

Compact™ Formation Pressure Tester with Sampling

Collects pressure, volume, and temperature fluid samples in challenging wellbores and through pipe

Applications

- Obtaining samples in the smallest, narrowest wellbores and thru-pipe situations when wellbore conditions typically cause larger, more conventional formation testers to bridge or require pipe-conveyed logging

Features and Benefits

- The Compact formation pressure tester (MFTD) sampler captures up to three pressure, volume, and temperature (PVT) fluid samples—true flowing samples.
- The small, centralized tool reduces the total contact area, which minimizes the risk of differential tool sticking.
- The MFTD sampler can perform multiple test points in any given zone and provides versatility in poor hole conditions.
- The MFTD sampler operates in all wells, including low-angle, high-angle, and horizontal wells, in addition to wells with difficult or restricted areas. This enables operators to acquire samples from any well type.
- Class leading flow-line storage as well as fast set and react times of the tool reduces stationary tool time, saving rig time.

Tool Description

The Weatherford Compact formation pressure tester (MFTD) with sampler analyzes reservoir fluid by gathering up to three pressure, volume, and temperature (PVT) samples during a single downhole trip to determine formation pressure, permeability, and fluid-contact levels. The 2.4-in. (61-mm) outer tool diameter enables fluid sampling in wellbores with restrictions as small as 3 in. (76 mm) and as large as 14 in. (356 mm) in diameter. Obtaining PVT samples in sub 6.5-in. boreholes with traditional 5-in.-OD formation testers is risky. With a >100% improvement in clearance, the MFTD greatly reduces the risk of stuck logging tools.

The MFTD sampler has resistivity, capacitance, and sample-bottle pressure gauges located in the fluid measurement section (MFM). Measurements from these gauges enable differentiation of fluid types in water-based mud and provide real-time data about formation origin and sample quality.

The MFTD sampler offers an alternative to conventional formation testers, which are typically larger and more complex. The small, light, and easy-to-operate MFTD sampler reduces in-hole risks and enhances safety and project economics.



The Compact formation pressure tester (MFTD) with sampling tools enables obtaining pressure, volume, and temperature fluid samples with reduced risk in hole sizes less than 6.5 in. (165.1 mm).



Compact™ Formation Pressure Tester with Sampling

Specifications

Measurement specifications

Data	Formation fluid resistivity, capacitance, formation pressure measurements, caliper
Number of samples	3
Sample volume	500 cc N ² compensated/700 cc nonflash
Number of pretests	Unlimited
Maximum pretest volume	40 cc
Accuracy	Quartz gauge: ±2 psi + 0.01% (±14 kPa + 0.01%)

Mechanical specifications

Maximum outer diameter	Minimum trim: 2.40 in. (61 mm) Slim trim: 2.80 in. (70 mm) Standard trim: 3.50 in. (89 mm)
Length	One bottle carrier 57.4 ft (17.50 m) Two bottle carrier 71.3 ft (21.73 m) Three bottle carrier 85.2 ft (25.96 m)
Weight (in air)	One bottle carrier 482.30 lb (218.80 kg) Two bottle carrier 616.70 lb (279.70 kg) Three bottle carrier 751.00 lb (340.60 kg)
Maximum temperature (MFT-D.B.)	320°F (160°C)
Maximum pressure (MFT-D.B)	15 kpsi (103 MPa)
Maximum borehole diameter	Extended arm: 14.00 in. (355 mm)
Minimum borehole diameter	Minimum trim: 2.9 in. (74 mm)
Sidewall force	2,000 lbf (907 kgf)

