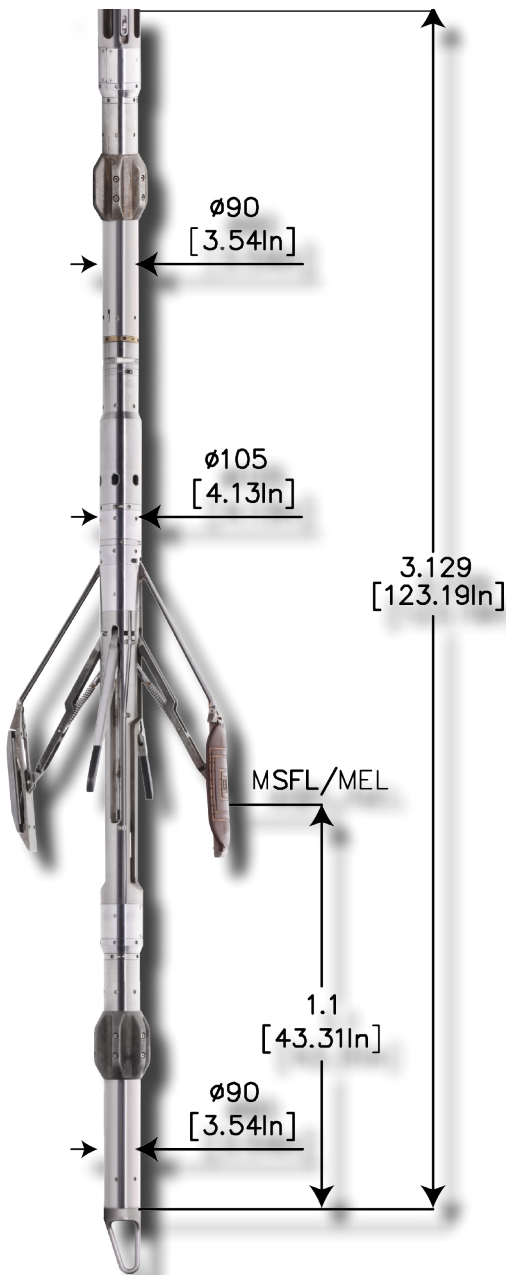


# Micro-Spherical Focused Log (MSFL)

GOWell's MSFL tool provides a measurement of the flushed zone resistivity ( $R_{xo}$ ) with single axis caliper, and/or dual axis caliper borehole diameter measurements. The  $R_{xo}$  measurement is used to calculate the flushed zone saturation, and correct other resistivity measurements to determine true formation resistivity ( $R_t$ ). The XY caliper and MSFL sondes may be run separately or combined.



## DESCRIPTION

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## APPLICATIONS

- Measures flushed zone resistivity
- Calculates flushed zone water saturation ( $S_{xo}$ )
- Indicates fluid mobility
- Estimates invasion profile (combined with other resistivity tools)
- Corrects deeper-reading resistivity devices for invasion effects
- Identifies thin laminations
- Calculates permeability and porosity

## FEATURES

- Combinable with other Gallop tools
- Measures voltages
- Reads  $R_{xo}$  resolution in thick mud cake conditions
- Provides qualitative measurement of permeability
- Combinable with 4 arm and 6 arm Caliper



**MSFL PAD**

# SPECIFICATIONS

## MSFL - Micro-Spherical Focused Log

### General Specs

Maximum Pressure	20,305 PSI (140 Mpa)
Maximum Temperature	350 °F (175°C)
Diameter	4.1 in. (10.4 cm)
Length	17.8 ft. (5.43 m)
Weight	380 lbs (172.37 kg)
Max. Logging Speed	43 ft/min (13.1 m/min)

### Borehole Conditions

Borehole Fluids	Water based muds
Tool Position	Pad Type
Caliper Voltage	100-150 V DC
Caliper Current	150-500 mA
Caliper Output	500-900 mV (0-1000 CPS)

### Hardware Features

Voltage	220 Vac, 50 Hz
Current	120 mA
Auxiliary Voltage	110 Vdc on motor (100 Vac at cable head)
Auxiliary Current	700 mA
Sampling Rate	10, 20, 40 samples/m selectable

### Measurement

Principle	Focused Current Injection
Minimum	MSF: 0.2 Ohmm
Maximum	MSF: 2000 Ohmm
Vertical Resolution	3 in. (765 cm)
Depth of Investigation	MSF: 1-4 in. (2.5 - 10.1 cm)
Accuracy	MSF: 0.2 Ohmm ~2 Ohmm (±10 %)
Primary Curves	Rxo

\*Specifications are subject to change as tools are constantly being improved