

**Providing measurements of formation pressure and formation-pressure gradient to identify fluid contacts and determine permeability**

**Applications**

- Wells with diameters of 3 to 14 in
- Wells with severe doglegs

**Features and Benefits**

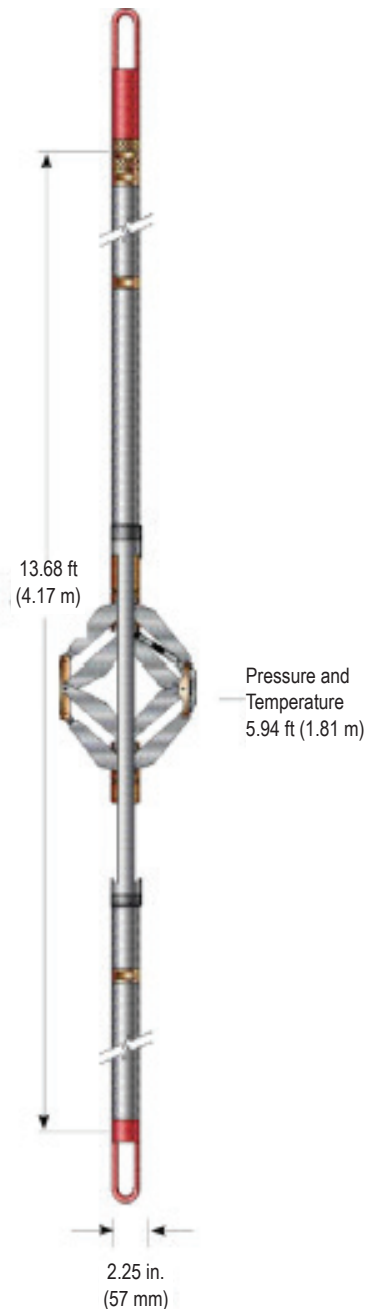
- The MFT can operate on third-party wireline, including monocoil cable
- The slim design of the MFT enables thru-drillpipe conveyance past high-dogleg-severity curves, which reduces the risk of nonproductive tie associated with keyseated cable.
- The self-centering design reduces the total contact area, thereby reducing the risk of differential tool sticking.
- The MFT generates positive pressure at the pad at the end of each test to push it off the borehole wall.
- Setting and closing time in an 8.5 in. borehole is 10 seconds (from on-half to a quarter of the time required for conventional formation testers).
- If tool power is lost, a fail-safe mechanism enables the tool to collapse when overpull is applied.
- The MFT is capable of memory logging where wireline cannot be run.

**Tool Description**

The Compact Formation Pressure Tester (MFT) measures formation fluid pressures for use in determining permeability and fluid contacts. The tool contains a high-accuracy, quartz pressure gauge and a high-precision strain gauge.

The unique design of the MFT automatically centers the tool body to give optimal pad application for reliable seals and reduced risk of differential sticking, yet the design enables the tool to pass restrictions smaller than 3 in. and to operate in wells up to 14 in. in diameter.

A conformable pad seals part of the borehole wall from the mud column, and formation fluid is produced at a programmable rate into a pretest chamber. Typically an initial drawdown in pressure is followed by a buildup to the formation value. Permeability can be computed from both the drawdown and buildup behaviors. Multiple tests can be performed at each depth station, and an unlimited number of stations can be tested. As the MFT arm mechanism closes at the end of each test, the risk of differential sticking is reduced further by the application of positive fluid pressure from the pad.



The Compact formation pressure tester (MFT) contains a high-accuracy quartz gauge and a high-precision strain gauge.

## Measurement

Data	Formation pressure measurements and caliper
Number of pretests	Unlimited
Maximum pretest volume	40 cc
Range of quartz gauge	0 to 15 kpsi (0 to 103 MPa)
Resolution	0.0008 psi
Accuracy	±2 psi + 0.01% MV (±13.79 kPa + 0.01%)

## Mechanical

Maximum outer diameter	Minimum trim: 2.4 in. (61 mm) Standard trim: 3.5 in. (89 mm) High-span trim: 9.5 in. (241 mm)
Length	13.68 ft (4.17 m)
Weight (air)	108 lb (49 kg)
Maximum temperature	320° F (160° C)
Maximum pressure	15,000 psi (103 MPa)
Minimum borehole diameter	Minimum trim: 2.9 in. (74 mm) Standard trim: 4.0 in. (102 mm) Slim trim: 7.0 in. (178 mm) High-span trim: 12 in. (305 mm)
Maximum borehole diameter	Short arm: 7.8 in. (200 mm) Standard arm: 11.0 in. (280 mm) Slim extended arm: 14.0 in. (356 mm) High-span arm: 18 in. (457 mm)



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