Multifinger Calipers

High resolution measurements

Multifinger calipers provide high resolution measurements of the internal surface of tubings and casings used to evaluate well performance or evaluate well integrity. Spring loaded caliper arms make contact with the inner surface of the wellbore and move independently to track any variation in downhole geometry. The radial position of each arm and its relative orientation in the well are digitised and recorded in order to create a complete 360° map of the wellbore profile that is sent to surface for playback or analysis.

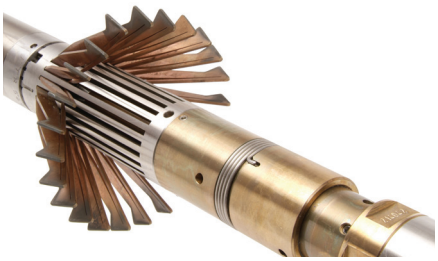
While running in hole the fingers of the caliper are stowed within the body of the tool and are motored open to make contact with the wellbore upon receiving a command from the user. Tools come in a range of sizes with an increasing number of fingers in order to provide optimal coverage and resolution across a range of tubular diameters. Calipers can be deployed in surface read out or memory configurations and can be combined with other well integrity or production log services in order to meet customer specific requirements.

Features
- High resolution measurements
- Wide measurement range
- Combination with other tools/services
- Memory or surface read-out configurations
- Corrosion resistant materials

Key benefits
- Precision measurements of tubular ID
- Each tool covers several pipe sizes
- Easy to operate and use
- Operates in wide range of well conditions

Typical applications
- Corrosion monitoring
- Drilling wear evaluation
- Deposition analysis
- Deformation monitoring
- Perforation mapping

24 Arm Caliper



Number of Fingers	24 Standard	24 Extended
Temperature Rating, degF [degC]	350 [177°C]	350 [177°C]
Pressure Rating, psi [MPa]	15,000 [103.4]	15,000 [103.4]
Tool Diameter, in [mm]	1 11/16 [43]	1 11/16 [43]
Tool Length, in [m]	64.6 [1.64]	64.6 [1.64]
Tool Weight, lb [kg]	20.7 [9.38]	20.7 [9.38]
Toolbus	Ultrawire	Ultrawire
Measurement Range, in [mm]	1.75 – 4.5 [45 – 114]	1.75 – 7 [45 – 178]
Accuracy, radial, in [mm]	± 0.02 [0.508]	± 0.02 [0.508]
Resolution, radial, in [mm]	0.002 [0.051]	0.003 [0.076]
Finger tip width, in [mm]	0.063 [1.60]	0.063 [1.60]
Finger contact force lbf [N]	0.75 – 1.25 [3.4 – 5.7]	0.75 – 1.25 [3.4 – 5.7]
Logging speed ft/min [m/min]	Recommended 30 [10] Maximum 60 [20]	Recommended 30 [10] Maximum 60 [20]
Materials	Corrosion resistant throughout	Corrosion resistant throughout

40 Arm Caliper

Number of Fingers	40 Standard	40 Extended
Temperature Rating, degF [degC]	350 [177°C]	350 [177°C]
Pressure Rating, psi [MPa]	20,000 [138]	20,000 [138]
Tool Diameter, in [mm]	2.75 [70]	2.75 [70]
Tool Length, in [m]	66 [1.68]	66 [1.68]
Tool Weight, lb [kg]	70 [31.75]	70 [31.75]
Toolbus	Ultrawire	Ultrawire
Measurement Range, in [mm]	2.75 – 7.0 [70 – 178]	2.75 – 10.0 [70 – 254]
Accuracy, radial, in [mm]	± 0.02 [0.51]	± 0.025 [0.64]
Resolution, radial, in [mm]	0.0015 [0.04]	0.0022 [0.06]
Finger tip width, in [mm]	0.064 [1.63]	0.064 [1.63]
Finger contact force lbf [N]	0.75 – 1.25 [3.4 – 5.7]	0.75 – 1.25 [3.4 – 5.7]
Logging speed ft/min [m/min]	Recommended 30 [10] Maximum 60 [20]	Recommended 30 [10] Maximum 60 [20]
Materials	Corrosion resistant throughout	Corrosion resistant throughout

Photos courtesy of GE Oil & Gas

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We are a global oilfield service company that specializes in drilling services and well services because we believe that specialists do the job best. More than 40 years' experience drives our difference in a constant search for new ways to deliver better wells. We listen to our customers and use our expertise to help them produce more oil and gas. We are craftsmen. We take great pride in our work and always deliver on our promises. **We are Archer, the well company.**

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