

High Pressure / High Temperature pH Measurement

PMAC provide a comprehensive range of purpose built equipment and instrumentation for field-testing and measurement of oilfield chemistry issues. Having the ability to preempt or evaluate ever-changing production scenarios is important in supporting a quality flow assurance system within any Integrity Management Programme. PMAC instrumentation and know-how allows for sound proactive decision-making based on good test results.



pH Measurement

In situ reservoir and produced water pH is critical to the behaviour of wet oil and gas, influencing scaling tendency, corrosivity and emulsion formation. Although a number of predictive models are available, these are limited in accuracy and assume steady state single-phase conditions. In order to accurately define pH PMAC offer our high pressure pH cell, operating currently to 2000 psi at 170°C which can measure pH under static or dynamic conditions, flash pressure reduction to simulate tubing flow and under multiphase operation.

Transferring our experience from our laboratory instrumentation to Field applications PMAC provide high quality, easy to operate systems have been proved to be invaluable to oilfield operations and managers. Although primarily a laboratory instrument a more rugged 500 psi version is also available as a side stream unit to measure process system brine properties.

Measurement of live fluid pH brings the following advantages to field modelling and process design:

- accurate pH input to corrosion calculations and measurement of corrosion rate in test equipment
- accurate pH input to scale formation calculations and inhibitor selection
- capability to examine buffer effects of crude phase, gases and bubble point hysteresis effects on pH change during production.

**PMAC
Systems**

**Flow Assurance
Specialists**

**Products and
Services for
Corrosion &
Erosion Integrity
and Monitoring**

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