

X-Y Caliper Tool – Digital with Temperature Tool

Measures borehole size and provides two independent caliper curves simultaneously

Applications

- Internal-wellbore size measurement
- Casing and tubing evaluation
- Openhole-size measurement
- Defect detection such as scale build up, corrosion, or deformation
- Identification of completion items

Features and Benefits

- Accurate measurement of two independent wellbore diameters
- Applicable in open- or cased-hole environments

Tool Description

The Weatherford X-Y caliper tool measures the size of the borehole and provides two independent caliper curves simultaneously. Two sets of opposing arms, arranged in an X-Y configuration, measure borehole irregularities such as oval shapes, large washouts, or extreme restrictions more accurately than conventional 2- or 3-arm caliper tools. The tool may be used in either open- or cased-hole logging.

Specifications

Ratings and Dimensions

Outside diameter	3.5 in. (88.9 mm)
Length	70.08 in. (1,780.03 mm)
Weight	95 lb (43 kg)
Maximum temperature	350°F (177°C)
Maximum pressure	18,500 psi (127.5 MPa)
Casing/tubing OD	Min: 4.5 in. (115 mm) Max: 30 in. (762 mm)
Tensile strength	Tension: 12,500 lb Compression: 12,500 lb
Measure points	X: 16.1 in. (408.94 mm) Y: 15.1 in. (383.54 mm) Temperature: 7.9 in. (200.66 mm)



X-Y Caliper – Digital with Temperature Tool

Specifications

Borehole Conditions

Tool positioning	Centralized
Logging speed	Recommended: 30 ft (9.0 m)/min Max: 60 ft (318.2 m)/min

Hardware Characteristics

Sensor type	Linear motion resistive potentiometer
Transmission type	Digital telemetry
Data rate	20 frames per second
Combinability	GR, CCL, additional telemetry tools
Connections	Top: GO pin box Bottom: GO pin box

Electrical

Voltage/current	120 V DC at 40 mA
-----------------	-------------------

Calibration

Primary and wellsite	Calibration fixture 035-FH099-0070
----------------------	------------------------------------

Measurements

Principle	Mechanical actuation of linear motion potentiometers
Range	4.5 to 30 in. (115 to 762 mm) 4.5 to 58 in. (115.0 to 1,473.2 mm) with ext. kit
Vertical resolution	0.3 in. at 30.0 ft/min (7.6 mm at 9.0 m/min)
Accuracy	+/- 0.25 in. (+/- 6.4 mm)
Primary curves	Borehole size in X and Y axis
Secondary curves	Head voltage

