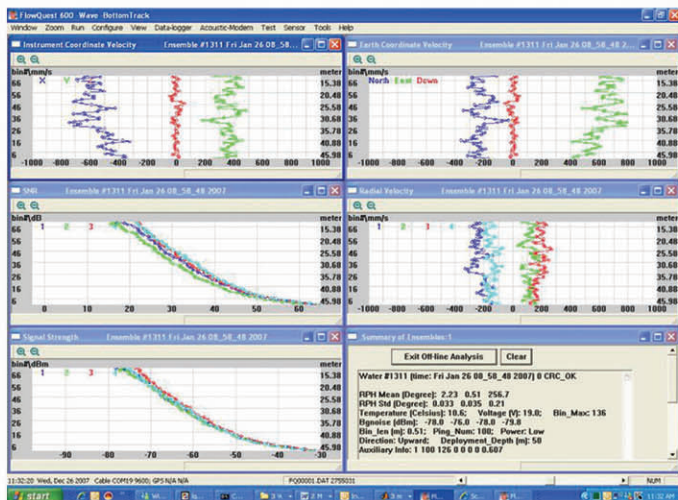


FlowQuest 300, 600 & 1000

Acoustic Current Profilers



- 300, 600 Or 1000 kHz Operating Frequency
- Highly Robust Acoustic Doppler Technology
- Significantly Longer Range When Compared Against Similar Products
- Highly User Friendly And Cost Competitive
- Standard Depth 800 Meters
- Optional Depth 1500, 3000 or 6000 Meters
- Bottom Tracking Option For Vessel-Mounted Applications
- Optional **WaveQuest** Directional Wave Spectrum Measurement Function
- Optional Discharge Measurement Function
- Data Fusion Function To Interface To Multiple Third Party Sensors
- Integrated LinkQuest High Speed Acoustic Modem
- Integrated Relocation Transponder
- Low Power Consumption DSP Technology



FlowQuest is a line of high performance Acoustic Current Profilers manufactured by LinkQuest Inc., a company renown for its innovation, capability and product quality. The FlowQuest current profilers are ideal for measuring currents and flows in oceans, harbors, lakes and rivers, and for measuring waves in oceans and coastal areas. With its capability for significantly longer range, standard deepwater depth rating and seamless integration with third-party sensors and LinkQuest acoustic modems, the FlowQuest system is not just a current profiler. It also serves as a focal point for your underwater deployments.

LinkQuest Inc.

6749 Top Gun Street, San Diego, CA 92121, USA
 Tel: (858) 623-9900, 623-9916 Fax: (858) 623-9918
 sales@link-quest.com <http://www.link-quest.com>



FlowQuest 300, 600 & 1000

Acoustic Current Profiler Specifications

Water Profiling Range and Depth

Model	FlowQuest 300	FlowQuest 600	FlowQuest 1000
Frequency	300 kHz	600 kHz	1000 kHz
Maximum Range	230 m	100 m	40 m
Maximum Cell size	8 m	4 m	2 m
Standard Depth	800 m	800 m	800 m
Optional Depth	1500, 3000 or 6000 m		
Blank Distance	1.4 m	0.7 m	0.4 m

Velocity Specifications

Model	FlowQuest 300	FlowQuest 600	FlowQuest 1000
Frequency	300 kHz	600 kHz	1000 kHz
Accuracy	0.5% \pm 5 mm/s	0.25% \pm 2.0 mm/s	0.25% \pm 2.0 mm/s
Cell size	1 – 8 m	0.5 – 4 m	0.25 – 2 m
Maximum Water Velocity	20 knots	20 knots	20 knots
Number of Cells	170	170	170
Maximum Ping Rate	2/second	2/second	5/second

Power

Model	FlowQuest 300	FlowQuest 600	FlowQuest 1000
Maximum Transmit	200 watts	100 watts	50 watts
Low Power Transmit	55 watts	28 watts	15 watts
Receiver Mode	0.8 watt	0.8 watt	0.8 watt
Sleep Mode	7 mwatts	7 mwatts	7 mwatts

Hardware

Transducer: 4 Beam Convex

Transducer Beam Angle: 22 degrees

Housing: Anodized Aluminum and Plastics

Communication: RS422 or RS232

Internal Compact Flash Card: 1 Gbytes (standard)
2 or 4 Gbytes (optional)

Software

FlowQuest Studio Windows software for real-time current monitoring and off-line data analysis and display.

Standard Sensors

Compass	Accuracy: $\pm 2^\circ$
Tilt (pitch and roll)	$\pm 0.5^\circ$ up to $\pm 15^\circ$
Temperature	Accuracy: $\pm 0.4^\circ\text{C}$ (standard) from -5°C to 45°C Accuracy: $\pm 0.1^\circ\text{C}$ (optional)

Bottom Tracking Option

Model	FlowQuest 300	FlowQuest 600	FlowQuest 1000
Frequency	300 kHz	600 kHz	1000 kHz
Maximum Altitude	300 m	130 m	60 m
Minimum Altitude	1.2 m	0.7 m	0.35 m
Accuracy	1% \pm 2 mm/s	1% \pm 1 mm/s	1% \pm 1 mm/s

Pressure Sensor option

Accuracy	0.25% of full scale of the pressure rating
Pressure Rating	100, 200, 1000, 2000, 3000 PSI (70, 140, 700, 1400, 2100 meters)
Depth Rating	58, 126, 670, 1350, 2030 meters

Options

WaveQuest Directional Wave Spectrum Measurement

Discharge Measurement Function

Data Fusion Function

Interface to and log data from up to 7 third-party instruments such as CTD, precision depth sensor, water quality monitoring instruments, nutrition and chemical analyzers through RS232 serial ports. Sample up to 16 analog inputs simultaneously.

High Speed Acoustic Modem

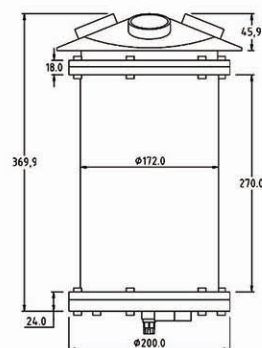
Seamlessly integrated with LinkQuest high speed underwater acoustic modem (up to 38400 baud) for real-time monitoring or periodic data collection.

Relocation Transponder

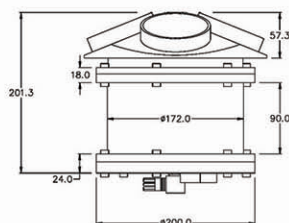
Relocate the instrument after it moves away from the original deployment site. The Windows Relocation software, integrating with a GPS, shows the new position of the FlowQuest profiler in longitude and latitude.

Weight and Dimension

	With One Battery Pack	Without Internal Battery
Weight In Air	16.2 kg	9.2kg
Weight In Water	7.2 kg	4.2kg



with one battery pack



without internal battery

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FlowQuest 300, 600 & 1000

Acoustic Current Profiler Specifications

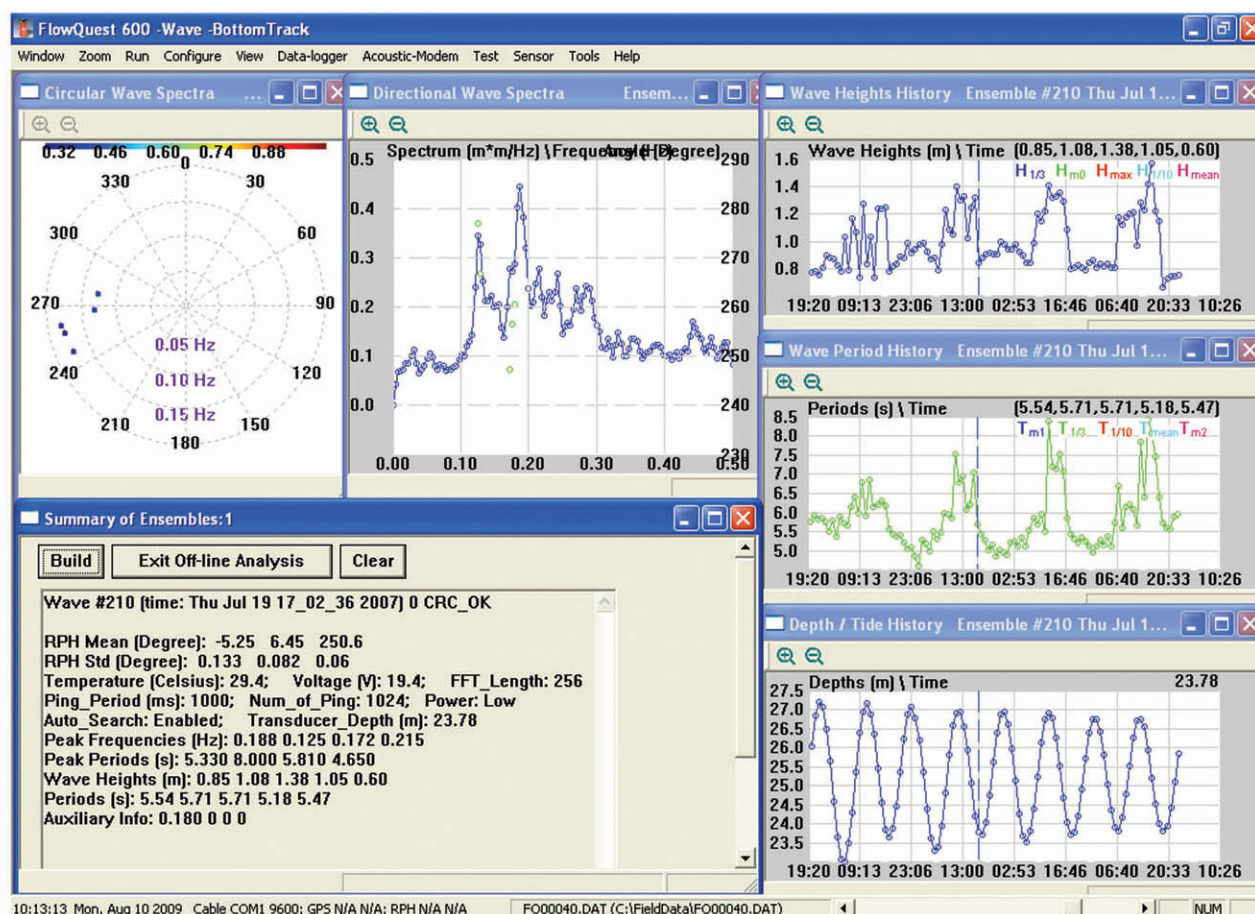
WaveQuest Directional Wave Spectrum Measurement Option

Generate complete wave parameters in both time and frequency domains including wave heights (significant wave height, approximate significant wave height, maximum wave height, H_{10} , and mean wave height), wave directions, wave frequencies, and wave periods (mean period, significant wave period, T_{10} , crest period, and dominant wave period) based on the effects of reflected acoustic signals following wave movements.

WaveQuest is a function implemented inside the standard FlowQuest 600 and 1000 electronics. No additional electronics or pressure housing is need for this option.

WaveQuest Specifications

	FlowQuest 600	FlowQuest 1000
Maximum Range	60 m	40 m
Wave Height Resolution	1 cm	1cm
Wave Height Accuracy	4 cm	2.5 cm
Wave Direction Resolution	0.1 degree	0.1 degree
Wave Direction Accuracy	2 degrees	2 degrees
Number of Samples Per Burst	512, 1024 or 2048	



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FlowQuest 300, 600 & 1000

Acoustic Current Profiler Specifications

Discharge Measurement Option

Calculate the sectional discharge and the total discharge in real-time in rivers, estuaries, natural streams and constructed channels based on advanced algorithms, models and measurements of the water velocities, the ship's velocities, the depth and other related information.

Discharge Measurement is a function implemented inside the standard FlowQuest 600 and 1000 electronics and has its unique FlowQuest Discharge Measurement software. A standard FlowQuest 600 or 1000 profiler can include the standard FlowQuest current profiling function, the bottom tracking option, the WaveQuest option and the Discharge Measurement option, working with FlowQuest Studio software and FlowQuest Discharge Measurement software.



Courtesy of Cadden

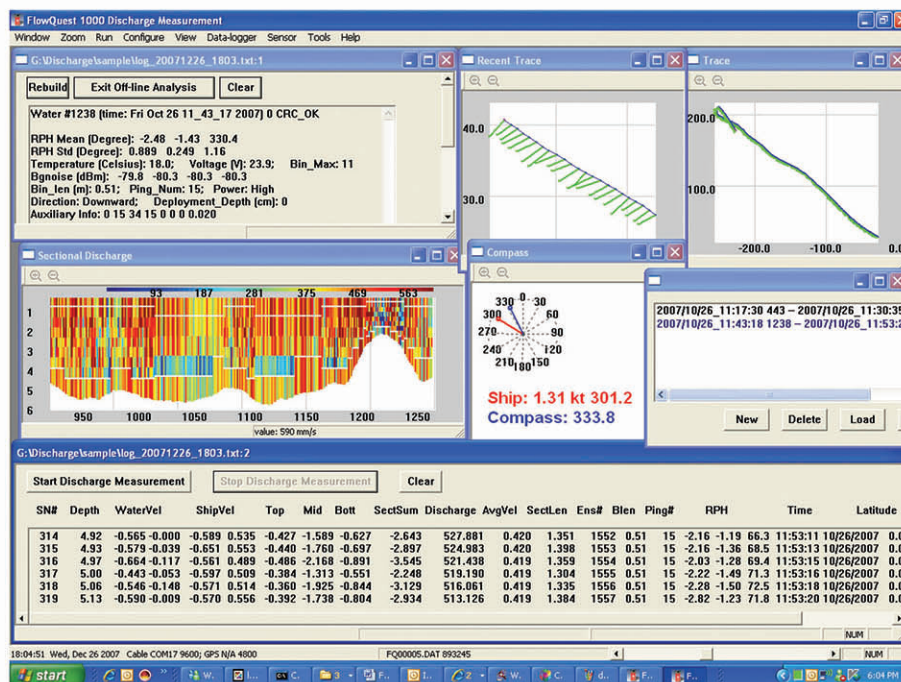
Discharge Measurement Specifications

FlowQuest 600

Water Profiling Accuracy	0.25% +/- 2.0 mm/s
Discharge measurement maximum range	100 meters
Bottom tracking minimum range	0.7 m (velocity tracking measurement) 0.35 m (depth sounding measurement)
Current velocity measurement minimum range	2 m
Discharge measurement minimum range	2.2 m (velocity measurement based) 0.35 m (model extrapolation based)

FlowQuest 1000

Water Profiling Accuracy	0.25% +/- 2.0 mm/s
Discharge measurement maximum range	40 meters
Bottom tracking minimum range	0.35 m (velocity tracking measurement) 0.2 m (depth sounding measurement)
Current velocity measurement minimum range	1.1 m
Discharge measurement minimum range	1.2 m (velocity measurement based) 0.2 m (model extrapolation based)



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