# **Compact<sup>™</sup> Borehole Navigation Tool**

Delivers precise borehole navigation

### **Applications**

- Determining borehole trajectory
- Determining total vertical depth
- · Applying speed corrections to formation evaluation data

### **Features and Benefits**

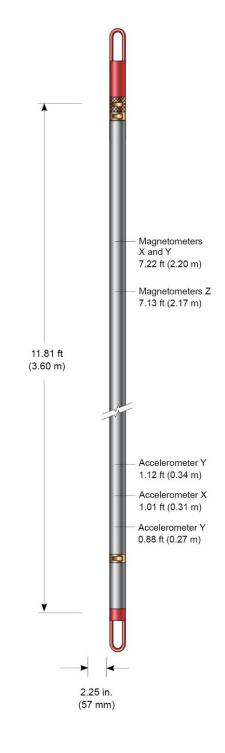
- Robust three-axis magnetometers and accelerometers provide precise and reliable tool-string orientation measurements, even in extreme borehole and logging conditions.
- The unique profile of the tool facilitates deployment in wireline or memory mode to mitigate the risk of bridging events and reduce nonproductive time.

### **Tool Description**

The Weatherford Compact borehole navigation (MBN) tool measures orthogonal components of the earth's magnetic and gravitational fields along a wellbore. These measurements are used to compute instantaneous tilt and azimuth of a tool string, which enables derivation of the well trajectory below the casing shoe. Results are presented as a table of measured depths (MD) and true vertical depths (TVD), supported by a polar plot and vertical section plots showing north-south and east-west projections.

When the Z-axis accelerometer is sampled at a higher rate, instantaneous speed of the tool string can be determined. When the MBN tool is run as part of a Compact memory logging (CML) service, the information can be used to fine-tune and correct irregular tool movements.

MBN data is also used to confirm the rotational position of other tools in a measurement string; for example, when auxiliary equipment, such as a downward-pointing density shoe, is used to achieve a particular orientation in a horizontal well.



The Compact borehole navigation (MBN( tool provides precise and reliable tool-string orientation measurements.



# $\textbf{Compact}^{\scriptscriptstyle{\mathsf{M}}} \textbf{ Borehole Navigation Tool}$

## Specifications

### Measurement

Data	Tilt, azimuth
Logging speed	1,800 to 3,600 ft/hr (9 to 18 m/min)
Measurement range	Tilt: 0 to 180°
Vertical resolution	1.0 in. (25.4 mm)
Accuracy	Tilt: ±0.1° Azimuth: ±5°
Depth of investigation	Borehole measurement
Borehole fluids	WBM, OBM, salt, air

### Mechanical

2.25 in. (57 mm)	
11.81 ft (3.60 m)	
71 lb (32 kg)	
320°F (160°C)	
15,000 psi (103 MPa)	
18 in. (457 mm)	
2.8 in. (70 mm)	



#### weatherford.com

© 2009-2017 Weatherford. All rights reserved. 4026.05

Weatherford products and services are subject to the Company's standard terms and conditions, available on request or at weatherford com. For more information contact an authorized Weatherford representative. Unless noted otherwise, trademarks and service marks herein are the property of Weatherford and may be registered in the United States and/or other countries. Weatherford products named herein may be protected by one or more U.S. and/or foreign patents. Specifications are subject to change without notice. Weatherford sells its products and services in accordance with the terms and conditions set forth in the applicable contract between Weatherford and the client.