

SK-CTF Compensated Resistivity Measuring Instrument



SK-CTF compensated resistivity measuring instrument is compatible with Tensor standard MWD, adopts industry standard four-transmitter and dual-receiver design of symmetrical compensation, and provides eight compensated resistivity curves for different detection depths. These curves can be arbitrarily combined and transmitted in real time to achieve geosteering applications

Product Features

- Max. working temperature: 150 °C / 175°C
- Max. working pressure: 20,000 psi
- Flexible matching with the MWD tool string, can be used to connect the upper suspension MWD or the lower seat key MWD, and connectors can be customized according to customer needs.
- 400KHz depth measurement: measurement is conducted from two antenna spacings of 19 inches and 41 inches. The 400KHz depth measurement is more conducive to geosteering applications, and oil reservoir boundaries can be detected with the combination of 2MHz shallow resistivity data
- 2MHz high vertical resolution measurement: 2 MHz high-frequency measurement is used to achieve excellent vertical resolution and identify thin layers

150°C/175°C

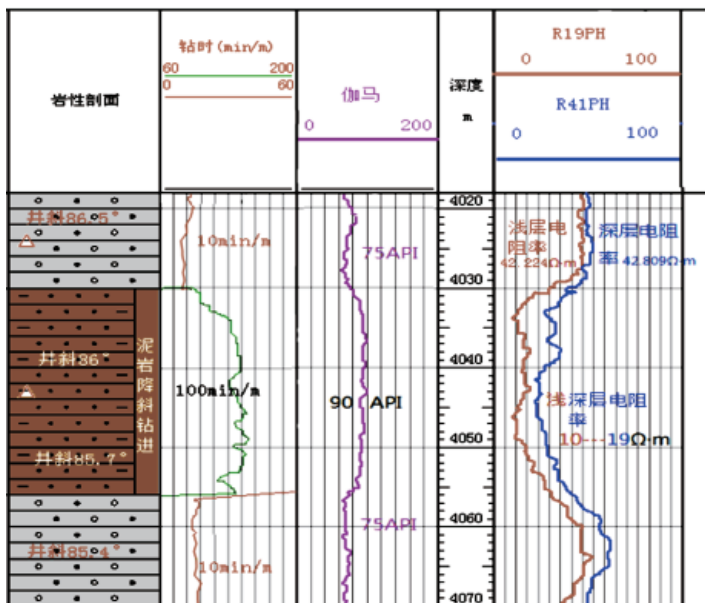
Max. working temperature

20000 psi

Max. working pressure

300 h

More than 300 hours of drilling time



Sensor Characteristics

	Interval	Frequency	Range	Accuracy
Phase difference	41 in.	2 MHz	0.1 to 2,000 ohm-m	± 2% (0.1 to 20 ohm-m) ± 1 mmho/m (>20 ohm-m)
		400 kHz	0.1 to 500 ohm-m	± 2% (0.1 to 10 ohm-m) ± 2 mmho/m (>10 ohm-m)
	19 in.	2 MHz	0.1 to 1,000 ohm-m	± 1% (0.1 to 10 ohm-m) ± 1 mmho/m (>10 ohm-m)
		400 kHz	0.1 to 250 ohm-m	± 3% (0.1 to 5 ohm-m) ± 6 mmho/m (>5 ohm-m)
Amplitude ratio	41 in.	2 MHz	0.1 to 50 ohm-m	± 5% (0.1 to 16 ohm-m) ± 3 mmho/m (>16 ohm-m)
		400 kHz	0.1 to 10 ohm-m	± 3% (0.1 to 3 ohm-m) ± 10 mmho/m (>3 ohm-m)
	19 in.	2 MHz	0.1 to 50 ohm-m	± 5% (0.1 to 8 ohm-m) ± 6 mmho/m (>8 ohm-m)
		400 kHz	0.1 to 10 ohm-m	± 5% (0.1 to 3 ohm-m) ± 15 mmho/m (>3 ohm-m)
Vertical resolution	6 in. 1 (less than 10ohmde conductive layer)			

Mechanical Specifications

	4.75 in.	6.91 in.	8.25 in.
Outer diameter of tool	Antenna 5.0 " Wear-resistant belt 5.25 "	Antenna 6.91" Wear-resistant belt 7.16"	Antenna 8.25" Wear-resistant belt 8.5"
Length	14.5 ft (174 in.)	14.5 ft (174 in.)	15.16 ft (182 in.)
Tool connection	31/2 in. IF (NC-38)	41/2 in. IF (NC-50)	65/8 in. API Reg
Equivalent stiffness	5.00 in. x 2.81 in.	6.58 in. x 2.81 in.	8.25 in. x 2.81 in.
Makeup torque	9,600 lbf-ft	30,000 lbf-ft	54,000 lbf-ft
Working displacement	100 - 350 usgpm	300 - 750 usgpm	450 - 1200 usgpm
Max. overall angle change rate rotation	12.2°/100 ft	8°/100 ft	7°/100 ft
Max. overall angle change rate slip	25°/100 ft	17°/100 ft	14°/100 ft
Max. working temperature	150°C/175°C		
Max. withstand temperature	160°C/185°C		
Max. working pressure	20,000 psi		
Max. sediment content	1% (volume)		
Max. plugging material content	40-50 lb/bbl evenly mixed, any size		