



All-attitude drop Keeper (AdK)

New Dimension in High-Accuracy Drillpipe Surveys

Scientific Drilling's All-attitude drop Keeper (AdK) gyro 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 North-seeking gyro survey system 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 one second.

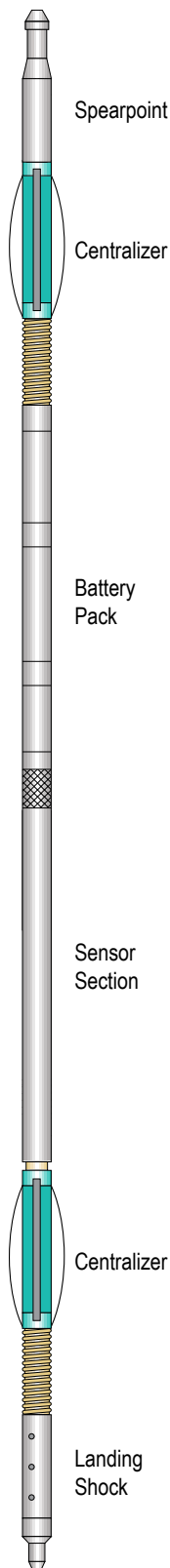
Accurate, Multi-Faceted Applications

While AdK's standard running gear package preserves the small outer diameter needed for most drillpipe operations, it is engineered to be custom configured. 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. Pre- and post-run diagnostics ensure reliability and accuracy. As with all Scientific Drilling 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 (150 m/min)		
Diameter	1.75 in (4.5 cm)	1.85 in (4.7 cm)	2.125 in (5.4 cm)
Length	18 ft (5.5 m)	19 ft (5.8 m)	19 ft (5.8 m)
Weight	110 lbs (50 kg)	120 lbs (54 kg)	140 lbs (63 kg)
Temperature Rating	300°F (149°C)	400°F (204°C)	400°F (204°C)
Battery Power	Alkaline = 12 hours Lithium = 30 hours		

*SPE WPTS compliant error ellipse calculations available upon request for individual well profiles.