

## FUSION ARRAY TOOL

The FUSION Array Tool consists of 6 self-centralized rigid arms covering the entire cross-section of the wellbore. Each arm includes capacitance, temperature and TFT sensors along with miniature impeller.

Additionally, the tool is equipped with an accelerometer for sensors positioning and a caliper for arms opening confirmation.

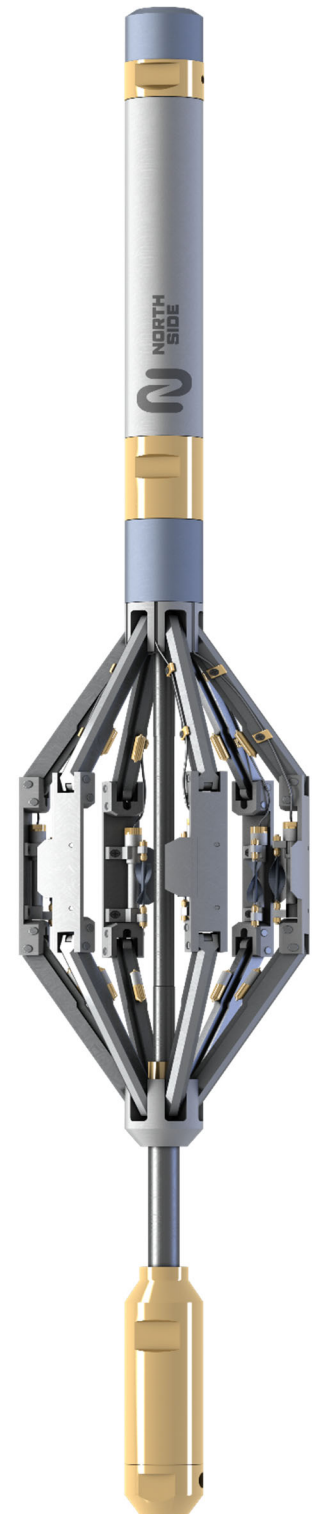
The tool is independently programmable for the duration of logging and fully compatible with other North Side PL tools and modules.

### Applications

- Highly deviated or horizontal trajectories with segregated flow regimes
- Cross-sectional water hold-up profile determination
- Reservoir-related production profile evaluation based on distributed HRT sensors and T-FLOW temperature modeling
- Wellbore-related production profile evaluation based on distributed Spinner and TFT sensors

### Advantages

- The circumferential distribution of sensors allows obtaining the data across the 360° of the wellbore
- Advanced rigidity of the tool due to the titanium shaft pulled through the tool and thick arms
- Combined capacitance, HRT (temperature), TFT, and spinner in one tool allows shorter string and complex data acquisition
- Double confirmation of the wellbore flow by TFT sensors in case of spinners failure
- Build-in accelerometer



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<b>Capacitance Array (6 sensors)</b>	
Water cut	0-100%
Accuracy	±0.1%
<b>High-Resolution Temperature Array (6 sensors)</b>	
Accuracy	0.1°C
Resolution	0.001°C
Response time	0.25 sec
Sensor type	Platinum / Exposed
<b>Thermal Flow Array (6 sensors)</b>	
Accuracy	0.1°C
Resolution	0.003°C
Response time	0.25 sec
Min detectable fluid velocity	1.4 ft/min (0.4 m/min)
Max detectable fluid velocity	96 ft/min (30 m/min)
<b>Spinner Array (6 sensors)</b>	
Accuracy	0.1 ft/min (0.03 m/min)
Min detectable fluid velocity	1.0 ft/min (0.3 m/min)
Max detectable fluid velocity	298 ft/min (91 m/min)
<b>Build-in Positioning Module (accelerometer)</b>	
Axial rotation sensor	0-360°
Angle of inclination sensor	0-90°
Build-In Caliper	Yes
<b>General Specifications</b>	
Maximum operating pressure	14,500 PSI (100 MPa)
Maximum operating temperature	150°C (302°F)
Arms opening range	1.7-5.8 in
Tool length	6.6 ft (2.0 m)
Tool OD	1.65 in (42.0 mm)
Tool weight	33.0 lbs (15.0 kg)
Connections	15/16 SR
Surface read-out / Memory	Fully autonomous (memory mode)
Operational time	Over 100 hrs
H <sub>2</sub> S resistance	6% standard (25% optional)

# FUSION ARRAY TOOL



FUSION is an ultimate solution for reliable production profile evaluation in horizontal wells with segregated flow capturing the wellbore flow intervals and entry points by Spinner and TFT array sensors as well as the reservoir flow intervals and flow behind the casing by HRT array sensors with further T-FLOW temperature modeling.

