



HUGIN® AUTONOMOUS UNDERWATER VEHICLE (AUV)

HUGIN® is the most successful commercial AUV available. It is the most capable AUV combining IHO quality positioning with the highest resolution sensors on the market. HUGIN® collects data from many different sensors concurrently, providing a complete data product from a single mission.

The HUGIN® system is designed for a variety of survey missions including:

- Seabed mapping
- Pipeline inspection
- Mine reconnaissance

HUGIN® can operate autonomously or under supervision, meaning operators can monitor its progress and receive real-time samples of the sensor data for quality control purposes.

The complete HUGIN® system can be supplied in DnV certified shipping containers. Everything required for day-to-day operations is installed in the containers making HUGIN® a portable survey tool.

SENSORS

HUGIN® is delivered with a range of sensor options:

- Sidescan Sonar or Synthetic Aperture Sonar
- Multibeam echo sounder
- Sub-bottom profiler
- Still Image Camera
- Turbidity Sensor
- Environmental and Geochemical Sensors.



FEATURES

- World class navigation
- HISAS interferometric synthetic aperture sonar
- EM[®] 2040 high performance multibeam echo sounder
- IHO compliant
- Swappable lithium polymer batteries
- Launch and recovery system with 15 years of field experience
- Integrated pipeline inspection with automated pipe detection
- and tracking
- Advanced autonomy with in-mission data processing
- Terrain navigation and underwater transponder positioning capabilities
- Real-time payload data transmission to operator
- Seamlessly integrated post-mission analysis package
- Modular design enabling simple upgrades

TECHNICAL SPECIFICATION

WEIGHT AND DIMENSIONS

- Length: 5.2-6.4 m
- Outer diameter: 0.75 m
- Weight: 1000-1550 kg
- Weight in water: Neutrally buoyant
- IP code: IP9064/5920

DEPTH RATINGS

- 3000 m
- 4500 m

VEHICLE SPEED

- 2-6 knots

ENERGY

- Pressure tolerant lithium polymer battery
- 1 or 2 exchangeable 24 kWh power packs
- Charge time 5-8 hours
- Battery blocks transportable by air, sea or land

ENDURANCE

- 24-74 hours with all sensors operating

NAVIGATION

- Kongsberg NavP aided Inertial Navigation System (AINS) with Honeywell HG9900 Inertial Measurement Unit (IMU)
- IHO compliant
- Acoustic positioning using cNODE and HiPAP (option)
- Novatel GPS
- Forward Looking Sonar with advanced terrain following and collision avoidance
- Broadband 300 kHz Doppler velocity log
- Paroscientific Digiquartz depth sensor
- Terrain referenced navigation (option)
- Underwater transponder positioning (UTP)

COMMUNICATIONS

- cNODE acoustic command and data link
- Wi-Fi
- Iridium
- UHF radio link

AVAILABLE PAYLOAD SENSORS

- HISAS interferometric synthetic aperture sonar
- EM 2040[®] multibeam echo sounder, 200-400 kHz, 0.7° x 0.7° beam width, swath coverage sector up to 140° (+/- 70° single RX) 160° (+/- 80° dual RX)
- EdgeTech dual/triple frequency Sidescan Sonar
- EdgeTech single/dual frequency Sub-bottom profiler 1-6 kHz, 2-16 kHz or 4-24 kHz
- SAIV conductivity, temperature, depth (CTD) sensor
- Still Image Camera
- Environmental and Geochemical Sensors
- Turbidity Sensor
- Further options and custom integration available

SOFTWARE

- HUGIN operator system (HOS)
- Autonomous pipe tracking using Sidescan Sonar and multibeam echo sounder (option)
- NavLab navigation post-processing (option)
- Reflection post-mission analysis (option)

TOPSIDE EQUIPMENT

- Operator and payload computer
- Post-mission analysis computer
- Vehicle battery charger
- Maintenance trolley
- GPS / heading sensor (option)
- HiPAP acoustic positioning and communication (option)

LAUNCH AND RECOVERY SYSTEM

- Open deck based stinger system
- Containerized stinger system.

Specifications subject to change without any further notice.

