Using SonTek’s proven pulsed acoustic Doppler technology, the Argonaut-SW is the superior choice for accurate flow measurements in natural streams, man-made channels, and pipes. Because it is a “fast sampling” velocity profiler, the SW accounts for variations in the velocity field to make the most accurate flow measurements possible.

Typically mounted on the bottom of a channel or pipe, the SW combines velocity and water level data with user-supplied channel geometry to compute total flow in real time. Its unique “all-in-one” transducer and electronics design features an internal recorder and requires no top-side processing.


Every Argonaut-SW comes with ViewArgonaut - a user-friendly software program for setting up your system and analyzing data. A flow configuration utility makes flow measurement simple!

ViewArgonaut consists of five modules:

- **Diagnostics** - Deployment site survey and diagnostics tool.
- **Recorder** - Extracts data from or erases the Argonaut’s internal recorder.
- **Deployment** - Sets up the Argonaut for an Autonomous or SDI-12 deployment.
- **Realtime** - Sets up the Argonaut to collect and display real-time data.
- **Processing** - Lets you play back and manipulate Argonaut data.

Velocity-Indexing is a Snap with FlowPack Software!

One of the main benefits to the Argonaut-SW is its ability to calculate flow using uniquely derived flow equations for individual channels via the velocity-index method. SonTek’s optional FlowPack software facilitates velocity-index rating development, making your data reporting process a whole lot friendlier and faster! FlowPack provides a simple method to store flow, velocity, and stage measurements and convert this information into comprehensive reports, helping you make better and more informed decisions.
Continuous Flow Monitoring Under Complex Conditions

Reversing flow? Rapid changes? Tidal influence? Pumping? Backwater? Under ice? Small, portable and easy to use, the Argonaut-SW is your friend for all these challenging shallow-water conditions. The SW operates in depths from 0.2 to 5.0 meters (0.7 to 16 ft) and automatically adjusts its velocity cell with changing water level while also reporting a velocity profile for subsequent analysis. Just provide power, and the SW can either output data in real time or record data internally for periodic downloads.

Features Include:
- Unique “all-in-one” design
- Provides 10 cells of velocity profiling
- Internal data recorder
- Real time output (RS 232/422, SDI-12, Modbus, analog)
- External flow display
- Total volume output
- Measures under ice

How it Works

The Argonaut-SW has three acoustic beams. When properly bottom-mounted (usually in a channel), one of these beams points straight up, and the other two point up/down stream at a 45-degree angle. The upward-looking beam measures water level. The two slanted beams measure the water velocity in two dimensions via the acoustic Doppler method.

Profiling water velocity provides a more accurate depiction of flow characteristics, enabling use under conditions where stratification exists. This level and velocity information is then used (together with the geometry of the channel) to compute flow, volume, mean velocity, and area.
Specifications

**Standard Features**
- 2-D velocity measurement (using 2 acoustic beams) along channel and vertical velocity components
- Water level measurement using vertical acoustic beam
- Automatically adjusts sampling volume location to measure the maximum possible portion of the water column
- RS-232/SDI-12 communication protocol
- Real-time flow calculations using user-supplied channel geometry
- 4 MB recorder capacity (over 50,000 samples)
- Temperature sensor
  - Resolution: ±0.01° C
  - Accuracy: ±0.5° C
- ViewArgonaut Windows 2000/XP/Vista software for instrument setup, data collection, and post processing.
- PDA software (SonUtils and deployment module)
- Multi-cell current profiling
- Mounting plate

**Water Level Measurement**
- Maximum Depth: 5.0m (16ft)
- Minimum Depth: 0.3m (1ft)*

**Water Velocity**
- Range: ±5 m/s (16 ft/s)
- Resolution: 0.1 cm/s (0.003 ft/s)
- Accuracy: ±1% of measured velocity, ±0.5 cm/s (0.015 ft/s)

**Optional Features**
- FlowPack velocity indexing software
- 4-20 mA and 0-5VDC output modules; possible variables are X velocity, Y velocity, velocity magnitude, temperature, SNR, stage, volume and flow.
- Custom mounting shoe (at left)
- Deployment sliding mount (at left)
- Flow Display (at left)
- Durable plastic shipping case
- RS-422 for cable runs longer than 100m

**Physical Parameters**
- Dimensions: 24.5cm (9.7 in) long by 10cm (4 in) wide by 6.3cm (2.5 in) high
- Weight:
  - In air: 1.2kg (2.6 lb)
  - In water: 0.15kg (0.3 lb)
- Pressure rating: 25m (80 ft)
- Operating temperature: -5°C to 60°C (23°F to 140°F)
- Storage temperature: 10°C to 70° (14° to 158°F)
- Power Requirements
  - Input power: 5-15 VDC
  - Power consumption: 500 mW nominal

*Can operate in shallower depths down to 0.2m (0.7ft) with performance limitations. Contact SonTek for details.

---

Useful options and accessories make the Argonaut-SW a complete, turn-key solution!

**Real-time Flow Display**: Provides an easy-to-use interface for monitoring both output data and the system status.

**SW Mounting Shoe**: This streamlined, hard plastic casing helps deflect sediment in canals, channels and pipes. Also has slots for pipe-ring mounting.

**Modbus Interface Module (MIM)**: Integrate into any Modbus-enabled system using Modbus RS-232 protocol. Acting as an RTU slave device, the MIM stores data in a series of registers so it can be reported to the master unit in real-time.

**Sliding Mount**: Rail system for easy instrument deployment and retrieval. A modular design allows for multiple length and depth configurations.

---

SonTek/YSI, founded in 1992 and advancing environmental science in over 100 countries, manufactures affordable, reliable acoustic Doppler instruments for water velocity measurement in oceans, rivers, lakes, harbors, estuaries, and laboratories. SonTek/YSI is an employee-owned company.

SonTek and Argonaut are trademarks of YSI Inc., Yellow Springs, OH, USA. The Argonaut-SW is made in the USA. Lit. code S06-03-0509. June 2009. Specifications are subject to change without notice.