

The ARC-Boat

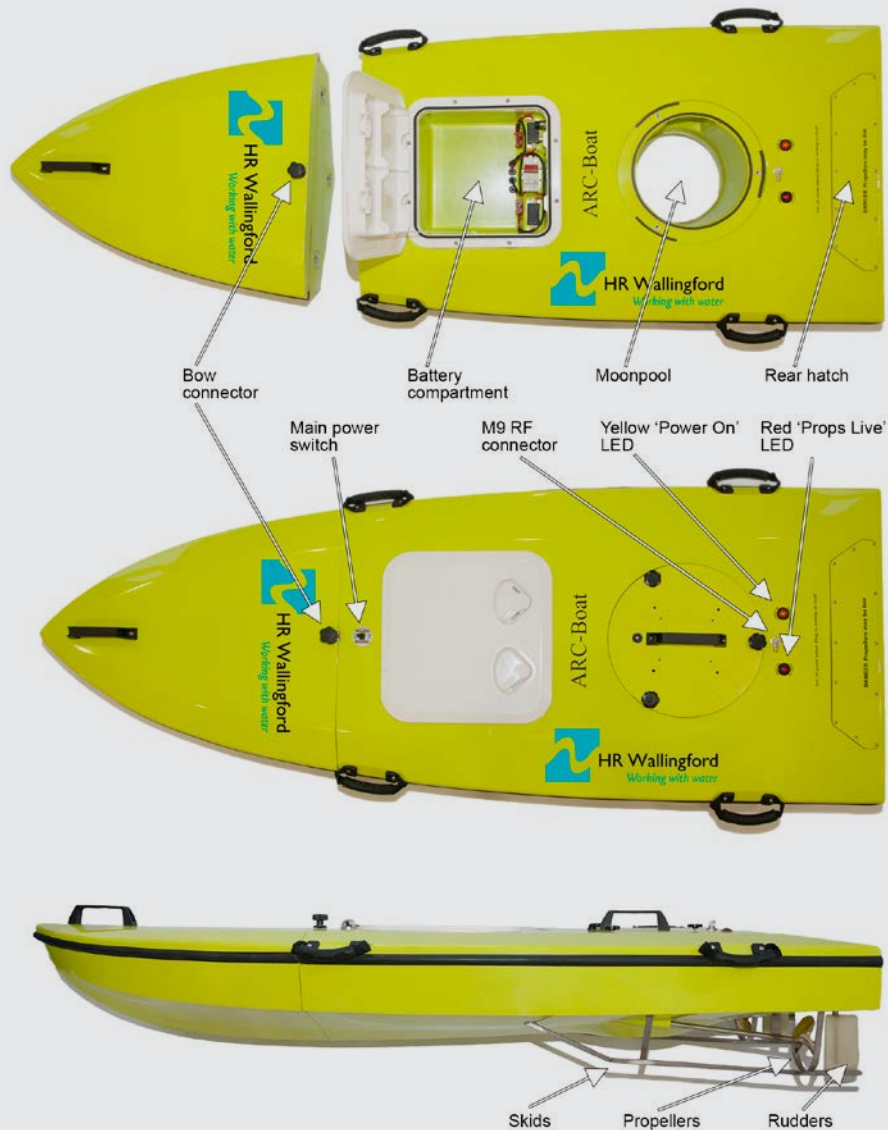


The ARC-Boat is a remote controlled boat that is used to collect river and estuarine data including flow, depth and suspended sediment concentrations.

It was developed in partnership with end-users and perfected to meet their exact needs.

HR Wallingford provides outstanding customer support throughout the ownership of an ARC-Boat, from delivery to ongoing training and support.

The ARC-Boat



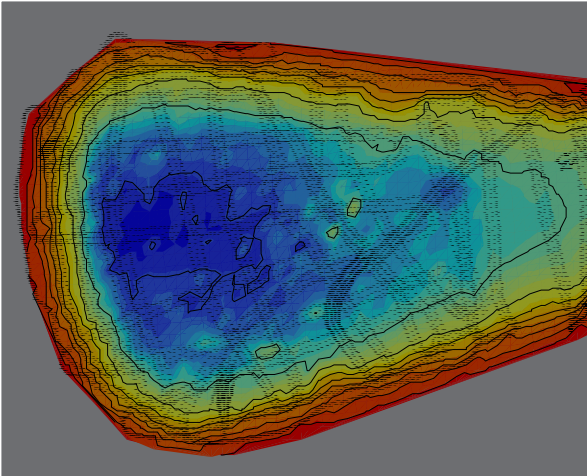
Specifications

Dimensions

Length without detachable bow	1.20 m
Overall length	1.95 m
Draft	0.18 m
Beam	0.72 m
Draft (inc. skids)	0.22 m
Deployment depth of ADCP	0.12 m

Dry weight

Main hull, deck, propulsion system and electronics	25.6 kg
Detachable bow	4.2 kg
Total unladen weight	29.8 kg
Total unladen weight with batteries	37.2 kg
Largest ADCP fitted	7.6 kg
Total weight	44.8 kg



Technical specification

- > Designed to provide clean data in flows of up to 5 m/s
- > A hull design that offers minimal flow disturbance
- > Twin rudders and twin shrouded propellers provide very high maneuverability
- > Deployment depth for the ADCP of only 12 cm below the waterline.
- > Skids protect the ADCP sensor, propellers and rudders from damage.
- > Battery life of up to five hours depending on use. Supplied with spare battery packs and chargers.
- > A relatively light and portable vessel with an unladen weight of 29 kg, a length of 1.95 m, beam of 0.72 m and draft of 0.22 m with skids.
- > Rigid and robust GRP hull able to accept minor knocks and damage.
- > Resistant to UV light.
- > A detachable bow that allows road transport in small vehicles and is easy to replace in the event of front-end impact damage.

- > Supplied with fairings and adaptor sleeves to allow a wide range of ADCPs, including RDI Rio Grande and Sontek M9 units to be used.
- > Operates with industry standard remote control with a minimum range in excess of 200 m.
- > Incorporated Bluetooth link for data transmission to an onshore laptop.
- > Twelve month warranty from the date of delivery.

Current applications

The Environment Agency is using a fleet of ARC-Boats to monitor water depth and flow up and down the UK, including the River Tyne in Newcastle where the peak tide flow of 903 m³ per second is the highest yet recorded by ARC-Boats in the Yorkshire and north east region.

A further boat has also been deployed to successfully measure tidal velocities over 1 km long transects in the Wirral estuary, in the north west of England.

ARC-Boat's have been used successfully in Germany, United States, Canada, New Zealand and Ireland.



Key features

can carry a variety of ADCPs and other instruments

high quality data collection with minimal under-hull air entrainment

robust and reliable design

excellent manoeuvrability

designed with operator safety in mind

lightweight and easy to transport

unique detachable bow

can also be used to measure environmental conditions in lakes

About HR Wallingford

HR Wallingford is an independent engineering and environmental hydraulics organisation. We deliver practical solutions to complex water-related challenges faced by our international clients. A dynamic research programme underpins all that we do and keeps us at the leading edge. Our unique mix of know-how, assets and facilities includes state of the art physical modelling laboratories, a full range of numerical modelling tools and, above all, enthusiastic people with world-renowned skills and expertise.

More information

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