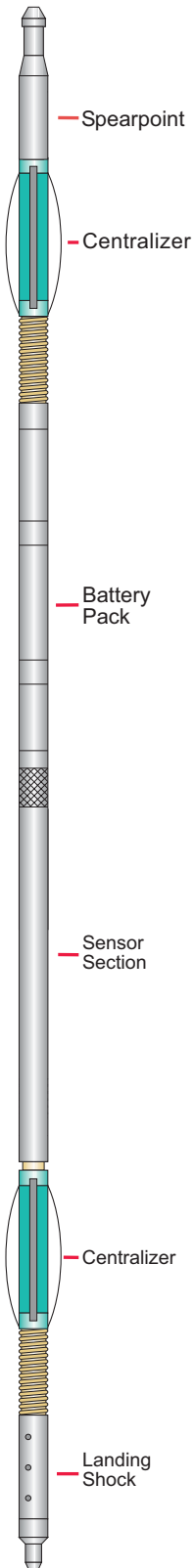


All attitude drop Keeper (AdK)



New Dimension in High-Accuracy Drillpipe Surveys

Scientific Drilling has reinvented drop Keeper technology with its **All Attitude drop Keeper (AdK) Gyro System**. This new system combines the convenience of drop memory tools with the accuracy and reliability of wireline tools.

Cost Saving Durability

The **AdK** is the toughest drop keeper in existence. **Scientific Drilling** has engineered and manufactured the proprietary **AdK** system with unequalled durability. The ruggedized **AdK** is dropped without a parachute and withstands velocities of up to 1,000 feet per minute. **AdK's** robust durability translates into significant cost savings:

- Less time to reach well bottom
- Parachute failure risk is eliminated

High-Speed, Multi-Mode Operations

Unlike conventional drop systems, the revolutionary **AdK** operates in multiple modes and eliminates gyro compass errors at high inclinations. The **AdK** is dropped inside the drillpipe, much like an electromagnetic multishot. **AdK's** onboard "intelligence" switches modes at high angles to the faster, more accurate continuous survey mode. **AdK's** navigation mode allows high-speed surveying to over 90° with survey times as short as 1 second.

Accurate,

Multi-Faceted Applications

While **AdK's** standard running gear package preserves the small outer diameter needed for most drillpipe operations, it is engineered to be custom configured for a myriad of unprecedented scenarios. **AdK** responds to difficult drillpipe operations with advanced technology, superior performance, and optimum tool accuracy. **AdK** is uniquely applicable to:

- Horizontal and extended reach wellbores
- River crossings

Speed, Accuracy, Reliability

AdK surveys are stored in the onboard memory and are time-stamped for correlation with pipe depth. Surveys are uploaded using a high-speed digital communications link and computed onsite instantaneously. Pre- and post-run diagnostics guarantee reliability and accuracy. As with all **Scientific Drilling's** systems, the **AdK** sets the industry standard for the highest survey accuracy in a drillpipe configuration.

Technical Specifications			
*Accuracy:	Subject to well profile		
Pressure Rating:	20,000 psi (137,900 kPa)		
Survey Speed:	=600 ft/min (=150m/min)		
Diameter:	1.75" (4.5cm)	1.85" (4.7cm)	2.125" (5.4cm)
Length:	18 ft (5.5m)	19 ft (5.8m)	19 ft (5.8m)
Weight:	110 lbs (50kg)	120 lbs (54kg)	140 lbs (63kg)
Temperature Rating:	300°F	400°F*	400°F*
Battery Power:	Alkaline = 12 hours Lithium = 30 hours		

* Error ellipse calculations available upon request for individual well profiles.



Scientific Drilling