

# ProMAC™ 24-Arm Caliper Tool

Measures internal diameter of pipe to quantify metal loss due to corrosion or erosion

## Applications

- Casing inspection
- Quantitative evaluation of metal loss, ovality, and buckling
- Time-lapse monitoring
- Leak detection

## Features and Benefits

- Fully Probe® high-speed digital (HD) telemetry platform compatible with fast telemetry
- Family of 24-, 40-, and 60-finger tools
- Combinable with other HD well integrity products
- Full surface read out (SRO) and memory capability

## Tool Description

The Weatherford ProMAC series 24-arm caliper tool incorporates mechanical, electrical, and electronic features that increase tool accuracy, reliability, maintainability, and overall cost efficiency.

## Specifications

### Ratings and Dimensions—Probe Telemetry (PTX) and HD

Maximum temperature	350°F (177°C)
Maximum pressure	15,000 psi (103.4 MPa)
Outside diameter	1.69 in. (43 mm)
Length	61.2 in. (1,554.5 m)
Weight	25 lb (11.4 kg)
Tensile strength	Connection: 15,000 lbf Body: 20,000 lbf
Measure points	Caliper: 27.7 in. (703.6 mm) from bottom of tool Inclination: 49.6 in. (1,260 mm) from bottom of tool
Materials	Corrosion resistant throughout



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## Specifications (continued)

### Hardware Characteristics

	PTX	HD
Sensor type	Inclinometer: 3-axis accelerometer Caliper: Differential variable reluctance transducer	
Combinability	All PTX tools: GR, CCL, iQ™, RADii®	All HD tools: GR, CCL, iQ™, RADii®, RAS™, PLT
Tool positioning	Centralized	
Acquisition mode	SRO only	SRO with telemetry control unit (TCU) Memory with memory logging tool (MLT)

### Electrical

	PTX	HD
Voltage	120 V DC	SRO: 50 V DC Mem: 19.2 V DC
Current	15 mA (log) 40 mA (opening)	SRO: 40 mA (log), 100 mA (opening) Mem: 104 mA (log), 260 mA (opening)

### Caliper Measurements

	PTX	HD
Sampling rate	10 samples/s	50 samples/s
Vertical resolution	0.3 in. (7.6 mm)	0.12 in. (3 mm)
Radial resolution	0.001 in. (0.025 mm)	
Logging speed	30 ft/min (9 m/min)	
Radial accuracy	+/- 0.02 in. (+/- 0.5 mm)	
Diameter range	1.75 to 7 in. (44.5 to 177.8 mm)	
Arm extension kit	PN: 035-MAC24-3KIT: up to 10.0 in. (254.0 mm)	
Primary output	24 independent Radii measurements	
Secondary output	Head voltage, internal temperature, accelerometer	



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## Specifications (continued)

### Accelerometer Measurements

	Inclination	Relative Berin
Range	0° to 180°	0° to 360°
Accuracy	+/- 1.0°	+/- 1.0°
Resolution	+/- 0.1°	+/- 0.1°

### Calibration

Primary / wellsite	Precision-machined calibration bowl
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