

Fluid Density Inertial (FDI)

Using inertial response characteristics to determine the density of the wellbore fluid mixture

Application

- Production profiling
- Identify borehole levels in static and flowing conditions
- Locate product levels in storage wells

Features

- Fluid identification
- Works in horizontal and highly deviated wells
- Suitable for wells with high flow rates
- Fully compatible with all Baker Hughes **Ultrawire™ production logging tools**
- Surface readout or memory operation
- Non-radioactive
- Shorter length ideal for offshore operations

The Baker Hughes **Fluid Density Inertial (FDI) tool** uses the inertial response characteristics of a vibrating tuning fork to determine the density of the wellbore fluid mixture.

The FDI tool is a non-radioactive method of determining density that is unaffected by well deviation. The sensor comprises a stainless steel tuning fork that

is vibrated near its natural frequency of operation by a piezoceramic stack and control electronics in the upper section of the tool. The frequency and amplitude of vibration are used to determine the actual density of the fluid surrounding the fork. Optimum quantitative results will be achieved in liquid-liquid mixtures or in pure gas.



Specifications

| | |
|--------------------------|---------------------------------------------|
| Temperature rating | 350°F (177°C) |
| Pressure rating | 15,000 psi (103.4 MPa) |
| Tool diameter | 1 ¹¹ / ₁₆ in. (43 mm) |
| Tool length | 20.55 in. (522 mm) |
| Tool weight | 7.94 lb (3.6 kg) |
| Toolbus | Ultrawire production logging tool |
| Current consumption | @18 V dc = 35 mA |
| Max. current consumption | 50 mA |
| Resolution | 0.01 g/cc |
| Accuracy | 0.03 g/cc |
| Measurement range | 0 to 1.25 g/cc |
| Fluid viscosity range | 1 to 50 cS |
| Materials | Corrosion resistant throughout |