

Caged Fullbore Flowmeter (3 arm CFBM)

Accurately measures downhole flow rates

Application

- Find production loss due to crossflow or thief zones
- Locate packer and plug leaks
- Identify lost-circulation zones in open holes
- Detect points of increased production due to well treatment
- Injection and production flow profiling

Features

- Measurement of low flow rates
- Interchangeable mechanical sections to match casing size from 4½ to 9⅝ in.
- Combinable with other Baker Hughes **Ultrawire™ production logging tools**
- Connects to either a **Flowmeter Electronics (CFBE)** or a **Capacitance/Temperature/Flow tool (CTF)**
- Modification kit available for connection to 1⅜ in. CTF
- Lockable spinner for high rate injection wells (standard feature for 9⅝ in. tools)
- Solid impeller shafts for very high rate wells

The Baker Hughes **Caged Fullbore Flowmeter** is run at the bottom of the production logging tool string. A large diameter impeller accurately measures downhole flow rates with coverage over a large cross-section of the casing.

The tool has a three arm, spring-loaded cage that centers the spinner in the middle of the flow and supports tool weight in

deviated wells. The spinner runs on precision bearings, its rotation is sensed by zero drag Hall effect detectors, allowing the measurement of very low flow rates. Normal output is 10 pulses per revolution with directional indication. The spinner and cage assembly collapse down to tool diameter when running through tubing restrictions to prevent damaging the blades.



Specifications

Temperature rating	350°F (177°C)
Pressure rating	15,000 psi (103.4 MPa)
Tool diameter	1⅞ in. (43 mm), 1⅜ in. (35 mm)
Tool length	2.91 ft (0.89 m)
Tool weight (dependant on spinner and cage sizes)	10 lb (4.5 kg) for 1⅞ in. tool with 7 in. cage
Sensor measure point (from bottom of the tool)	13.5 in. (349 mm)
Output	10 pulses/rev (directional)
Spinner threshold	1.7 ft/min (0.01 m/s) (approx), 100 bpd in 7-in. casing
Maximum fluid velocity	500 ft/min (2.54 m/s), 28,250 bpd in 7-in. casing
Casing range	4½ in. to 9⅝ in.
Materials	Corrosion resistant throughout