

In-line Spinner flowmeter (ILS)

A compact flowmeter that can be run in combination with other PL tools

Application

- Measure flow rate in tubing, casing, and open holes
- Flow measurement inside sand screens/slotted liners
- Detect production loss due to crossflow or thief zones
- Locate packer and plug leaks
- Identify lost-circulation zones in open holes
- Detect tubing leaks

Features

- Additional spinner measurement in high deviation/horizontal wells
- Combinable with other Baker Hughes **Ultrawire™ production logging tools**
- Surface readout or memory operation
- High temperature polymer spinner blade
- 1¹¹/₁₆ in. tool body available with 1¹¹/₁₆ in. or 2¹/₈ in. spinner shroud

The Baker Hughes **In-Line Spinner flowmeter** is a compact flowmeter that can be run in combination with other PL tools. The tool may be used in areas where fullbore spinners can be closed due to restricted diameters.

The ILS allows for production profiling in tubing and casing within one logging run and is less susceptible to the effects of jetting (high velocity fluid entry from perforations) than a fullbore spinner. The ILS has a shroud that protects the spinner blade as the tool moves through well restrictions.

A combination of ILS and CFB provides a continuous optimised flow profile.

Precision roller bearings allow the spinner to rotate with minimal friction. As fluid moves past, the spinner rotation is detected by zero drag Hall-effect sensors. The spinner blade has been optimised to have a very low mechanical threshold and is ideal for low flow rates. The signal from the Hall-effect sensors is converted into a flow rate measurement with direction indication (up or down flow).



Specifications

	ILS021	ILS022
Temperature rating	350°F (177°C)	
Pressure rating	15,000 psi (103.4 MPa)	
Tool diameter	1 ¹¹ / ₁₆ in. (43 mm)	2 ¹ / ₈ in. (54 mm)
Tool length	17.3 in. (439 mm)	
Tool weight	6.5 lb (3 kg)	6.8 lb (3.1 kg)
Toolbus	Ultrawire production logging tool	
Current consumption	10 mA	
Sensor measure point protective shield weight	4.3 in. (110 mm)	
Maximum fluid velocity	3000 ft/min (15 m/s)	
Spinner threshold	12 ft/min (0.06 m/s)	
Minimum restriction	1 ¹³ / ₁₆ in. (46 mm)	2 ¹ / ₄ in. (57 mm)
Output	10 pulses/rev	
Materials	Corrosion resistant throughout	