

Multi-Finger Caliper (MFC)

Multi-Finger Caliper 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.

DESCRIPTION

Measuring fingers move radially along the inner casing or tubing wall, detecting any diameter change. This produces a high resolution record of the tubular geometry which can be viewed and presented as a conventional log, a cross section, or a 3-D color enhanced image.

The Multi-Finger Caliper may also be used to measure the buildup of scale, paraffin or other mineral deposits in the wellbore. Auxiliary measurements include an integral wellbore temperature probe, along with deviation and relative bearing information. A range of instrument diameters with different finger arrays are available to provide optimized measurements in tubulars ranging from 2-3/8 in. to 13-3/8 in. diameter.

APPLICATIONS & FEATURES

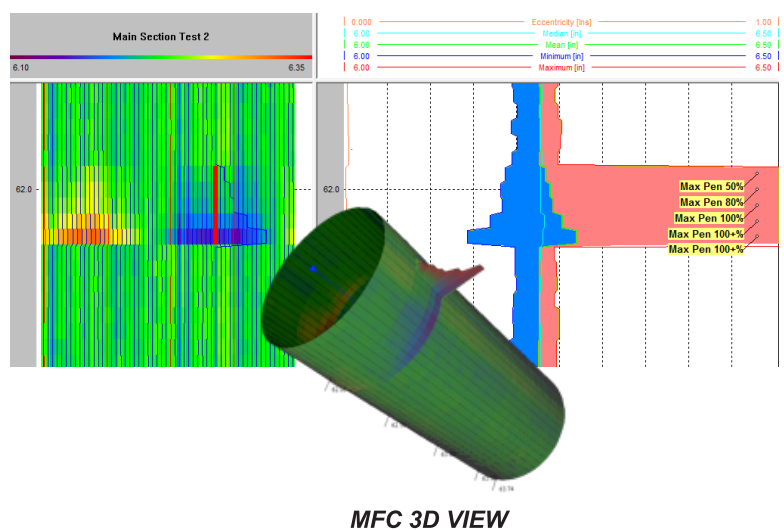
- Available in 24, 40, and 56 fingers
- Optional Extension Kit available for all sizes
- Combinable with all Pegasus Series Tools
- Compatible with **PegasusStar** Cased Hole Logging Platform
- Has Built-in Wellbore Temperature and 3-axis accelerometer able to provide crucial information about the Well Conditions including: **Temperature, Deviation and Finger position**
- MIPSPro™ Compatible for analysis and reporting
- Warrior Compatible



MFC24C-C

MFC40C-B

MFC56C-C



SPECIFICATIONS

	MFC24C-C	MFC40C-B	MFC56C-C
	P/N 100504389	P/N 100507120	P/N 100505339
General Specs			
Maximum Pressure	14,503 PSI (100 Mpa)	14,503 PSI (100 Mpa)	14,503 PSI (100 Mpa)
Maximum Temperature	350 °F (177 °C)	350 °F (177 °C)	350 °F (177 °C)
Diameter	1.7 in. (43 mm)	2.9 in. (73 mm)	3.5 in. (90 mm)
Length	65 in. (1651 mm)	78.1 in. (1980 mm)	83.7 in. (2086.5 mm)
Caliper Measure Point	33.9 in. (861 mm)	28.7 in. (729.5 mm)	27.7 in. (704.3 mm)
Weight	28.7 lbs (13 kg)	81.6 lbs (37.0 kg)	138.9 lbs (63.0 kg)
Steel Grade	17-4 SST, Titanium & Al-Bronze	17-4 SST, Titanium & Al-Bronze	17-4 SST, Titanium & Al-Bronze
Caliper Measurement			
Number of arms	24 arms	40 arms	56 arms
Minimum	1.96 in. (50 mm)	3.14 in. (80 mm)	3.94 in. (100 mm)
Maximum	7.09 in. (180 mm)	8.26 in. (210 mm)	9.65 in. (245 mm)
Finger Force	3.15 - 4.63 N	4.64 - 7.44 N	3 - 4.54 N
Accuracy	±0.02 in. (0.5 mm)	±0.02 in. (0.5 mm)	±0.02 in. (0.5 mm)
Resolution	0.0039 in. (0.1 mm)	0.0039 in. (0.1 mm)	0.0039 in. (0.1 mm)
Sensor Type	Linear Displacement Sensor	Linear Displacement Sensor	Linear Displacement Sensor
Temperature Measurement			
Range	-13° F (-25° C) --- 350 °F (177°C)	-13° F (-25° C) --- 350 °F (177°C)	-13° F (-25° C) --- 350 °F (177°C)
Accuracy	± 2° C	± 2° C	± 2° C
Resolution	0.05° C	0.05° C	0.05° C
Response Time	≤2 sec	≤2 sec	≤2 sec
Sensor Type	Platinum Resistor PT100	Platinum Resistor PT100	Platinum Resistor PT100
Inclination Measurement			
Minimum	0°	0°	0°
Maximum	180°	180°	180°
Accuracy	±5.0°	±5.0°	±5.0°
Resolution	0.1°	0.1°	0.1°
Relative Bearing Measurement			
Minimum	0°	0°	0°
Maximum	360°	360°	360°
Accuracy	±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°)
Data Acquisition			
Typical Logging Speed	30 ft/min (9.14 m/min)	30 ft/min (9.14 m/min)	30 ft/min (9.14 m/min)
Vertical Resolution @100 samples/ft	0.12 in. (3.05 mm)	0.12 in. (3.05 mm)	0.12 in. (3.05 mm)
Power Requirements			
Voltage	18-36 Volts	18-36 Volts	18-36 Volts
Current	80 mA (±5 mA)	80 mA (±5 mA)	80 mA (±5 mA)
Extended Arms Option			
Tool OD	2.6 in. (65 mm)	4.7 in. (120 mm)	7.1 in. (180 mm)
Maximum Casing Size	9.7 in. (246 mm)	9.7 in. (246 mm)	13.78 in. (350 mm)

*Specifications are subject to change as tools are constantly being improved