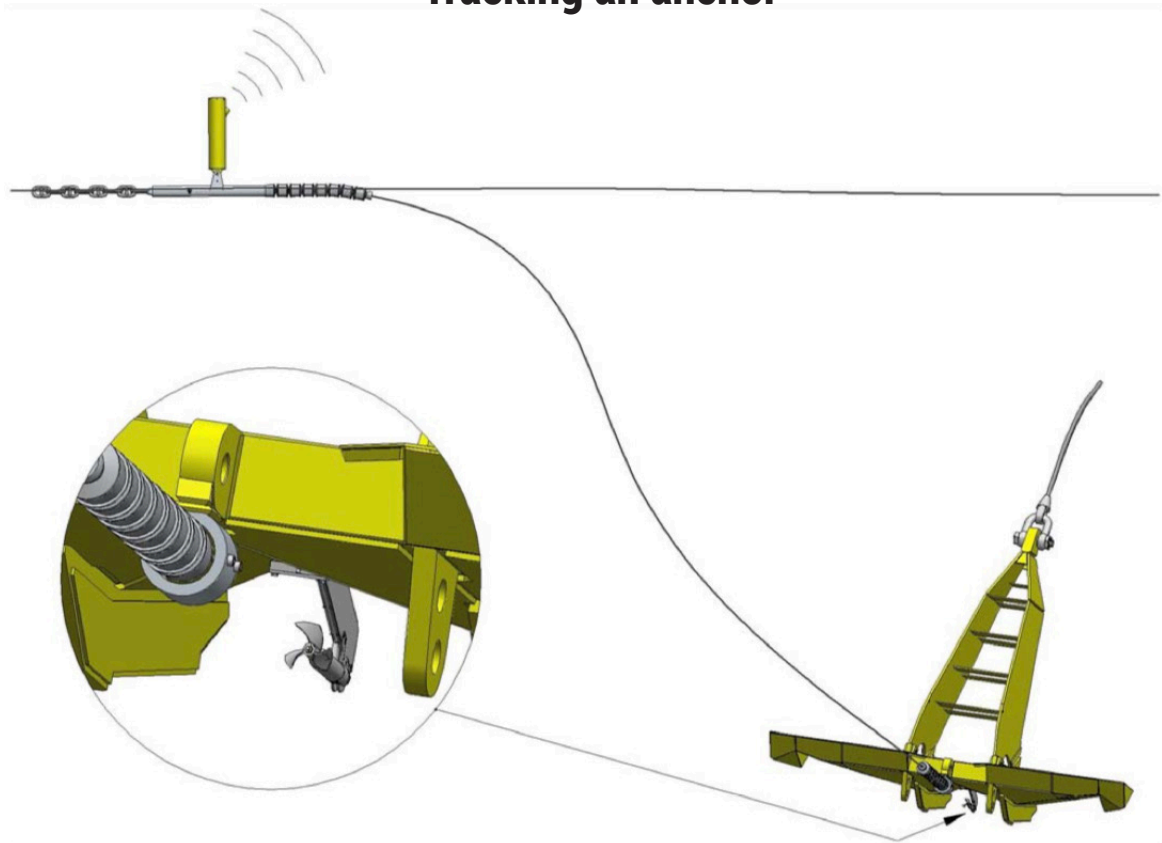


**BRUCE ANCHOR**

# **BRUCE® TRACKER AND ANCHOR COMMUNICATION SYSTEM**

(PATENTED & PATENTS PENDING)

## **Tracking an anchor**



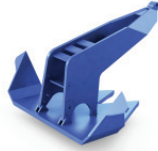
### **The Bruce Tracker and Anchor Communication System**

The Bruce Tracker consists of a pivoting probe attached to the fluke of an anchor, an inclinometer within the probe, and a soil turbine mounted at the rear of the probe. The probe automatically aligns with the embedment trajectory of the anchor.

Sequential incremental displacements of distance and inclination along the embedment trajectory are logged simultaneously by the soil turbine and inclinometer respectively to record the trajectory.

Additional inclinometers on the anchor record roll and pitch while, optionally, an instrumented anchor shackle may be provided to record load at the shackle.

The Anchor Communication System consists of a directional acoustic transponder located at the mud-line on the end of a drogue tail attached to the anchor fluke. The directional acoustic transponder transmits real time data from the tracker and ancillary instrumentation to an omni- directional acoustic transponder lowered from a surface vessel or moored structure. This data is then displayed in graphic form in real time on a monitor.

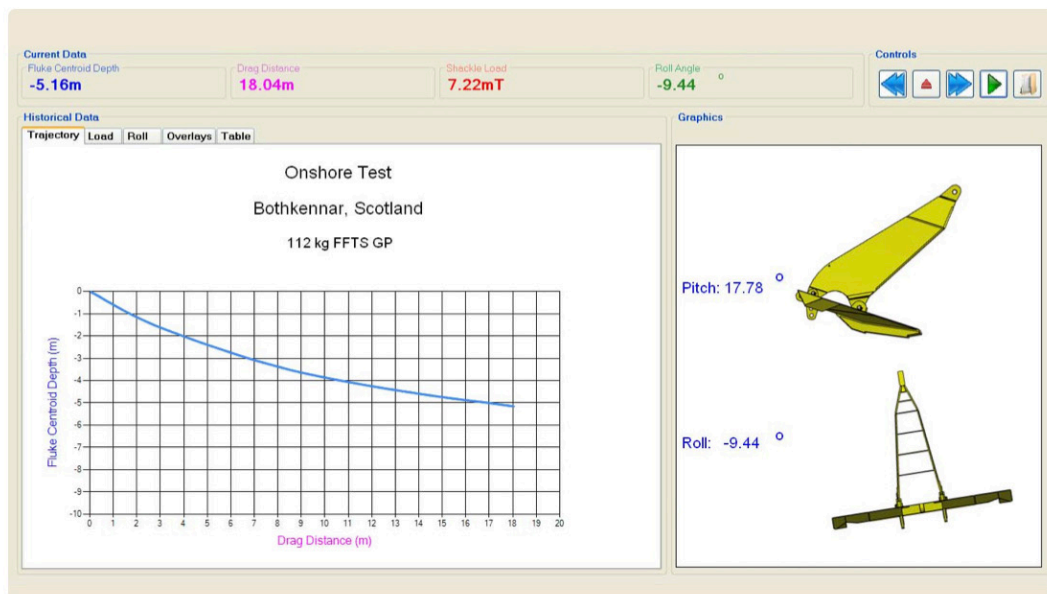


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Batteries in the directional acoustic transponder power both the transponder and the instrumentation on the anchor. The batteries can be changed by a ROV, to enable the instrumentation on the anchor to be interrogated throughout the life of the mooring.

## Operator's Screen Display



## Mooring Site Assessment

A small test anchor equipped with a Bruce Tracker may be used to record a trajectory along the intended path of an anchor of a preliminary mooring installation design. The data acquired identifies in advance the presence of stratification and other seabed hazards to enable finalisation of the design.

The test anchor equipped with the Bruce Tracker produces anchor trajectories which provide detail on anchoring capability that is not possible with conventional geotechnical investigations.

A cone penetrometer can be fitted to the pivoting probe of the Bruce Tracker to provide data which may be interpreted to characterise mooring bed soils along the embedment trajectory of the anchor. Such data may supplement, extend, or replace at less cost, conventionally obtained geotechnical data.

Bruce Anchor, Tern Place House, Tern Place, Bridge of Don,  
Aberdeen, AB23 8JX

Tel: +44 7624 338 400

Email: [sales@bruceanchor.co.uk](mailto:sales@bruceanchor.co.uk) Website: [www.bruceanchor.co.uk](http://www.bruceanchor.co.uk)

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