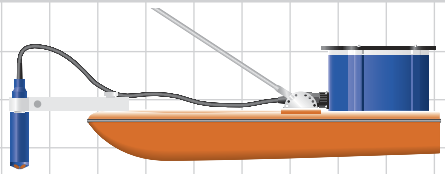
StreamPro ADCP

REVOLUTIONARY NEW TOOL FOR VELOCITY AND DISCHARGE MEASUREMENT IN SHALLOW STREAMS

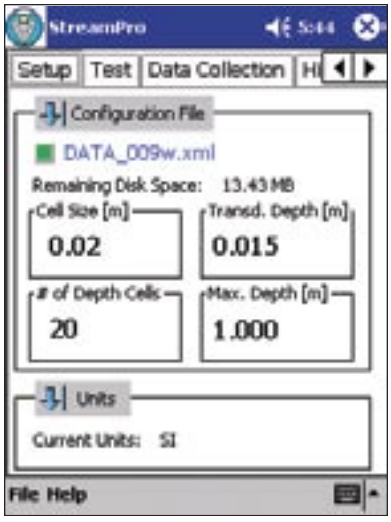


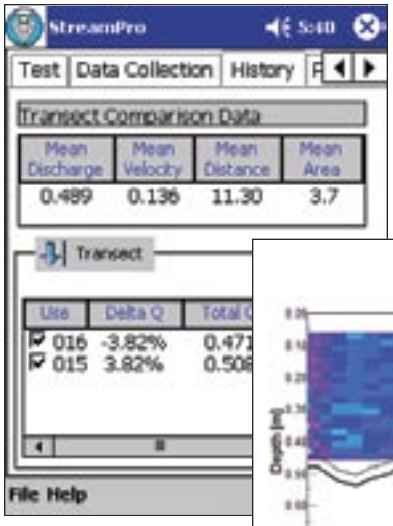
Technical Specifications

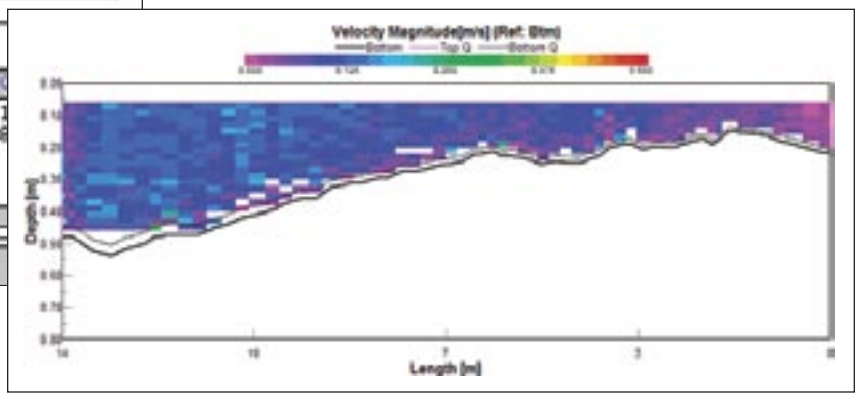
Velocity Profiling	
# cells	*1–20*
Min. cell size	*1cm*
Max. cell size	*10cm standard, 20cm with upgrade*
Max. range	*2m standard, 4m with upgrade*
1st cell start	*7–30cm (from transducer); depends on cell's size*
Accuracy (cell = 1/2 max.)	*±1.0%±0.2cm/s*
Resolution	*0.1cm/sec*
Velocity range	*±2m/sec*

Physical Properties		
Weight in air	*5 kg including electronics, transducer, float, and batteries*	
Dimensions	*Electronics housing:*	*15 x 20 x 10cm*
	Transducer:	*3.5cm diam. x 15cm length*
	Float:	*44 x 70 x 11cm*

Transducer	
Frequency	*2.0MHz*
Geometry	*4 beams, 20° beam angle*
Beam width	*3°*
Material	*Polyurethane*







Standard Sensors

Temperature: Range -4° to 40°C
Accuracy ±0.5°C
Resolution 0.01°

Thermistor in metallic housing in direct contact with water

Communications

Bluetooth wireless
Baud rates: 115,200 bps

Construction

Cast polyurethane with stainless hardware.

System Components

- **Small transducer head**
- **Electronics case**
- **Small float**
- **PocketPC: iPAQ**
- **Bluetooth wireless**
- **Data collection software**

Power

Voltage: 10–13.5VDC
(8 AA batteries, alkaline or rechargeable NiMH)

Electronics energy consumption: 10 hours continuous with 8 AA alkaline batteries
12 hours continuous with 8 AA NiMH rechargeable batteries

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Specifications subject to change without notice. Rev. 0305

RD Instruments
Acoustic Doppler Products
STREAMPRO ADCP

StreamPro ADCP

MARINE MEASUREMENTS
NAVIGATION
WATER RESOURCES

REVOLUTIONARY NEW TOOL FOR VELOCITY AND DISCHARGE MEASUREMENT IN SHALLOW STREAMS

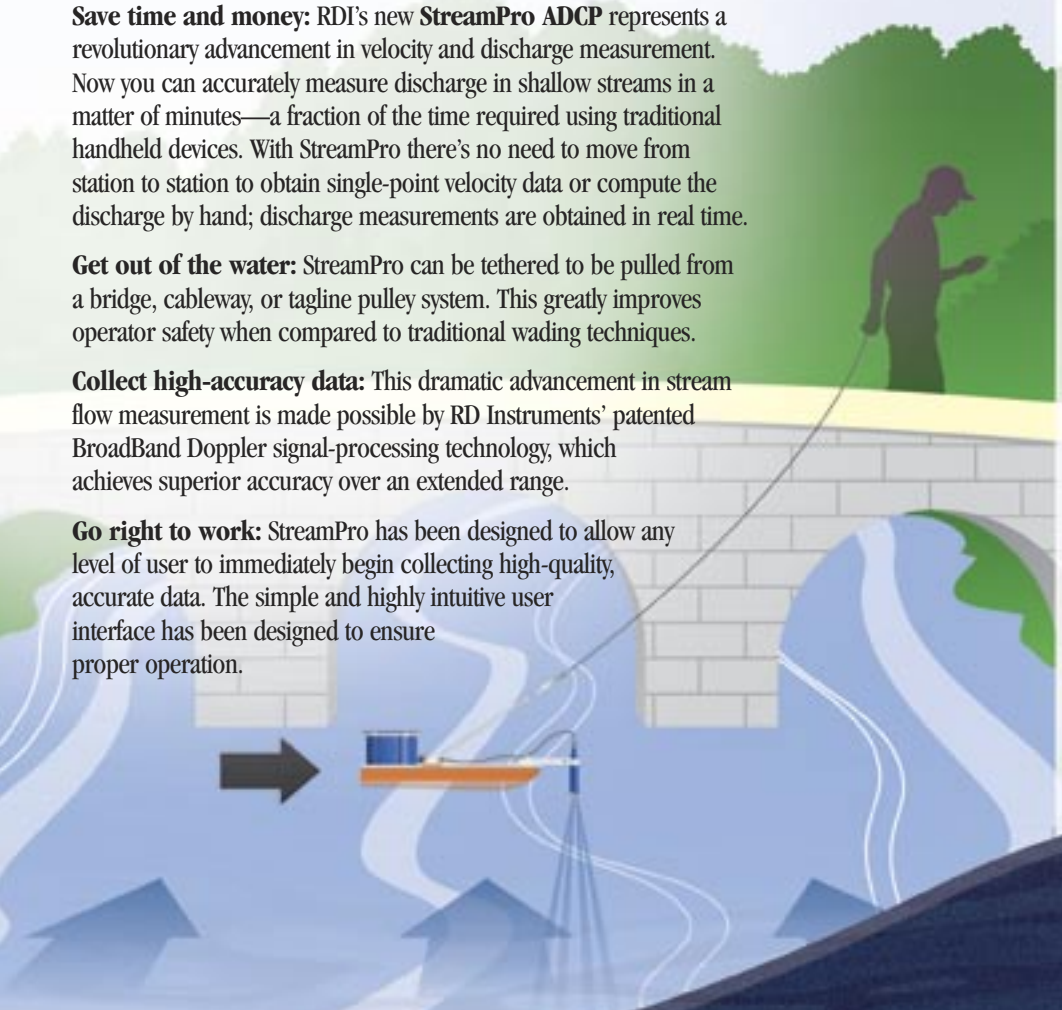
Your shallow water solution!

Save time and money: RDI's new **StreamPro ADCP** represents a revolutionary advancement in velocity and discharge measurement. Now you can accurately measure discharge in shallow streams in a matter of minutes—a fraction of the time required using traditional handheld devices. With StreamPro there's no need to move from station to station to obtain single-point velocity data or compute the discharge by hand; discharge measurements are obtained in real time.

Get out of the water: StreamPro can be tethered to be pulled from a bridge, cableway, or tagline pulley system. This greatly improves operator safety when compared to traditional wading techniques.

Collect high-accuracy data: This dramatic advancement in stream flow measurement is made possible by RD Instruments' patented BroadBand Doppler signal-processing technology, which achieves superior accuracy over an extended range.

Go right to work: StreamPro has been designed to allow any level of user to immediately begin collecting high-quality, accurate data. The simple and highly intuitive user interface has been designed to ensure proper operation.



StreamPro ADCP Highlights

- ***Quick:*** *Collect complete velocity and discharge measurements in streams from 15–225cm deep in a matter of minutes.*
- ***Convenient:*** *No need to move from station to station. Simply wade across the stream or cross a bridge to collect data.*
- ***Easy to Operate:*** *Data is conveniently acquired using a PocketPC equipped with a highly intuitive user interface.*
- ***Affordable:*** *Value-priced system designed to suit your budget.*
- ***Bottom Tracking:*** *Reliable bottom-tracking in ~10cm water depth.*
- ***Wireless:*** *Bluetooth communications utilized between electronics and PocketPC.*
- ***Reduced Disturbance:*** *Small transducer head, 3.5cm in diameter, for minimal flow disturbance.*
- ***Low Power:*** *Full day of operation on 8 AA batteries.*
- ***Versatile:*** *Minimum cell size 2cm with up to 20 cells. Standard profiling range of up to 2 meters (4 meters with upgrade).*
- ***Flexible Data Format:*** *All acquired data is compatible with RDI's WinRiver software for detailed data playback and processing.*

RD Instruments
Acoustic Doppler Solutions

MEASURING WATER IN MOTION AND MOTION IN WATER

FlowTracker
Specifications

Standard Features

- Hand-held interface with real-time velocity display
- 4 MB Internal memory for up to 64 discharge measurements (160,000 individual velocity measurements)
- Low-profile 2-D ADV water velocity sensor on 2 m flexible cable (measure in depths down to 1 inch (2cm))
- Automatic discharge measurement and computation program based on USGS/ISO standards
- Remote sampling volume located 10 cm from acoustic transmitter
- RS232 communication protocol
- Temperature sensor
- Velocity range ±0.001 to 4.5 m/s (±0.003 to 15 ft/s)
- Velocity resolution: 0.0001 m/s
- Velocity accuracy: ±1% of measured velocity

Optional Features

- 2-D/3-D ADV side-looking probe
- 3-D ADV down-looking probe
- Top-setting wading rod (Metric or English)
- Wading rod mounting bracket for controller
- Offset mounting bracket for ADV probe

Power Requirements

- Operates from 8 AA batteries (Alkaline, NiCad, NiMH)
- Typical battery life 25+ hours continuous operation (alkaline batteries)

Physical/Environmental Parameters

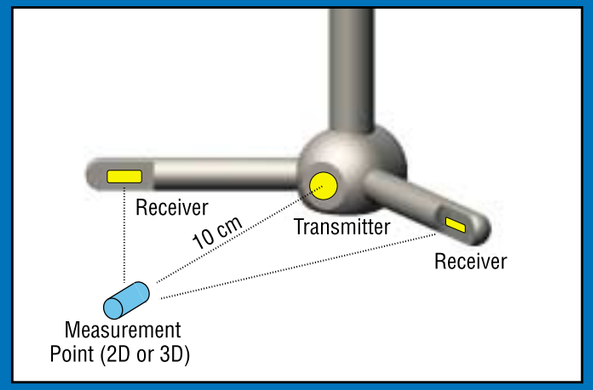
- Weight: 1.8 kg/4.0 lbs
- Probe width: 130 mm (5.1”)
- Handheld controller temporarily submersible to 1m
- Operating temperature: –20° to 50°C
- Storage temperature: –20° to 50 °C

FlowTracker
Applications

FlowTracker has applications in:

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

The FlowTracker keypad is custom-designed for both flow measurements and general purpose water velocity. Featuring provisions for starting edges, multiple channels, and even ice-covered water, it is ready for any situation. In addition, the FlowTracker's intelligent algorithm automatically prompts you for the proper measurement method based your previous stations.

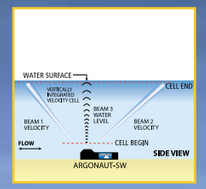


The FlowTracker uses SonTek's exclusive ADV® technology to measure precise 2-D or 3-D water velocity in a small measurement point located 10 cm from the acoustic transmitter. This enables the user to measure natural flow that is free of any wake field caused by the instrument.

SonTek
A YSI Environmental Company

Other Great Products From SonTek:

RiverCAT system for open channel discharge measurement



Argonaut-SW up looking Doppler flow sensor for natural streams, irrigation canals, and pipes/ culverts.

Argonaut-SL for real-time flow and water level measurements.

Distributed By:

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The FlowTracker is made in the USA.
FlowTracker Bro. 12/03, Rev 3.

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FlowTracker
Handheld ADV®

Make Laboratory-Precision Flow Measurements Anywhere...

SonTek
A YSI Environmental Company

THE WORLD LEADER FOR WATER VELOCITY MEASUREMENT
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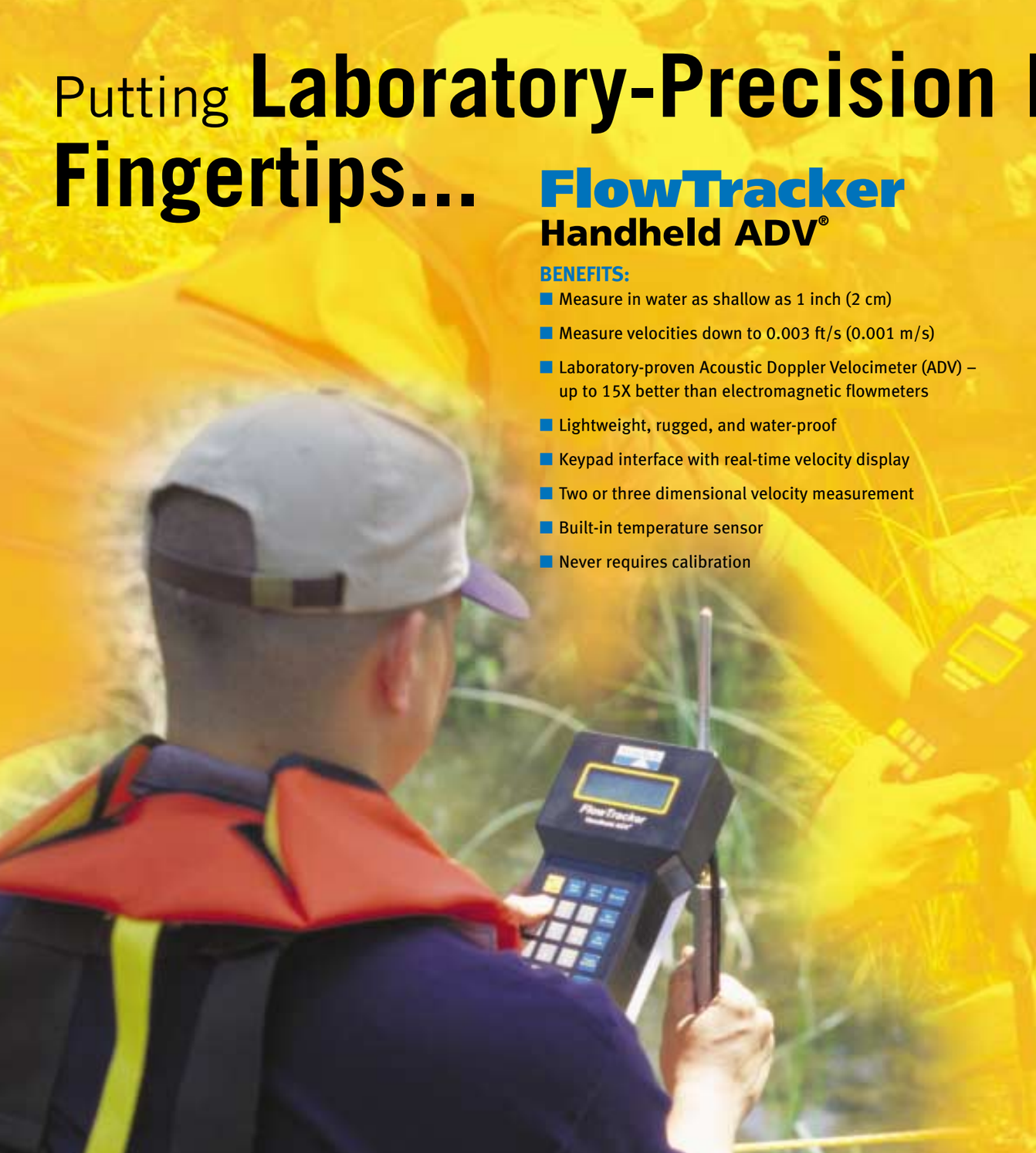
Putting **Laboratory-Precision Flow Measurement** at Your **Fingertips...**



FlowTracker
Handheld ADV®

BENEFITS:

- Measure in water as shallow as 1 inch (2 cm)
- Measure velocities down to 0.003 ft/s (0.001 m/s)
- Laboratory-proven Acoustic Doppler Velocimeter (ADV) – up to 15X better than electromagnetic flowmeters
- Lightweight, rugged, and water-proof
- Keypad interface with real-time velocity display
- Two or three dimensional velocity measurement
- Built-in temperature sensor
- Never requires calibration

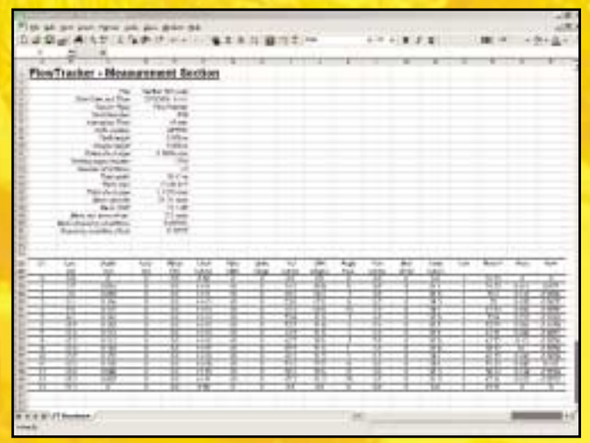
Offering laboratory precision in a practical and easy-to-use format, the new SonTek FlowTracker goes where no current meter has gone before. Using SonTek's exclusive ADV® technology, it is as capable of measuring velocities down to 0.001m/s (0.003 ft/s) as it is for velocities up to 4.5 m/s (15 ft/s). Simply put, it out-performs every other hand-held current meter on the market.

Designed with the field user in mind, this handheld ADV easily attaches to wading rods and features an automatic discharge computation program based on USGS/ISO standards. At the end of the data run, just press a button and the FlowTracker calculates the discharge for you.

In addition, a general purpose data collection mode supporting both English and Metric units makes simple current measurements a snap. Averaging times can be set by the user from 10 to 1000 seconds and precise second by second velocity data is displayed on screen and recorded to the FlowTracker's non-volatile memory.

Though able to work robustly in any natural environment, its performance in shallow water and low flows is unparalled. By selecting one of the 3-D probe options, the FlowTracker reports precise water velocity in 3 dimensions. This makes it a powerful tool for special applications requiring the measurement of water velocity on the vertical axis.

By using the included FlowTracker software package you can quickly download data and report it as shown below.



Example of FlowTracker discharge output in spreadsheet format.

With rugged construction for any climate, a backlit display readable in both day and night, the FlowTracker goes wherever you go. You needn't worry about losing or compromising data when the batterys drain as the FlowTracker's memory is non-volatile and measurement accuracy is independent of battery voltage. Delivered "ready-to-go" from the factory, gone are the days of spin tests and other complicated instrument calibrations.

Standard 2D side-looking probe

3D down-looking probe(not intended for wading rod use)

2D/3D side-looking probe