Schlumberger

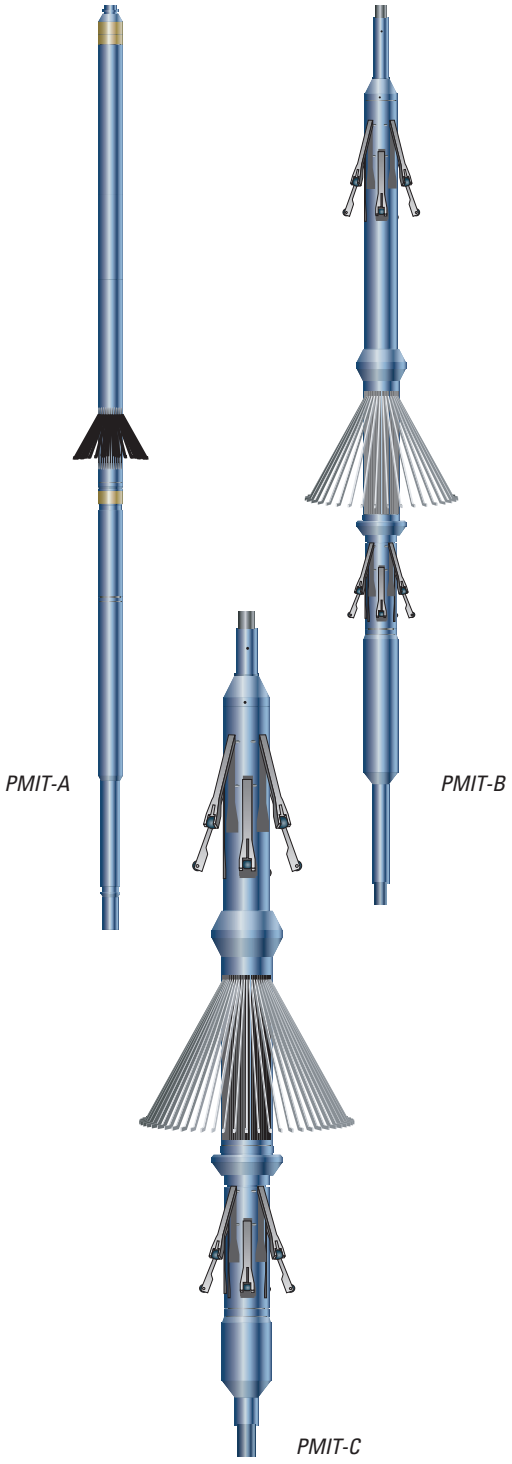
PS Platform Multifinger Imaging Tool

APPLICATIONS

- Identification and quantification of corrosion damage
- Identification of scale, wax, and solids accumulation
- Monitoring of anticorrosion systems
- Location of mechanical damage
- Evaluation of corrosion increase through periodic logs
- Determination of absolute inside diameter (ID)

The PS Platform* Multifinger Imaging Tool (PMIT) is a multifinger caliper tool that makes highly accurate radial measurements of the internal diameter of tubing and casing strings. The tool is available in three sizes to address a wide range of through-tubing and casing size applications.

The tool deploys an array of hard-surfaced fingers, which accurately monitor the inner pipe wall. Eccentricity effects are minimized by equal azimuthal spacing of the fingers and a special processing algorithm. The PMIT-B and PMIT-C tools incorporate powerful motorized centralizers to ensure effective centering force even in highly deviated intervals. The centralizers are equipped with rollers to prevent casing and tubing damage. The inclinometer in the tool provides information on well deviation and tool rotation. The PMIT-C tool can be fitted with special extended fingers for logging large-diameter casings. The PMIT-A is similarly fitted with special extended fingers for logging casing through tubing. All versions of the PMIT can be run in either real-time or memory mode.



The PMIT is available in three sizes for radially measuring the internal diameter of tubing and casing strings.

PS Platform Multifinger Imaging Tool

Measurement Specifications			
	PMIT-A	**PMIT-B**	**PMIT-C**
Output	Internal casing image from multiple internal radius measurements	Internal casing image from multiple internal radius measurements	Internal casing image from multiple internal radius measurements
Logging speed, m/h [ft/h]	Standard: 549 [1,800] Max.: 1,829 [6,000]	Standard: 549 [1,800] Max.: 1,829 [6,000]	Standard: 549 [1,800] Max.: 1,829 [6,000]
Minimum measurable casing ID, cm [in]	Standard or extended fingers: 5.08 [2]	7.62 [3]	Standard fingers: 12.7 [5] Extended fingers: 20.32 [8]
Maximum measurable casing ID, cm [in]	Standard fingers: 11.43 [4.5] Extended fingers: 17.78 [7]	17.78 [7]	Standard fingers: 25.4 [10] Extended fingers: 33.02 [13]
Vertical resolution at 529 m/h [1,800 ft/h], mm [in]	2.1 [0.082]	2.8 [0.11]	4.24 [0.167]
Radial resolution, mm [in]	Standard fingers: 0.10 [0.004] Extended fingers: 0.18 [0.007]	0.13 [0.005]	Standard fingers: 0.18 [0.007] Extended fingers: 0.23 [0.009]
Accuracy, mm [in]	Standard fingers: ±0.76 [±0.030] Extended fingers: ±1.07 [±0.042]	±0.76 [±0.030]	Standard fingers: ±0.76 [±0.030] Extended fingers: ±1.3 [±0.050]
Relative bearing accuracy, °	±5	±5	±5
Deviation accuracy at up to 70° deviation, °	±5	±5	±5
Depth of investigation	Casing inside surface	Casing inside surface	Casing inside surface
Borehole fluid limitations	None	None	None
Combinability	Real time: combinable with all PS Platform tools Memory mode: stand alone	Real time: combinable with all PS Platform tools Memory mode: stand alone	Real time: combinable with all PS Platform tools Memory mode: stand alone Bottom-only tool Extra centralizers required for casing larger than 9⅝ in
Special applications	H_2S service	H_2S service	H_2S service

Mechanical Specifications			
	PMIT-A	**PMIT-B**	**PMIT-C**
Temperature rating, degF [degC]	302 [150]	302 [150]	PMIT-CA: 302 [150] PMIT-CB: 350 [177]
Pressure rating, MPa [psi]	103 [15,000]	103 [15,000]	PMIT-CA: 103 [15,000] PMIT-CB: 138 [20,000]
Outside diameter, cm [in]	Standard or extended fingers: 4.29 [1.6875]	6.99 [2.75]	Standard fingers: 10.16 [4] Extended fingers: 13.97 [5.5]
Fingers	24	40	60
Fingertip radius, mm [in]	1.5 [0.06]	1.27 [0.05]	1.52 [0.06]
Finger width, mm [in]	1.6 [0.063]	1.6 [0.063]	1.6 [0.063]
Length, m [ft]	3.62 [11.88] (with centralizers)	2.70 [8.86]	3.15 [10.34]
Weight, kg [lbm]	26 [56.5] (with centralizers)	40 [87.4]	54 [120]
Max. tensile strength, N [lbf]	44,480 [10,000]	44,480 [10,000]	44,480 [10,000]
Max. compressive strength, N [lbf]	8,230 [1,850]	11,120 [2,500]	11,120 [2,500]

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