FlowTracker®2

WADING DISCHARGE MEASUREMENT INSTRUMENT

SonTek

a **xylem** brand

Portable. Precise. Practical.

The new FlowTracker2 (FT2) handheld Acoustic Doppler Velocimeter (ADV®) has all the technology you have grown to know and trust with the original FlowTracker, but now comes with functional, modernized features (Bluetooth, GPS and large color screen, to name only a few) based on the evaluation and feedback from hydrologists, researchers and scientists who have made the FlowTracker their instrument of choice.

But the real power becomes clear from the moment you start to collect data. Each step of the way FT2 guides you along the measurement process with visual prompts and SmartQC audio alerts just in case something important needs your attention.

FT2 handheld software is intuitive, easy to navigate and includes real-time plots of point data, QC parameters, and measurement verticals, giving you everything you need at-a-glance. Get defensible data correctly, the first time, every time, and minimize data handling back at the office.

With rugged construction for any climate and multiple display options for both day and night, FT2 goes whenever and wherever you need it to go.

SmartQC✓
SmartQC is our exclusive promise your SonTek system is performing at optimum standards and that your data is precise, reliable and defensible.

- Natural Streams
- Irrigation Canals
- Mining Channels
- Water Treatment
- Weirs/Flumes
- Storm Water
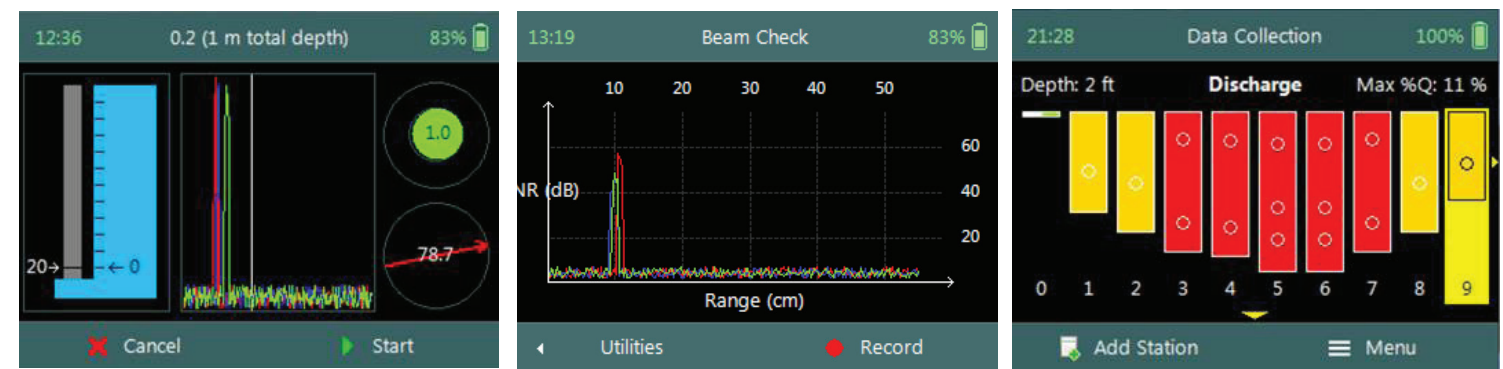- Open Channels
- Lakes

FT2 uses SonTek's tried-and-true ADV technology, vetted for decades by experts across the globe, in hydraulics labs and wide-ranging field environments. Improved and perfected for FT2, the acoustic-based ADV sensor offers unparalleled accuracy, particularly in low flow, and in the shallowest water of any wading device. 2-D data in the horizontal plane (2D/3D option available) allows the most comprehensive QC and understanding about flow conditions. User calibration is never required, and 24/7 tech support from SonTek and our worldwide team is only a call away.

FlowTracker2 Software - Handheld

There is a lot to get excited about when using the new FT2 handheld. Intuitive workflow and rich graphics make for a modernized, interactive experience. Now you can:

- Rely on FT2 to automatically conform to proper methods based on depth
- View beam check or QC plots directly - know immediately if you have signal or beam blockage problems
- Get real-time plots of velocity and other parameters
- Enter comments and gage heights with any station

- View a running discharge summary
- See an image of top-set wading rod
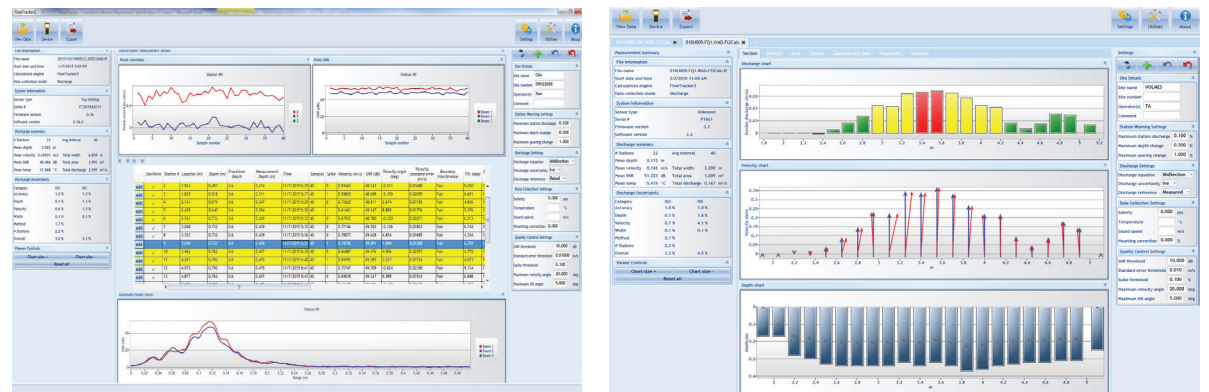- View an on-screen tilt sensor
- Edit data

Example of FlowTracker discharge software and reports

FlowTracker2 Software - PC

Comprehensive tables and time series graphs allow you to visualize and QC data during analysis. Change SmartQC criteria and edit data—yet rest assured the original file will always remain untouched. FT2's open-source JSON file format is ready to be read into any organization's database, and is supported with direct import to Hydstra and WISKI.

Example of desktop PC software

FlowTracker2 Innovations

Some of the major improvements now featured in FT2 come straight from field users like you. Here is a short list of time-saving, fool-proof features:

- Battery life icon on the screen at all times. Pre-load the spare cartridge and replace, even mid-measurement, with no data loss
- Set up and save templates—no need to re-enter data every time you visit a site
- Embedded GPS for georeferencing with automatic or manual fixes
- Probes and handhelds are interchangeable—flexibility within agency teams and when sending equipment for service
- Improved ADV acoustics: faster pinging, lower noise and better standard error
- Depth measurement option employing SonTek's robust, patent-pending technique
- Bluetooth or direct USB interface with PC
- Audio prompts

FT2 battery compartment is now easy to access in the field. NO TOOLS REQUIRED!

The FlowTracker2 Advantage

It doesn't matter if you are new to acoustic Doppler technology, or a seasoned pro. FT2 provides unparalleled benefits you will only find with SonTek instrumentation. Here are a few more features that set the FT2 apart:

- Multi-language instrument and software for English, German, French, Portuguese, Spanish, Russian, Chinese, Japanese, Korean, and many more. Add additional languages using the built-in translator utility
- Bracket adaptors for top-setting or universal 20mm wading rods
- Tactile, rugged keypad and IP67 waterproof rating
- SonTek's 2-year warranty and 24/7 tech support
- Improved under-ice measurements
- Weighted gage height calculations

Example of FlowTracker2 used in a storm/waste water pipe.
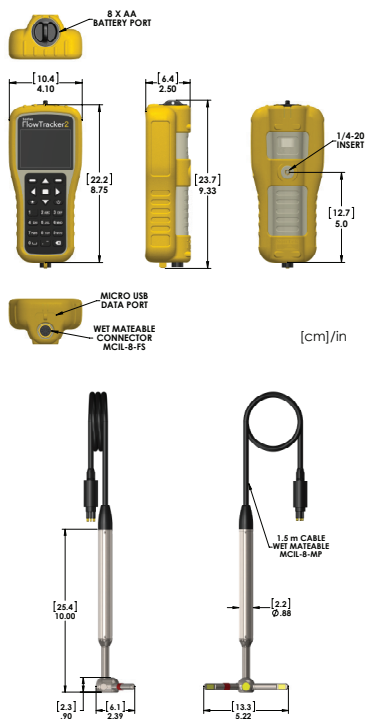
FlowTracker2 ACCESSORIES AND SPECIFICATIONS

The SonTek deluxe wading rod, featuring a sturdy grip and bubble level

Rugged case provided standard with instrument

Product Dimensions

[cm]/in

Part I: Probe	
Velocity Range	±0.001 to 4.0 m/s (0.003 to 13 ft/s)
Velocity Resolution	0.0001 m/s (0.0003 ft/s)
Velocity Accuracy	±1% of measured velocity + 0.25 cm/s
Acoustic Frequency	10.0 MHz
Sampling Volume Location	10 cm (3.93 in) from the center transducer
Minimum Depth	0.02 m (0.79 in)
Depth Measurement Range	0 to 10m (0 to 32.81ft)
Depth Measurement Resolution	0.001m (0.003ft)
Depth Sensor Accuracy	+/- 0.1% of FS (temperature compensated over full operating range)
	+/- 0.05% Static (steady-state at 25°C)
	Additionally compensated for real-time water velocity, temperature, salinity, and altitude.
Temperature Sensor	Resolution: 0.01° C, Accuracy: 0.1° C
Tilt Sensor	Accuracy: 1.0°
Communication Protocol	RS-232
Operating/Storage Temperature	-20° C to 50° C (-4° F to 122° F)
Physical Specifications	
-Probe Head Dimensions	(L)13.3 cm (5.22 in); (W) 6.1 cm (2.39 in); (H) 2.3 cm (0.90 in)
-Standard Cable Length	1.5 m (4.92 ft)
-Weight in Air	0.90 kg (1.98 lbs)
-Weight in Water	0.30 kg (0.66 lbs)
Part II: Handheld	
Power	
-Input Battery Voltage	8 - 12 VDC
-Power Supply	8 X AA Batteries
-Battery Life	15 hours continuous use, typical settings[1]
-Power Consumption	1 W (Average)
GPS	
-H. Position Accuracy	Up to 2.5 m (8.2 ft) nominal[2]
-Frequency	L1 (1.575 MHz), SBAS compensation (WAAS, EGNOS, MSAS, GAGAN)
LCD	
-Resolution	320 X 240 TFT Transmissive
Bluetooth	Class 2, Range = 10 m (33 ft) nominal
USB	Micro USB, IP-67
Probe Interface	
-Battery Power to Probe	8 - 12 VDC
-Data Transfer	RS-232
-Data Storage	16 GB. Up to 10k discharge measurements. Up to 10 million velocity samples
Operating Temperature	Alkaline Batteries: -20° to 45°C (-4°F to 113°F) NiMH: -20° to 50°C (-4°F to 122°F)
Storage Temperature	-22° to 70°C (-22° F to 158°F)[3]
Physical Specifications	
-Waterproof Rating	IP-67 (1m submersible)
-Handheld Dimensions	(L)10.4 cm (4.1 in); (W) 6.4 cm (2.5 in); (H) 23.7cm (9.3 in)
-Weight in Air	0.75 kg (1.65 lbs)
-Weight in Water	-0.25 kg (-0.55 lbs)

[1]Defined as power on with screen on at 100% brightness, ADV sensor pinging 50% of the time, GPS off, and no sleep periods. Actual battery life will vary depending on FT2 settings, manner of use and brand of battery.
[2]Ideal conditions and settings. GPS data are intended for approximate georeferencing and site ID.
[3]Remove batteries from FlowTracker2 handheld if storage temperatures exceeds operating temperature of Alkaline and NiMH batteries as stipulated above.