TECOTEC TECHNOLOGIES

UNDERWATER ACOUSTIC ABSORPTION TEST SET

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DESCRIPTION

The Acoustic Current Meter Test Set is a complete calibration and verification system for current velocity meters and underwater sound velocity sensors. The system integrates a water velocity simulation tank, precision temperature-controlled calibration bath, high-sensitivity transducers, and automated software into a unified end-to-end workflow — replicating real-world aquatic conditions within a controlled laboratory environment.

Built to comply with ISO 3455 international hydrographic standards, the system supports calibration of rotating-element, electromagnetic, and acoustic current meters. Automated data acquisition, analysis, and report generation through the dedicated ACMTS-SW software significantly reduces manual effort and ensures traceable, repeatable results across all calibration cycles.

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APPLICATION

The Acoustic Current Meter Test Set supports the following measurement and test activities:

- Current meter calibration: Verification of rotating-element, electromagnetic, and acoustic Doppler current meters per ISO 3455
- Sound velocity sensor calibration: Precision temperature-controlled bath calibration for underwater acoustic velocity devices
- Hydrographic survey equipment QA: Pre-deployment verification of sensors used in river, coastal, and offshore survey operations
- Marine research instrumentation: Characterization of current and acoustic sensors for oceanographic and environmental research programs
- Environmental monitoring compliance: Ensures sensors used in water quality and flow monitoring networks meet regulatory accuracy requirements
- Manufacturer product certification: Supports OEM verification and acceptance testing prior to commercial deployment

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SPECIFICATIONS

Module	Specification
Water Velocity Simulation Tank	Replicates real-world flow conditions for in-situ sensor testing
Temperature Calibration Bath	Ultra-stable resistor maintenance bath for sound velocity calibration
Electromagnetic Speed	High-sensitivity electromagnetic current sensing
Hydrophone	High-sensitivity broadband acoustic receiver
Control & Processing Station	Real-time data acquisition and signal analysis
Calibration Software	Automated test sequencing, data collection, analysis, and report
Calibration Standards	Rotating-element, electromagnetic, and acoustic current meters
Power Protection	3-phase protection against power fluctuations
Control Interface	PC-based software with intuitive test setup and results dashboard