples and class leading positioning.



SPECIFICATIONS

| AUV | |
|---------------------------|---|
| Depth Rating | 4500 m |
| Operating Depth | 5-4500 m |
| Length | 6 m |
| Diameter (center section) | 0.75 m |
| Volume | ~1.3 m ³ |
| Weight in Air | ~1100 kg |
| Weight in Water | Neutrally buoyant |
| Power Requirements | |
| Power Container | 360-440 VAC/50 or 60Hz/3 Phase/32 Amps (battery charging, HVAC, Light & PCs) |
| AUV Batteries | |
| Battery Type | Pressure compensated Lithium Polymer |
| Voltage | 44.5 V DC (Nominal) |
| Energy | 24 kWh |
| Charge Time | 8 hours after complete discharge |
| Endurance | |
| Estimated Endurance | 26 hours at 3 Knots/20 hours at 4 Knots |
| Control | |
| Speed Range | 1-6 Knots |
| Stability | <0.5° in pitch, roll and heading |
| Turning Radius | 20 m at nominal speed |
| Maximum Pitch Angle | 50° |

GENERAL

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SPECIFICATIONS (CONTINUED)

| | | |
|-----------------|--|--|
| NAVIGATION | On-Board | |
| | IMU: | Honeywell HG9900 |
| | DVL: | Teledyne RDI 300 kHz Navigator |
| | Processing: | Kongsberg Maritime NavP |
| | Topside | |
| | External Position and Communications Link: | Kongsberg Maritime HiPAP 350 series with IMU (Seatex MGC) |
| | Navigation Processing: | Kongsberg Maritime NavLab |
| CAPABILITIES | Accuracy | |
| | Real-time Supervised: | 0.5-6 m (1 σ , depending on depth and GPS accuracy) |
| | Post-processed: | 0.5-4 m |
| CAPABILITIES | Operational Modes: | Autonomous / Semi-autonomous / Supervised |
| | Pipe Tracking: | Kongsberg Maritime autonomous pipe-tracking with SSS alongside the pipe and EM2040 overhead the pipe |
| PAYLOAD SENSORS | Synthetic Aperture Sonar: | Kongsberg Maritime HISAS 1032 with in-mission processing and bathymetry |
| | Multibeam Echosounder: | Kongsberg Maritime EM2040 0.7° x 0.7° beam angle, single receiver |
| | Sub-bottom Profiler: | EdgeTech DW 1-6 kHz |
| | Camera and Laser Profiler: | CathX Ocean HD color still image camera with laser profiler with separate receiver |
| | Data Storage: | Kongsberg Maritime Removable Data Storage Device |
| DEPLOYMENT | LARS | |
| | Ramp: | Kongsberg Maritime Stinger LARS for HUGIN AUVs, containerized launch and recovery including HPU |
| | Maximum Sea State: | 5 |
| CAPABILITIES | Maximum Freeboard: | 5 m |
| | DnV 2.7-1 for AUV LARS Containers (Vans) | |

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