



CASED HOLE LOGGING Casing Inspection Tool

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 well integrity data.

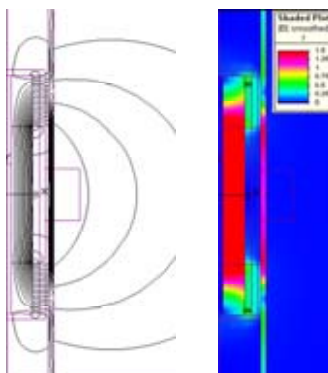
Product Overview

Preventing failure of any wellbore integrity is critical. A failure can result in lost production, environmental pollution, and costly repairs. The first step to prevention is to monitor wells to determine if corrosion, erosion, or geological deformation has compromised the integrity of the well. If defects in the well's integrity are known before they become catastrophic, an inexpensive corrective action may be implemented to extend the life and net profit for the well.

The Casing Inspection Tool utilizes Magnetic Flux Leakage technology to determine changes in the pipe wall thickness. This is the same technology that is used in monitoring most pipelines. The technology can measure metal loss both internally and externally.

- ▶ High Resolution Full Radial Coverage
 - ◆ 80 to 160 circumferential sensors
 - ◆ .25 in (6.4 mm) for an isolated pit
 - ◆ 20% wall thinning
- ▶ High Vertical Sampling
 - ◆ 200 samples/sec
 - ◆ 0.125 inch (3.2 mm) sampling at 120 feet per minute.
- ▶ Repeatability +/- 10%

The magnetic circuit of the CIT was extensively modeled to ensure the design would provide the magnetic field strength necessary to saturate the casing.



High Flux Density
B = 1.1 Tesla



Depending on casing size, the MFL sensor section has 8 to 16 pads. Each pad has 8 magnetic field sensors for measuring the magnetic flux leakage independent of logging speed, and two shallow discriminator measurements to determine if the measured flux leakage is internal or external. Together with a high speed memory section, the CIT provides the highest resolution 3D image of the integrity of the casing.

Primary Features

- ▶ Tubular inspection for both internal and external corrosion (metal loss).
- ▶ Optimized MFL Sections for larger casing sizes.
- ▶ Surface Read Out quick look interpretation with high resolution memory data or memory only operation.
- ▶ Combinable with a Multi-Finger Caliper tool for internal diameter information.
- ▶ Compatible with the "Warrior" logging system built by Scientific Data Systems
- ▶ Compatible with Windows 7/Vista/XP/NT/2000

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Specifications:

	MFL-375	MFL-450	MFL-575	MFL-800
Pressure (maximum)	15,000 psi (103.4 MPa)	15,000 psi (103.4 MPa)	15,000 psi (103.4 MPa)	15,000 psi (103.4 MPa)
Temperature (maximum)	300° F (150° C)	300° F (150° C)	300° F (150° C)	300° F (150° C)
Diameter				
Collapsed	3.75 in (95.2 mm)	4.5 in (114.3 mm)	5.75 in (146.0 mm)	8.0 in (203.2mm)
Maximum	4.3 in (109.2 mm)	5.10 in (129.5 mm)	6.60 in (167.6 mm)	12.75 in (323.8 mm)
Length				
MFL Section	3.66 ft (1.12 m)	3.91 ft (1.19 m)	4.35 ft (1.27 m)	4.67 ft (1.42 m)
Memory Section	1.65 ft (0.50 m)	1.65 ft (0.50 m)	1.65 ft (0.50 m)	1.65 ft (0.50 m)
Make Up Length	4.52 ft (1.38 m)	4.77 ft (1.45 m)	5.21 ft (1.59 m)	5.71 ft (1.74 m)
Weight	133 lb (60.3 kg)	163 lb (74 kg)	223 lb (101.2 kg)	383 lb (173.7 kg)
Housing Material	Inconel 718	Inconel 718	Inconel 718	Inconel 718
Sensors Configuration				
Number of Pads	8	10	12	16
Pad Curvature	4.0 in (101.6 mm)	5.0 in (127 mm)	7.0 in (178 mm)	9.0 in (229 mm)
Pad Arc Length	1.9 in (48.3 mm)	1.9 in (48.3 mm)	1.9 in (48.3 mm)	1.9 in (48.3 mm)
MFL Sensors per Pad	8	8	8	8
EC Sensors per Pad	2	2	2	2
Number of Sensors	80	100	120	160
Measurement				
Casing penetration range	20 – 100 %	20 – 100 %	20 – 100 %	20 – 100 %
Defect Sensitivity	.25 in (6.4 mm)	.25 in (6.4 mm)	.25 in (6.4 mm)	.25 in (6.4 mm)
Accuracy (%)	± 15 % (isolated pit)	± 15 % (isolated pit)	± 15 % (isolated pit)	± 15 % (isolated pit)
Repeatability (%)	± 10 %	± 10 %	± 10 %	± 10 %
Magnet Strength (MGOe)	30	30	30	30
Radial Coverage	100 %	100 %	100 %	100 %
Data Acquisition				
Memory (2 - 4 GBytes)	4 GBytes	4 GBytes	4 GBytes	4 GBytes
Number of Sensors	80	100	120	160
Sample Rate (samples/sec)	200	200	200	200
Memory Full (hrs)	7 hours (min)	5.6 hours (min)	4.7 hours	4 hours
Communication to PC	USB	USB	USB	USB
Electrical Specifications				
Input Voltage (VDC)	75 – 200	75 – 200	75 – 200	75 – 200
Input Current Required (A)	0.263	0.263	0.263	0.263
Centralizer				
Operating Specifications	Roller Centralizer		Operating Range ID	3.75 in to 6.50 in
Type	1.12 ft (0.34 m)		Collapsed Diameter	95.2 mm to 165.1 mm
Overall Length	1.00 ft (0.30 m)		Material	4140
Make Up Length	23 lbs (10.4 kg)			
Weight				

Specifications subject to change without notice

For More Information, Pricing, and Technical Support Contact:


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