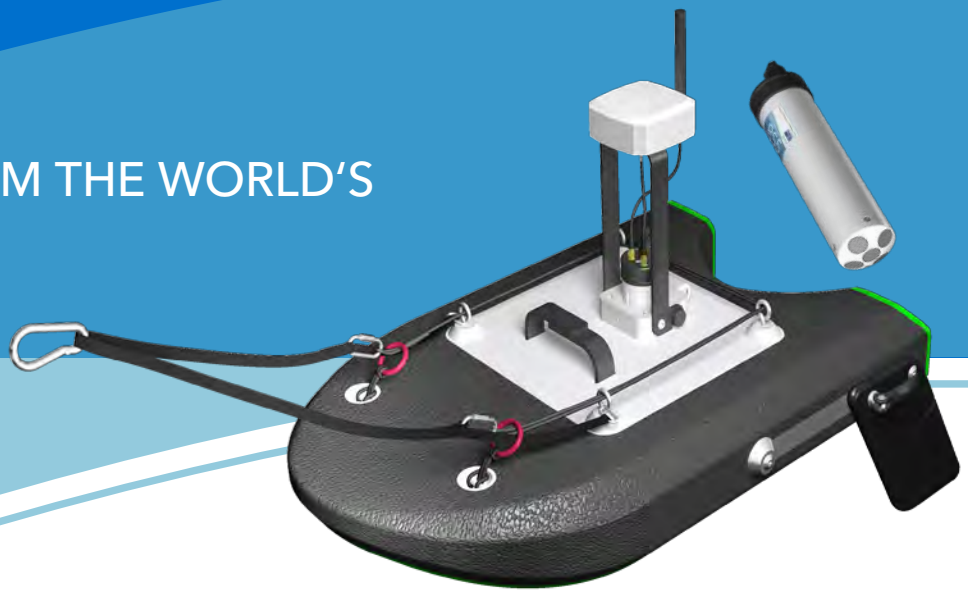
xylem
Let's Solve Water

RS5

ROBUST DATA FROM THE WORLD'S SMALLEST ADCP



SonTek
a xylem brand

Friendly Grab-and-Go ADCP

Introducing the RS5, the latest addition to the award-winning RiverSurveyor® family of discharge instruments. Good things really do come in small packages!

The RS5 system fits in the palm of your hand (literally) and includes everything you need to make a discharge measurement. Get the package that includes the HydroBoardII Micro and you'll have everything you need for the fastest, high-quality measurement possible. It is the smallest and lightest complete ADCP solution for moving boat discharge measurement available. Simply fold the GNSS/antenna mast and pop the RS5 and board into the custom designed backpack for easy transportation and minimal re-assembly between sites.


Each RS5 package includes a rugged, custom designed, backpack.

The RS5 also includes SonTek's proprietary SmartPulse+ which incorporates Broadband and Pulse-coherent acoustic processing methods. This algorithm automatically determines the best measurement methodology based on environmental conditions and adjusts instrument settings so the user doesn't have to, ensuring the most accurate and user-friendly data collection possible.

For a streamlined experience, batteries and Bluetooth radio are housed in the RS5, which means there is no need to connect to external electronics boxes. Rely on an integrated, modern, high speed, and low power wireless Bluetooth Low Energy (BLE5) radio, with 100m range and five-minute data buffer to prevent data loss and redundant work.

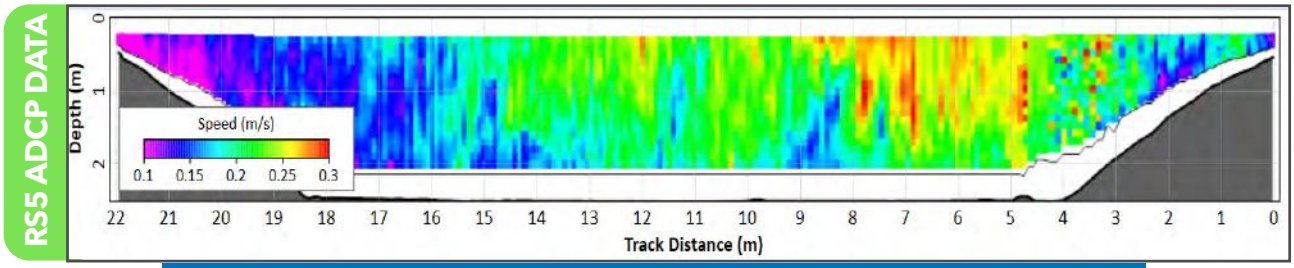
Packed with Features You Expect From a RiverSurveyor®

As a member of SonTek's RiverSurveyor® suite of instrumentation, the RS5 comes loaded with many of the advanced data collection capabilities, high-precision data quality and flexible deployment options customers have grown used to over the years. The RS5 is no exception - take a look and compare for yourself!

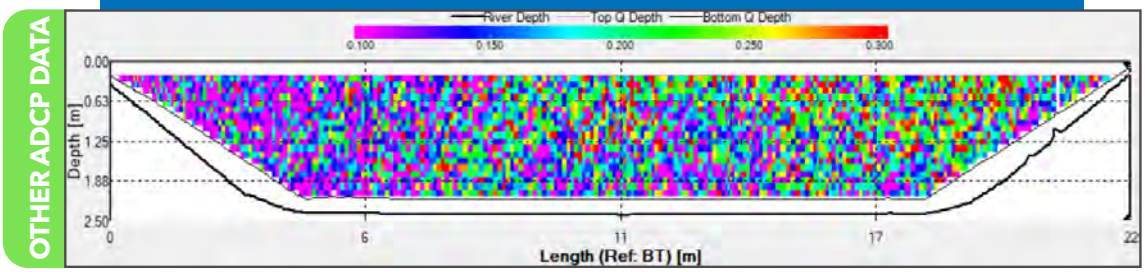
Features	Benefits
Vertical acoustic beam	Superior channel definition for the most accurate channel cross-sectional area, for discharge applications. Measures the depth directly under the system and extends maximum discharge depth if bottom-tracking is out of range.
SmartPulse+®	An intelligent algorithm utilizing Pulse-coherent and Broadband acoustic profiling that automatically adjusts based on conditions. Reliable bottom tracking and velocity profiling through a wide range of conditions and shallower than ever before. Visualize velocity data like never before with cell sizes down to 2.5 cm.
360° compass and two-axis tilt sensor	Comes standard on the RS5 unit. Reports vessel heading, magnetic error and compensates for motion due to surface conditions.
Bottom-tracking	Acoustically track vessel speed over ground independent of DGNSS. Also supplies secondary depth measurement.
RTK GPS (Option)	Ultra precise positioning as an alternative to bottom tracking in moving bed or other difficult situations.
DGNSS (Option)	Integrated DGNSS smart antenna for position as a backup or alternative to bottom tracking in moving bed or other difficult conditions. Geolocate each sample (or ensemble) during measurement. Utilizes multiple constellations for increased global precision (GPS, SBAS, GLONASS, BeiDou, GALILEO, QZSS).

RSQ: Visualize Discharge Data Like Never Before

RSQ is a modern and user-friendly software interface. One measurement file includes all the data and meta data you need for each measurement. Export data to formats for Excel, Matlab and Google Earth. Do more with less time utilizing improved site templates. Experiment, learn or teach in the office or conference room as though you were in the field with the "demo" mode to playback recorded files simulating live data collection. Flexibility is key with RS5!



(Above) Visualize the flow structure like never before with SmartPulse+.
(Below) Comparable ADCP data from the same site.



Now you can

- Save data on a PC, external drive or network.
- Customize file naming.
- Run and apply Extrap directly.
- Sub-section transects.
- Process *.riv/*.rivr files from RSL.
- Choose three-beam switching when there is vertical bank interference.

RS5 SPECIFICATIONS

Water Velocity Profiling	Profiling Range	0.1-6 m (*1)
	Velocity Range	+/- 5 m/s
	Accuracy	1% +/-0.002 m/s
	Resolution	0.001 m/s
	Number of Cells	Up to 128
	Cell Size	2.5-30 cm
	Data Output Rate	1.0 Hz
Bottom Tracking	Depth Range	0.1-6 m (*1)
	Accuracy (*2)	1% +/- 0.002 m/s
	Resolution	0.001 m/s
Depth Measurement Sensors	Range	0.1-6.5 m (*1)
	Accuracy	1% +/-0.005 m
	Temperature Sensor	Resolution: ±0.01°C Accuracy: ±0.5°C
	Compass/Tilt Sensor	Range: ±180° Pitch/Roll, 0-360° Heading Heading Accuracy: ±2° Pitch/Roll Accuracy: ±1°
Transducers	Total Number	Five, 3.0 MHz
	Beam Angle	25°
	Beam Width	3°
	Bandwidth	25%
Battery Characteristics	Input Voltage	3.3-4.2 VDC
	Power Source — Li-Ion	1x size 18650, Tenergy, Type 30016-04, 3.7Vdc, 2600mAh
	Battery Life — 1 x size 18650	Seven hours continuous use, typical settings (*3)
	Power Consumption	1.0 W (Average)
	Dimensions	19.2 mm x 69.7 mm
Communications	Radio Protocol	Bluetooth Low Energy (BLE5)
	Range	100 m (*4)
	Bluetooth Compliance	FCC Part 15, FCC ID: XPYNINAB30 ISED Certification: 8595A-NINAB30
Environmental	Operating Temperature	-5° to 45°C (23°F to 113°F)
	Storage Temperature	-20° to 70°C (-4°F to 158°F)
	Storage with Battery Temperature (*5)	-20° to 45°C (-4°F to 113°F)
RS5 Physical Properties	Dimensions - HBII Micro	76 cm (30") x 50 cm (20") x 11cm (4.25")
	Dimensions - RS5 Unit	24 cm (9.5") x 5 cm (2.2")
	Weight in Air - RS5 Unit	0.45 kg (1.0 lbs)
	Weight in Water - RS5 Unit	0.15 kg (0.33 lbs)
	Weight in Air - RS5/HBII Micro/Geode	3.63 kg (8.0 lbs)
	Waterproof Rating	IP-67
DGNSS	Horizontal RMS	SBAS (WAAS): <0.3 m (0.98 ft)
	2DRMS	SBAS (WAAS): <0.6 m (1.96 ft)
	Frequency	L1, Multi-GNSS

Additional notes

[1] Maximum range will vary with environmental conditions.
[2] Bottom velocity accuracy.
[3] Seven hours continuous use, typical settings.
[4] When using provided SonTek USB radio with antenna.
[5] Remove batteries from the RS5 if storage temperatures exceed the storage temperature of the Li-Ion battery.

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