



Workhorse H-ADCP

300 kHz LONG-RANGE HORIZONTAL ADCP

Real-time Long Range Current Profiling and Wave Measurement in a Single Package

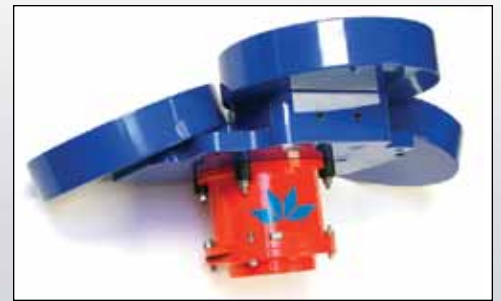
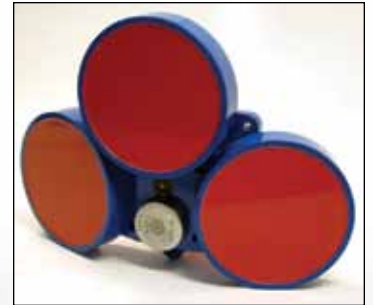
Teledyne RD Instruments, the leader in Doppler profiling technology, has developed the 300 kHz long-range **Horizontal Acoustic Doppler Current Profiler (H-ADCP)**. The H-ADCP is an acoustic monitoring system that “looks” out horizontally from its mounting structure to measure near-surface water currents and multi-directional waves.

This revolutionary tool uses Broadband signal processing to obtain an optimal combination of range, resolution and data quality, which simply cannot be replicated using Narrowband products. The unit measures currents at 128 individual points at up to 200 meters horizontal range, offering a clear illustration of the complete flow structure.

The Workhorse H-ADCP allows your personnel to easily and effectively monitor real-time currents, as well as wave height and direction, providing vital information for both operational decision-making, and navigational safety.

The 300 kHz H-ADCP is ideal for use:

- **On offshore platforms** for the collection of surface-current and multi-directional wave data.
- **Installed in large rivers, ports, and harbors** for monitoring current and multi-directional waves affecting vessel maneuvering and safety.



The Workhorse H-ADCP provides:

- **Increased Range:** 300 kHz frequency and narrow $<1^\circ$ beam work together to ensure an extended profiling range of 200 meters or more.
- **Increased Data:** Acoustic Doppler technology provides users with the capability to measure from 1 to 128 points, providing exponentially more data than a single point instrument.
- **Real-Time Data:** Easily installed, the H-ADCP provides unobtrusive real-time data—for real-time decision-making.
- **Robust Construction:** Designed so that no calibration is ever required and constructed to allow installations in the most hostile environments.
- **Ease of Operation:** Pre-configured for simple operation, the H-ADCP ensures optimum performance with a minimal learning curve.
- **Wave monitoring capability:** The H-ADCP can also be upgraded to measure wave height and direction, providing a complete monitoring solution.



TELEDYNE
RD INSTRUMENTS

A Teledyne Technologies Company

MEASURING WATER IN MOTION AND MOTION IN WATER

Workhorse H-ADCP

300 kHz LONG-RANGE HORIZONTAL ADCP



Technical Specifications

Range	
Typical max. range	250m
Aspect ratio limitation	19/1 (range/total depth)
Profile Parameters	
Velocity accuracy	±0.5% of water velocity relative to H-ADCP ±0.5cm/sec
Velocity resolution	0.1cm/s
Velocity range	±5m/s (default); ±10m/s (maximum)
Number of depth cells	1–128
Error velocity data rejection	Yes; required on a single-ping basis to screen errors from passing vessels
Transducer and Hardware	
Beam width	<1°
Beam angle	20°
Configuration	3-beam, convex
Communications	Serial port is switch-selectable for RS-232 or RS-422, ASCII or binary output at 1200–115,200 baud

Standard Sensors

Temperature (mounted on transducer):

Range: -5° to 45°C
Precision: ±0.4°C
Resolution: 0.01°

Compass (fluxgate type, includes built-in field calibration feature):

Accuracy: ±2°
Precision: ±0.5°
Resolution: 0.01°
Maximum tilt: ±15°

Note: @ 60° magnetic dip angle. 0.5G total field

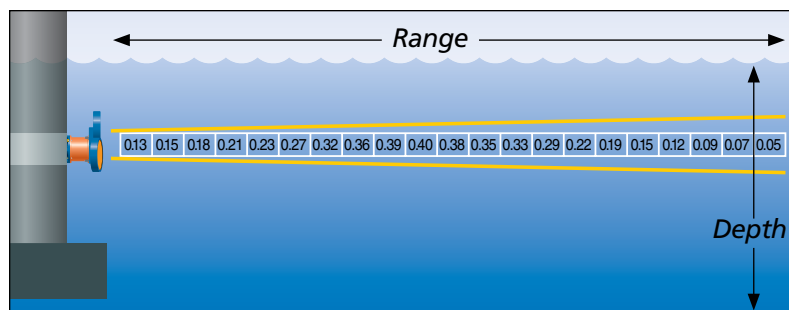
Pressure Sensor:

Maximum range: 50m
Accuracy: ±12.5cm (0.25% FS)

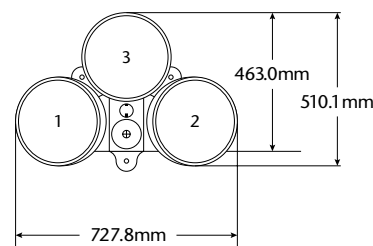
Available Options

- Memory: 2 PCMCIA slots, total 4GB
- Pressure sensor
- Directional Wave Array

Dimensions



H-ADCP looks horizontally across a water body, measuring currents and directional waves at numerous locations.

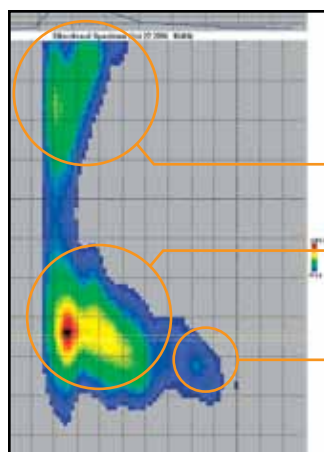


Power

DC input: 20-50 VDC

Environmental

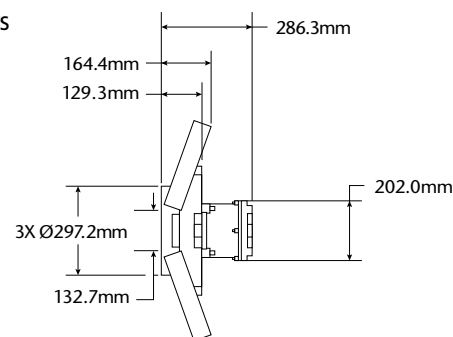
Standard depth rating: 200m
Operating temperature: -5° to 45°C
Storage temperature*: -30° to 75°C
Weight in air: 72.1 kg
Weight in water: 49.0 kg
* Without batteries



H-ADCP Waves Data

Directional spectrum shows "multi-directional" swell

- Swell from Northwest
- Swell from West
- Sea from West



TELEDYNE
RD INSTRUMENTS
A Teledyne Technologies Company
www.rdinstruments.com



Free 24/7 emergency support

Teledyne RD Instruments

14020 Stowe Drive, Poway, CA 92064 USA
Tel. +1-858-842-2600 • Fax +1-858-842-2822 • E-mail: rdisales@teledyne.com
Les Nertieres 5 Avenue Hector Pintus 06610 La Gaude France
Tel. +33-49-211-0930 • Fax +33-49-211-0931 • E-mail: rdie@teledyne.com

Specifications subject to change without notice. ISO 9001:2008 certification applicable to Poway, CA facility only.
© 2009 Teledyne RD Instruments, Inc. All rights reserved. MM-1014, Rev. 12/11

