

Resistance Array Tool (RAT)



TECHNICAL INFORMATION:

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|-------------------------------|--------------------------|
| • Pressure rating | 1035 bar /
15 000 psi |
| • Temperature rating | 177°C /
350°F |
| • Make up Length | 1.306m /
51.43" |
| • Weight | 8.2 kg /
18 lbs |
| • Tool body diameter | 1 11/16" |
| • Maximum Pipe Size | 7" casing |
| • Relative bearing accuracy | 5 deg. |
| • Relative bearing dev. Range | 5- 175 Deg. |
| • Number of sensors | 12 |

APPLICATIONS:

- Cross- sectional water hold- up profiling
- 3D imaging of water hold- up profile with MAPview software
- Water hold- up in any fluid regime in vertical to horizontal wells
- Combinable with other tools of the multiple array product suite via rotational alignment subs.
- Memory and/or surface read out available
- Orientation Sensor indicates which sensor is "up"
- Ultrawire models provide simultaneous operation with other Sondex Ultrawire™ tools

COMMENTS:

Phase segregation occurs in many wells, including those with little deviation from vertical; the lighter phases migrate to the high side of the well, the heavier phases to the low side. The Resistance Array Tool differentiates between conductive water and hydrocarbons which are non- conductive, and will detect very small, fast moving bubbles. This allows determination of the water hold- up cross- sectional profile in well bores of any deviation from vertical to horizontal and in any flow regime. Combined with data from the Spinner Array Tool (SAT) and Capacitance Array Tool (CAT), the tool allows quantitative estimations of volumetric flow rate for each phase with a much higher degree of certainty and thus provides vital and more precise information for reservoir management.