

PURPOSE

The Multi-Finger Caliper may also be used to measure the buildup of scale, paraffin or other mineral deposits in the wellbore. Auxiliary radial measurements include an integral wellbore temperature probe, along with deviation and azimuth information. Measuring fingers move radially along the inner casing or tubing wall, detecting any diameter change. Each measuring finger accurately monitors the inner pipe wall, which produces a high-resolution record of the tubular geometry that can then be viewed and presented as a conventional log, a cross section, or a 3-dimensional or color enhanced image.

Titanium Energy Services Multi-Finger tools provide direct, accurate and reliable measurements of internal tubing and casing diameters. Used in both drilling and production environments, applications include the evaluation of corrosion, erosion, wear, bending, buckling, pits, holes and other defects with high accuracy.



FEATURES

- Available in 24, 40 and 56 fingers
- Memory, surface and real time read out available with 24, 40 and 56 arm tools
- Combine with Magnetic Thickness Tool, Gamma Ray and CCL tools



Titanium

SPECIFICATIONS

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INCLINATION MEASUREMENT	MFC24C-A	MFC24C-C	MFC40C-A	MFC56C-B	MFC56C-EXT.
Minimum	N/A	0°	0°	0°	0°
Maximum		180°	180°	180°	180°
Accuracy		±5.0°	±5.0°	±5.0°	±5.0°
Resolution		0.1°	0.1°	0.1°	0.1°
RELATIVE AZIMUTH MEASUREMENT					
Minimum	N/A	0°	0°	0°	0°
Maximum		360°	360°	360°	360°
Accuracy		±5.0° (Dev±5.0°)	±5.0° (Dev±5.0°)	±5.0° (Dev±5.0°)	±5.0° (Dev±5.0°)
Resolution		0.1° (Dev±5.0°)	0.1° (Dev±5.0°)	0.1° (Dev±5.0°)	0.1° (Dev±5.0°)
DATA ACQUISITION					
Typical Logging Speed	32 ft/min (600 m/h)	32 ft/min (600 m/h)	32 ft/min (600 m/h)	32 ft/min (600 m/h)	32 ft/min (600 m/h)
Vertical Resolution	0.39 in. (10mm)	0.13 in. (3.33mm)	0.39 in. (10mm)	0.39 in. (10mm)	0.13 in. (3.33mm)
POWER REQUIREMENTS					
Input Voltage	90 Volts (±10%)	15Volts (±20%)	90 Volts (±10%)	90 Volts (±10%)	18Volts (±10%)
Input Current Required	30 mA (±5 mA)	80 mA (±5 mA)	35 mA (±5 mA)	35 mA (±5 mA)	56 mA (±5 mA)
SIGNAL TRANSMISSION MODE					
Transmission Mode	Series Bus	CAN Bus	Series Bus	Series Bus	CAN Bus

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	MFC24C-A	MFC24C-C	MFC40C-A	MFC56C-B	MFC56C-EXT.
Maximum Pressure	14,503 PSI (100 Mpa)	14,503 PSI (100 Mpa)	14,503 PSI (100 Mpa)	14,503 PSI (100 Mpa)	14,503 PSI (100 Mpa)
Maximum Temperature	347 °F (175 °C)	347 °F (175 °C)	347 °F (175 °C)	347 °F (175 °C)	347 °F (175 °C)
Diameter	1.69 in. (43 mm)	1.69 in. (43 mm)	2.67 in. (73 mm)	3.54 in. (90 mm)	3.54 in. (90 mm)
Length	6726 in. (1708.5 m)	65 in. (1651 mm)	78.13 in. (1985 mm)	82.15 in. (2086.5 mm)	83.74 in. (2127 mm)
Caiper Measure Point	25.14 in. (638.5 mm)	33.9 in. (861 mm)	28.72 in. (729.5 mm)	28.21 in. (716.5 mm)	2773 in. (704.3 mm)
Weight	28.7 lbs (13 kg)	28.7 lbs (13 kg)	816 lbs (37 kg)	135.6 lbs (61.5 kg)	138.9 lbs (63 kg)
CALIPER MEASUREMENT					
Number of Arms	24 arms	24 arms	40 arms	56 arms	56 arms
Minimum	1.77 in. (45 mm)	1.77 in. (45 mm)	3.14 in. (80 mm)	3.94 in. (100 mm)	7.09 in. (180 mm)
Maximum	7.09 in. (180 mm)	7.09 in. (180 mm)	8.26 in. (210 mm)	9.65 in. (245 mm)	13.78 in. (350 mm)
Accuracy	±0.02 in. (0.5 mm)	±0.02 in. (0.5 mm)	±0.02 in. (0.5 mm)	±0.0037 in. (0.5 mm)	±0.039 in. (1.0 mm)
Resolution	0.0039 in. (0.1 mm)	0.0039 in. (0.1 mm)	0.0039 in. (0.1 mm)	0.0039 in. (0.1 mm)	±0.079 in. (2.2 mm)
Sensor Type	Linear Displacement Sensor	Linear Displacement Sensor	Linear Displacement Sensor	Linear Displacement Sensor	Linear Displacement Sensor
TEMPERATURE MEASUREMENT					
Minimum	-13° F (-25° C)	-13° F (-25° C)	-13° F (-25° C)	-13° F (-25° C)	-13° F (-25° C)
Maximum	347 °F (175° C)	347 °F (175° C)	347 °F (175° C)	347 °F (175° C)	347 °F (175° C)
Accuracy	± 2° C	± 2° C	± 2° C	± 2° C	± 2° C
Resolution	0.05° C	0.05° C	0.05° C	0.05° C	0.05° C
Response Time	≤2 sec	≤2 sec	≤2 sec	≤2 sec	≤2 sec
Temperature Probe	Platinum Resistor PT100	Platinum Resistor PT100	Platinum Resistor PT100	Platinum Resistor PT100	Platinum Resistor PT100

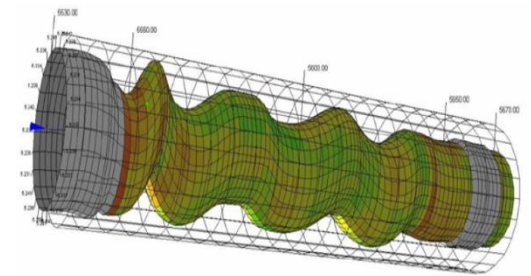
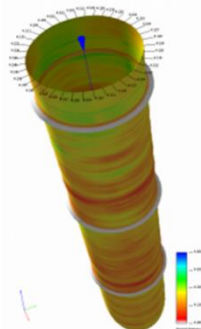
MFC24C-A



MFC40C-A



MFC56C-B



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