



# CASED HOLE LOGGING Production Logging Instrumentation

**Spartek Systems** specializes in providing the oil and gas industry with high quality data to monitor well performance and diagnose potential problems. Founded in 1994, Spartek Systems leads the industry in providing cost effective solutions for acquiring reliable production data.

## Product Overview

The SS8000 Production Logging System has a proven history of providing the oil and gas industry with reliable high quality data to monitor well performance. All of the sensors operates on Spartek's "Open Architecture Tool Bus". This communication bus allows the "same" tools to operate in both SRO and Memory logging operations. It also allows other third party tools to run in combination with the sensors provided by Spartek.

This easy to operate, portable logging system is offered in a 1", 1 3/8" and 1 11/16" diameters. All tools are sour rated. The high-speed, 4-wire instrument bus and smart sensor based tools allow the operator to interchange and configure the tool string to suit well conditions. In SRO or Memory mode, the operator can quickly confirm the tools in the string, as well as automatically identify and load the appropriate calibration files. Prior to running the tool in Memory mode, the operator can communicate with the tool string in real time via a USB interface to a Windows compatible PC.

## Applications

- ▶ Monitor well efficiency
- ▶ Production Diagnostics
- ▶ Analyze injection or production profile by zone
- ▶ Monitor well stimulations
- ▶ Well mechanical integrity analysis
- ▶ Time lapse logging
- ▶ Well treatment verification

## Primary Features

- ▶ Portable Operations
- ▶ 177°C / 15Kpsi / Sour Service (NACE MRO175)
- ▶ Surface Readout (SRO) or Memory operation
- ▶ Non-Radioactive High Resolution Density
- ▶ Multiphase Array PLT for Horizontal Wells
- ▶ Scalable Economic Solution to Market Needs
- ▶ Compatible with the "Warrior" logging system built by Scientific Data Systems
- ▶ Compatible with Windows 11/10/8/7



## Available Sensors and Accessories

- ▶ Controllers
  - Memory and SRO
  - Compact Production Logging (CCL/PTS)
- ▶ Depth Correlation
  - Accelerometer
  - Gamma Ray/Casing Collar Locator
- ▶ Well Performance
  - Quartz and Sapphire Pressure
  - Fast Response Temperature
  - Flowmeters (folding, continuous, inline)
- ▶ Fluid Identification
  - Fluid Dielectric (Capacitance)
  - Four Electrode Resistivity (Array)
  - Acoustic Densitometer
- ▶ Multi-Phase Flow Analysis (5 and 6 Arm Array)
  - Water Holdup: Capacitance, Resistivity
  - Gas Holdup: Acoustic Densitometer
  - Flow: Spinner, Fast Response Temperature
- ▶ 4 - Arm Centralizer (Roller and Bow Spring)
- ▶ X-Y caliper (Roller and Bow Spring)
- ▶ Spectral Gamma Ray

# SPARTEK SYSTEMS

Providing Our Customers With "Best In Class" Technology

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**Specifications:**

Operating Specifications				
<b>Pressure Rating</b>	15,000 psi (max)	<b>Temperature Range</b>	-40° F to 350° F [-40° C to 177° C]	
<b>Housing Material</b>	Inconel 718* (sour)	<b>Dimensions</b>	<b>1.0" OD</b>	<b>1.375" OD</b>
<b>Master Controllers</b>	Power Requirements	<u>Master Controllers</u>		<b>1.688" OD</b>
<b>Memory</b> Voltage Current (max)	12.0 - 15.6 V (4 cell pack) 200 mA	Memory / Battery Housing SRO Controller (Telemetry) CPLT / Battery Housing	N/A 2.11 ft N/A	2.50 ft 2.11 ft 3.43 ft
<b>Surface Read Out</b> Voltage Current (max)	125 V - 175V @ Cable head 100 mA	<u>Sensors</u>		
<b>Communications</b>	RS232 / USB	Casing Collar Locator Gamma Ray / CCL Gamma Ray Pressure (Sapphire) Press / Temp (Sapphire) Press / Temp (Quartz) Temperature Capacitance Acoustic Density Continuous Flowmeter Full Bore Flowmeter In Line Flowmeter X-Y Caliper Roller Centralizer Pressure Bulkhead	N/A 3.23 ft N/A 1.09 ft N/A N/A 1.11 ft 1.25 ft N/A N/A 2.60 ft N/A N/A N/A N/A N/A 1.09 ft	N/A 1.41 ft 2.91 ft 2.20 ft N/A 1.00 ft 1.50 ft N/A 1.39 ft 1.39 ft 1.32 ft 2.25 ft 1.21 ft 3.32 ft 2.58 ft 0.32 ft
<b>Data Acquisition</b> <u>Memory PLT</u> Memory Size Sample Rate Logging Time  <u>SRO PLT</u> Sample Rate	128 Mb 1, 2, 5, or 10 samples/sec Standard PLT (8 sensors) at 1 sec sample for 135 hours  10 samples/sec			
Performance Specifications				
<b>Spinner</b> Range Operating Diameter Resolution Accuracy Threshold In Line Caged Fullbore	+/- 200 rps 1.81" minimum Caged Spinner 0.1 rps +/- 2%  8 ft/min (oil flow) 4 ft/min (oil flow) 2 ft/min (oil flow)	<b>Pressure</b> Range Resolution Accuracy	<u>Sapphire</u> 15,000 psi 0.003% F.S. ± 0.05% F.S.	<u>Quartz</u> 15,000 psi 0.00006% ± 0.03% F.S.
		<b>Acoustic Density</b> Sensor Range Resolution	Vibrating Element 0 - 2 g/cc 0.001 g/cc	
<b>Temperature</b> Range Resolution	-40° C to 177° C 0.005° C	<b>Fluid Capacitance</b> Resolution WHI Accuracy	0.1% 2% (range 0% - 30%)	
<b>Gamma Ray</b> Detector Type Resolution	Scintillation > 1.1 counts/API	<b>Casing Collar Locator</b> Detector Type	Electromagnetic	
<b>Accelerometer</b> Range Resolution	± 5 g 0.01 g	<b>X-Y Caliper</b> Range Resolution	2.0 to 9.0 inches ± 0.02 inches	
<b>Roller Centralizer</b> Range	1.4 to 8.2 inches	<b>Pressure Bulkhead</b> Range	15,000 psi	

Specifications subject to change without notice

**For More Information, Pricing, and Technical Support Contact:**

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