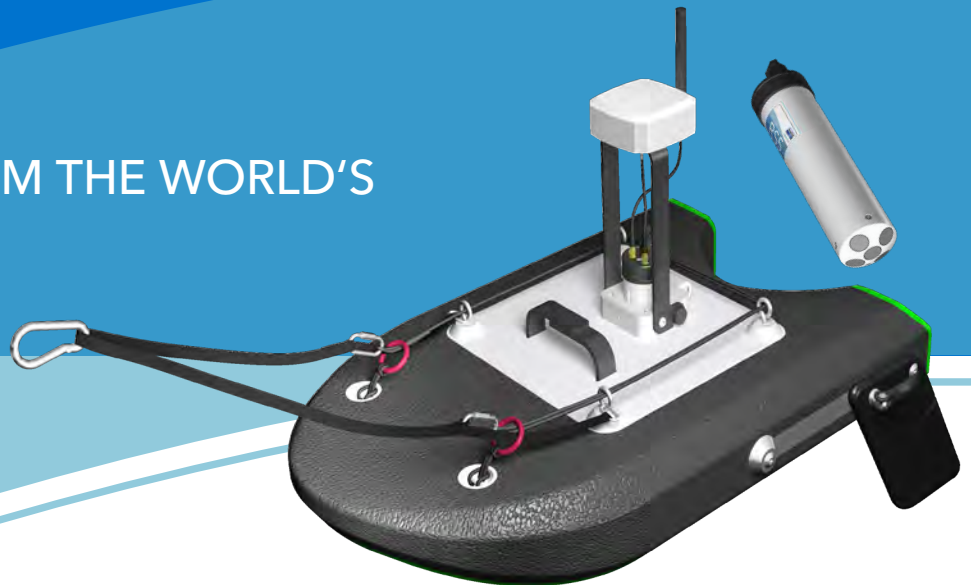




RS5

ROBUST DATA FROM THE WORLD'S
SMALLEST ADCP





“Perfection is achieved, not when there is nothing more to add, but when there is nothing left to take away.”
Antoine de Saint-Exupéry



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.

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.



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

Packed with Features You Expect From a RiverSurveyor®

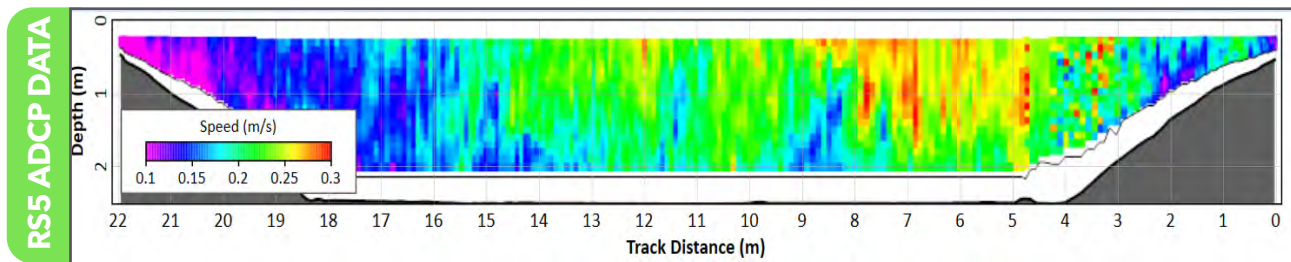
As a member of SonTek's RiverSurveyor® suite of instrumentation, the RS5 comes loaded with many of the advanced data collection capabilities, high-precision data quality and flexible deployment options customers have grown used to over the years. The RS5 is no exception - take a look and compare for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

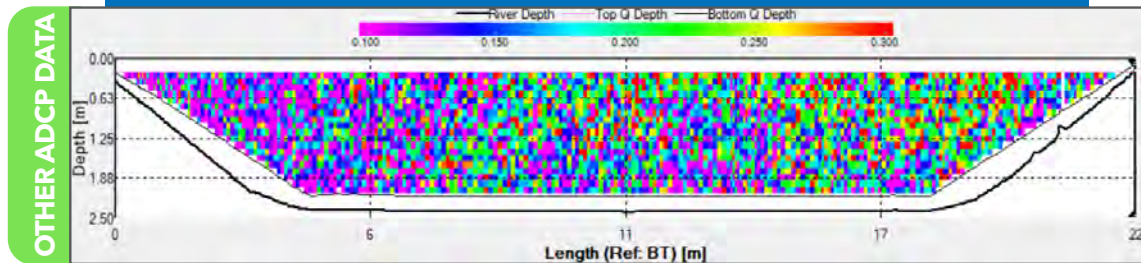


RSQ: Visualize Discharge Data Like Never Before

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/*.riv files from RSL.
- Choose three-beam switching when there is vertical bank interference.



The rQPOD remote surveying package includes a handheld remote control, a motorized control system, and a Torrent Board floating platform custom fit for the RS5.

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: XYPYNINAB30 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 11 cm (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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