

Array

Production Logging

High resolution measurements



Array production logging tools provide high resolution measurements of the fluid compositions and flow rates at targeted locations around the circumference of the wellbore that are used to provide an enhanced evaluation of well performance in segregated flow regimes.

The addition of the array sensors to a production logging toolstring builds on the ability to identify fluid types, volumes and rates of production where separation of the fluid phases has occurred. Each of these measurements is digitised and recorded in order to create a comprehensive 3D profile of the wellbore environment.

The combination of sensors and their configuration may be tailored to resolve two-phase or three-phase flow regimes and for varying degrees of water cut. Tools come in a range of sizes to provide optimal resolution across a range of flow rates and tubular diameters. Production logging tools can be deployed in surface read out or memory configurations and can be combined with integrity or other diagnostic services to meet customer specific requirements.

Array Production Logging

Specifications

	Capacitance	Resistance	Flow
Temperature Rating, degF [degC]	350 [177°C]	350 [177°C]	350 [177°C]
Pressure Rating, psi [MPa]	15,000 [103.4]	15,000 [103.4]	15,000 [103.4]
Tool Diameter, in [mm]	1 11/16 [43]	1 11/16 [43]	1 11/16 [43]
Tool Length, in [m]	51.4 [1.306]	51.4 [1.306]	45.5 [1.156]
Tool Weight, lb [kg]	17.3 [8.1]	18.0 [8.2]	17.2 [7.8]
Toolbus	Ultrawire	Ultrawire	Ultrawire
Maximum opening	Up to 7 in casing	Up to 7 in casing	Up to 7 in casing
Number of sensors	12	12	6
Sensor measure point	18.2 [462]	15.7 [398.8]	16.5 [419]
Relative bearing accuracy, deg	5	5	5
Relative bearing dev range, deg	5 to 175	5 to 175	5 to 175
Materials	Corrosion resistant throughout	Corrosion resistant throughout	Corrosion resistant throughout

Photos courtesy of GE Oil & Gas



Features

- Multiple array of sensors
- High resolution measurements
- Fast response and low threshold sensors
- Combination with other tools/services
- Memory or surface read-out configurations
- Corrosion resistant materials

Key benefits

- Full wellbore coverage
- Targeted measurements of fluid properties and velocities
- High resolution measurements
- Fast response and low threshold sensors
- Combination with other tools/services
- Memory or surface read-out configurations
- Corrosion resistant materials

Typical applications

- Production profiling in high deviation wells and/or segregated flow regimes
- Zonal contribution evaluation
- Stimulation performance evaluation
- Water break-through identification