



# TRUSHOT™ DIGITAL SURVEY TOOL



TruShot™ is an accurate magnetic survey tool optimized for driller deployment. Made for durability, precision and simplicity, drillers can capture high-quality 3D hole path data with confidence.

## THE TRUSHOT ADVANTAGE

### **SURVEY IS EASIER WITH TRUSHOT**

Assemble the TruShot tool with Boart Longyear's high quality running gear and deploy down the hole for accurate azimuth and dip measurement. Ability to complete single-shot, multi-shot and orientation surveys at all angles up to a 4000-meter depth. Captured data is communicated wirelessly from the tool to the easy-to-read, handheld device.

### **ACCURATE AND IMMEDIATE**

Produce accurate surveys with user-adjustable magnetic anomaly detection to flag and filter erroneous data points. Because data is provided in open format, it is immediately accessible and ready to export directly from survey tool and handheld to USB.

## FEATURES

### **WIRELESS COMMUNICATION**

Tool and handheld reliably communicate within seconds, eliminating the need for disassembly to start or end a survey.

### **CHARGEABLE, EASY-TO-READ HANDHELD**

Conveniently charge the handheld through USB. Back-lit screen is easy to read with step-by-step instructions and intuitive workflows to minimize operational errors. Large, glove-friendly buttons and vibration feedback make it easy to operate.

### **USB EXPORT DIRECT FROM HANDHELD**

Export raw data directly to USB in generic .csv or .dif formats.

### **TRUSHOT VIEW SOFTWARE**

Included software allows for quick viewing and assessment of each survey shot. Captured downhole data is easily exported to all industry-standard formats.

### **ROBUST AND DURABLE**

Tool remains calibrated and functional even after prolonged field use. Fully sealed and waterproof.

### **MULTI-FUNCTIONAL**

Single-shot, multi-shot and orientation survey functionality.

### **FIELD REPLACEABLE BATTERY**

Tool battery life is long-lasting and can be easily serviced in the field.

To learn more about TruShot, visit [www.boartlongyear.com/trushot](http://www.boartlongyear.com/trushot)



# TECHNICAL SPECIFICATIONS

DIMENSIONS			
Kit			
Length x width x height	112.7 x 40.6 x 15.5 cm		
Total weight	Tool and Accessory Kit: 24 kg (max)		Extension Rod Kit: 14 kg
Downhole Instrument			
Outside diameter	35 mm		
Length	1000 mm		
Weight	4 kg		
Handheld			
Length x width x height	240 x 115 x 38 mm		
Weight	0.4 kg		
ACCURACY			
Azimuth	Range: 0° to 360°		Accuracy: 0.3°
Dip	Range from horizontal: ±90°		Accuracy: 0.2°
Magnetic Dip	Range from horizontal: ±90°		Accuracy: 0.3°
Gravity Roll (rotation/toolface)	Range: 0° to 360°		Accuracy: 0.3°
Magnetic Roll (rotation/toolface)	Range: 0° to 360°		Accuracy: 0.3°
Tool Magnetic Field	Range: 0 to 100,000nT		Accuracy: ±200nT
TEMPERATURE RATING			
Downhole Instrument	Full Accuracy: 0°C to 60°C	Operating: -30°C to 75°C	Storage: -45°C to 85°C
Handheld	Operating: -10°C to 50°C	Charging: 0°C to 40°C	Storage: 0° to 30°C
DEPTH RATING			
Maximum depth	4000 m vertical in fresh water, IP68		
BATTERY			
Downhole Instrument	User replaceable, non-rechargeable lithium		
Storage	Up to 10 years		
Normal use	Up to 3 months		
Handheld	USB rechargeable lithium ion		
Normal use	1 week per full charge		
DATA			
Tool to Handheld Communication	Wireless IR communication, no tool disassembly required		
File Types	Handheld to USB drive: .csv or .dif		Desktop export: .xlsx, .csv, .dsv, .tsv
View and Export	TruShot View software included with every tool		
LANGUAGE OPTIONS			
English, French, Spanish			
APPLICABLE CERTIFICATIONS			
ASTM D4169, MIL-STD 810G, IEC60068, ASTM B117, AS60529, CE			

Technical specifications are subject to change without notification

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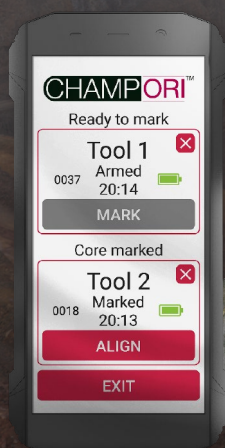
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Integrated Core Orientation

No Extensions ■ No Maintenance ■ Just Drill

**CHAMP****ORI**<sup>TM</sup>



- ✓ Integrates with standard head assemblies
- ✓ No requirement for outer tube extensions or adapters
- ✓ Communicate, mark core & drill next run without disassembly
- ✓ Reduce orientation transfer error
- ✓ No probe battery recharging, cables or plugs
- ✓ Maximum kit weight 5.7kg (12.6lbs)
- ✓ One kit, one rig, all sizes

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## THE INTEGRATED SOLUTION

Axis is the industry leader in delivering measurement solutions which operate within the normal drilling process.

The Champ Ori fully integrates with existing coring hardware by replacing standard components of commonly used inner-tube head assemblies.

The ori tool remains within the head assembly to communicate, mark core and drill the next run – without disassembly.

**One kit. All sizes. Just drill.**

## THE SAFE SOLUTION

Compliance with manual handling safety guidelines is assured by the Champ Ori's average kit weight of 5.7kg (12.59 lbs).

Once installed into the inner-tube head assembly, the ori tool requires no re-charging, assembly or disassembly, reducing handling frequency and risk.

The Champ Ori system does not require outer-tube extensions, diminishing the risk of costly extension failure downhole and resulting hazards.

**No handling. No hazards. Just drill.**

## THE ECONOMIC SOLUTION

With no consumables to purchase or pay for at the end of project, costs are lower in comparison to conventional extension type orientation systems.

Shipping costs and logistical overhead are reduced due to low kit weights and no requirement for heavy extensions or adapters.

Being integrated, inner-tube descent time is not affected in any way as with conventional non-integrated type systems, which can compromise drilling productivity.

**No consumables. No maintenance. Just drill.**

## SPECIFICATIONS

### Kit Configurations

AMK3000 : B, LTK60  
AMK3010 : N, N2, N3  
AMK3020 : H, H3, P, P3  
AMK3021 : N, N2, N3, H, H3, P, P3

### Accuracy & Range

Range : -88° to +88° dip  
Roll : +/- 0.75°  
Dip : +/- 1.0°

### Temperature & Pressure Rating

Temperature : -30°C to + 60°C (-22°F to 140°F)  
Pressure Rating : 6000 psi

### Battery

Integrated non-rechargeable lithium battery

Battery life:

- up to 6 months (B, N sizes)
- up to 6-12 months (H/P size)

### PDA Handheld

Re-chargeable lithium battery  
Standby : Up to 35 days  
Operating : Up to 40 hours  
Charge time : <1hour

### DrillTough™ Handheld

Replaceable AA Alkaline  
Operating : Up to 12 months normal use

### Dimensions & Weight

#### Module B

OD : 42.9mm (1.69"), ID : 16mm (0.63"), H : 54mm (2.13"), Wt : 360g (0.79lbs)

#### Module N, N2, N3

OD : 55.7mm (2.19"), ID : 25.6mm (1.01"), H : 63.4mm (2.50"), Wt : 570g (1.26lbs)

#### Module H, H3, P

OD : 70.0mm (2.76"), ID : 31.9mm (1.26"), H : 73.0mm (2.87"), Wt : 1,150g (2.53lbs)

#### Shipping

L : 350mm (13.78"), W : 290mm (11.42"), H : 195mm (7.68"), Wt (avg) : 5.71kg (12.59lbs)

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