

# Multi-Finger Imaging Tool (MFIT)

## OVERVIEW

The Multi-Finger Imaging Tool (24/40/60 finger) has been designed to accurately measure the inner diameter of the casing and present the corrosion and scale deposition. The sensing section consists of 24/40/60 displacement sensors, which are uniformly distributed on the outer circumference, with each sensor able to measure the slightest variation in diameter. The tool also includes an inclination sensor and a rotation sensor.

The interpretation software is available for presenting the actual condition of the inner wall in a three-dimensional view, and the engineering data of casing are calculated and recorded.

## APPLICATIONS

- Corrosion assessment
- Deformation evaluation
- Perforation mapping
- Well construction determination
- Accurate location of holes or anomalies

## FEATURES

- Wide range of pipe sizes measurable
- Ease of finger replacement
- SRO/memory modes



## SPECIFICATIONS (MFIT-B series)

Parameters		Description	
Model		MFIT-BA	
Cable		Mono-conductor	
Max Working Temperature		175°C (350°F)	
Max Working Pressure		80MPa (11,600psi)	
OD		43 mm (1 11/16")	
Shipping Length		1430mm (56.30")	
Make-up Length		1335mm (52.56")	
Weight		Approx. 8.5 kg (18.89lbs)	
Operating Voltage		13VDC - 23VDC (Typical 18VDC)	
Operating Current		< 30mA	
Motor Working Current		< 300mA	
Motor Switch Time		< 10mins	
Logging Speed	Recommended	9.1m/min (30ft/min)	
	Max	18.3m/min (60ft/min)	
Measuring Range	Short Finger	50.8mm to 127mm (2" to 5")	
	Long Finger	127mm to 254 mm (5" to 10")	
Radial Measuring Accuracy	Short Finger	±0.76mm (0.03")	
	Long Finger	±0.76mm (0.03")	
Radial Measuring Resolution	Short Finger	0.076mm (0.003")	
	Long Finger	0.127mm (0.005")	
Orientation Measuring Accuracy		±5° (Inclination 5-100°)	
Inclination Measuring Accuracy		±5° (Inclination 5-60°)	
Circumferential Spacing between Fingers	Max	7": 23.1mm (0.91")	
	Min	1-3/4": 5.84mm (0.23")	
Fingertip Width		Typical 1.19mm (0.047")	
Fingertip Radius		Typical 0.99mm (0.039")	
Finger Contact Force		Max	0.34kg (0.75lbs)
		Min	0.56kg (1.25lbs)
Threads		WRDJ-GoA -1A	



## SPECIFICATIONS (MFIT-C series)

Parameters		Description	
Model		MFIT-CA	MFIT-CB
Cable		Mono-conductor	Mono-conductor
Max Working Temperature		175°C (350°F)	175°C (350°F)
Max Working Pressure		103MPa (15,000psi)	103MPa (15,000psi)
OD		73mm (2 7/8")	73mm (2 7/8")
Shipping Length		1574mm (61.97")	1629mm (64.13")
Make-up Length		1479mm (58.23")	1534mm (60.39")
Weight		Around 22kg (48.9lbs)	Around 25kg (55.13lbs)
Operating Voltage		13VDC - 23VDC (Typical 18VDC)	13VDC - 23VDC (Typical 18VDC)
Operating Current		< 30mA	< 30mA
Motoring Current		< 400mA	< 400mA
Motor Switch Time		< 10mins	< 10mins
Logging Speed	Recommended	9.1m/min (30ft/min)	9.1m/min (30ft/min)
	Max	18.2m/min (60ft/min)	18.2m/min (60ft/min)
Measuring Range	Short Fingers	73mm to 190.5mm (2.9" to 7 1/2")	73mm to 190.5mm (2.9" to 7 1/2")
	Long Fingers	(Not Applicable)	73mm to 244.5mm (2.9" to 9 5/8")
Radial Measurement Accuracy	Short Fingers	±0.76mm (0.03")	±0.76mm (0.03")
	Long Fingers	(Not Applicable)	1.27mm (0.05")
Radial Measurement Resolution	Short Fingers	0.076mm (0.003")	0.076mm (0.003")
	Long Fingers	(Not Applicable)	0.127mm (0.005")
Rotation Accuracy		±5° (Inclination 5-100°)	±5° (Inclination 5-100°)
Inclination Accuracy		±5° (Inclination 5-60°)	±5° (Inclination 5-60°)
Circumferential Spacing between Fingers	Max	7 1/2": 14.7mm (0.59")	9 5/8": 19.2mm (0.76")
	Min	2.9": 5.7mm (0.22")	2.9": 5.7mm (0.22")
Fingertip Width		Typical 1.4mm (0.055")	Typical 1.4mm (0.055")
Fingertip Radius		Typical 1.5mm (0.059")	Typical 1.5mm (0.059")
Finger Contact Force	Min	0.34kg (0.75lbs)	0.34kg (0.75lbs)
	Max	0.56kg (1.25lbs)	0.56kg (1.25lbs)
Threads		WRDJ-GoA-1A	WRDJ-GoA-1A

## SPECIFICATIONS (MFIT-E series)

Parameters		Description		
Model		MFIT-EA	MFIT-EB	MFIT-EC
Cable		Mono-Conductor	Mono-Conductor	Mono-Conductor
Max Working Temperature		175°C (350°F)		
Max Working Pressure		103MPa (15,000psi)		
OD		102mm (4")	102mm (4")	102mm (4")
Shipping Length		1632mm (64.25")	1780mm (70.08")	1632mm (64.25")
Make-up Length		1537mm (60.51")	1685mm (66.34")	1537mm (60.51")
Weight		Approx. 31kg (68.34lbs)	Approx. 40.8kg (89.96lbs)	Approx. 31kg (68.34lbs)
Working Voltage		13VDC - 23VDC (Typical)		
Working Current		38mA±3mA	< 30mA	38mA±3mA
Motor Working Current		< 400mA		
Motor Switch Time		< 10mins		
Logging Speed	Recommended	9.1m/min (30ft/min)		
	Max	18.3m/min (60ft/min)		
Measuring Range	Short Fingers	102mm to 254mm (4" to 10")		
	Long Fingers	(Not Applicable)	102mm to 355mm (4" to 14")	(Not Applicable)
Radial Measuring Accuracy	Short Fingers	±0.76mm (0.03")		
	Long Fingers	(Not Applicable)	1.27mm (0.05")	(Not Applicable)
Radial Measuring	Short Fingers	0.076mm (0.003")		
	Long Fingers	(Not Applicable)	0.127mm (0.005")	(Not Applicable)
Rotation Accuracy		±5° (Inclination 5-100°)		
Inclination Accuracy		±5° (Inclination 5-60°)		
Circumferential Spacing Between Fingers	Max	10": 13.3mm (0.52")	14": 18.6mm (0.73")	10": 13.3mm (0.52")
	Min	4": 5.3mm (0.21")	5.3mm (0.21")	4": 5.3mm (0.21")
Fingertip Width		Typical 1.4mm (0.055")	Typical 1.4mm (0.055")	Typical 1.63mm (0.064")
Fingertip Radius		Typical 1.52mm (0.06")	Typical 1.52mm (0.06")	Typical 1.52mm (0.06")
Finger Contact Force	Min	0.34kg (0.75lbs)		
	Max	0.56kg (1.25lbs)		
Threads		WRDJ-GoA-1A		

Note: MFIT-EC is distinguished from MFIT-EA in that ACC Accelerometer is built-in MFIT-EC.