

# Field Corrosion Monitoring Sidestreams

PMAC provide a comprehensive range of purpose built equipment and instrumentation for field-testing and measurement of oilfield chemistry issues. Having the ability to pre-empt 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. Although inline analysers and probes are an ideal source of sand and corrosion monitoring (where they are available), no such single tool is ready for either scale, wax or asphaltene control. These are therefore high risk / high cost prevention areas.



PMAC provide a range of sidestream systems that are small enough to be portable, yet robust enough for the rigors of oilfield environments. These can be simple "stand-alone" systems or included in a multi-functional sidestream. Whether evaluation of corrosion, scale, wax or asphaltene potentials; to chemical inhibitor evaluation and optimisation; to SAG testing of drilling mud's PMAC can provide you with the appropriate capabilities based on sound industry practices and in-house expertise. 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.

**The Field Corrosion Sidestream** is designed for dynamic measurement of corrosion rates under flowing conditions, in the absence of online facilities. The standard systems typically operate at pressures of either 100 or 400 bar although a low-pressure system is available in polycarbonate. The HP systems are typically manufactured in a stainless steel frame or carrying case incorporating between 2-4 test cells, a flow indicator and integral system control valves. Cells are machined to accept either ½ or ¾" NPT probes. Optional chemical dosing pump can be fitted to allow for Field evaluation of inhibitors. Corrosion monitoring is via a portable logger, the choice is up to the user: e.g. ACM Instruments LPR, Pocket Instrument and LPR probes, Cormon LPR or ER probes and logger ( or a combination). The sidestream is ideal for determination/ measurement of corrosion rates, the evaluation of the efficiency of corrosion inhibitors in the field or process plant where intrusive equipment cannot be installed.

## PMAC Systems

Flow Assurance  
Specialists

Products and  
Services for  
Corrosion &  
Erosion Integrity  
and Monitoring

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## COMBINED FIELD CORROSION SIDESTREAM FOR DYNAMIC EVALUATION OF CORROSION INHIBITOR

The Combined Field Corrosion Sidestream and chemical injection system is designed for testing corrosion inhibitors under flowing conditions. The system can operate at pressures up to 1500 psi . Higher Pressure versions are available on request. The Combined Field Corrosion Sidestream system consists of a stainless steel case incorporating three corrosion cells, a flow meter and integral system control valves and a Williams™ pump for chemical dosing. Built into a transport box for easy handling.

### Chemical Injection

A high pressure low flow air driven WILLIAMS™ chemical pump is used to inject inhibitor into the system to permit treated and untreated fluids to be monitored. The inlet flow is controlled using a needle valve and the outlet pressure is adjusted by a further needle valve in conjunction with a 0-1000 psi pressure gauge

### Corrosion Monitoring

A portable logger such as the ACM Instruments LPR monitor (Pocket Machine™) or Cormon LPR/ER or EN probe monitor from Integriti Solutions can be used with this sidestream to evaluate protection against pitting. Alternatively probes can be wired for other monitors if required.

### Applications

For the evaluation of Corrosion Inhibitors in the field or process plant. The measurement of corrosion rates where intrusive equipment cannot be installed.

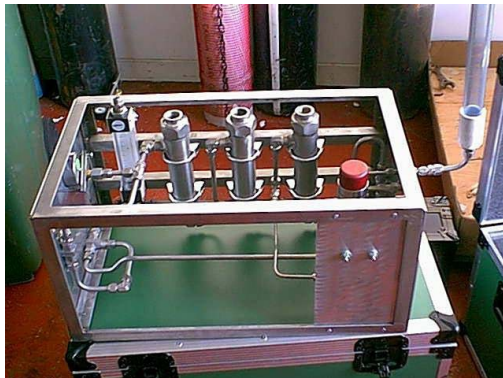
### Description

- Combined corrosion sidestream chemical Injection system, for dynamic evaluation of corrosion inhibitor in the field, at pressure.
- Transit Case. (1) 67x42x42 cm. (Systems can be designed with only two cells for monitoring purposes if required) Containing combined cells & chemical injection system in a stainless steel frame.
- Cells (High Pressure). Machined from solid stainless steel bar stock to accept ¾" NPT two-electrode LPR probes. Three cells are provided for EN measurement, one upstream cell to test uninhibited brines and two downstream cells to test inhibited brine.
- Chemical Injection System. The inhibitor is injected before the downstream pair of cells using a chemical pump into a mixing TEE. The flowrate is monitored using a 0 to 20 litre per minute GAP type flow meter at the outlet from the unit.
- Pump: Williams™ CP125V125B-TG, Flow Rate .0015-.275 litres/ hour. Max. Temp. 82°C (electric pump options are available if required)
- Electrochemical Monitoring System. ACM Instruments LPR , Pocket Instrument and LPR probes, Supplied with 100 Spare electrodes. Electronic Noise probes available as an optional extra.
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### The PMAC Multi-tasking Sidestream

Utilises multiple flow through cells in series, allowing for the user to monitor for corrosion rates (LPR and or ER) in addition to Biocide efficacy; PMAC have also adapted this sidestream to offer mini-weight-loss corrosion coupons, offering longitudinal studies in parallel with the Biocide monitoring. The PMAC Multi-tasking Sidestream is a cost effective technique enabling greater Process Measurement And Control in a single system; when fitted with injection ports allows for chemical optimisation (MIC) trials.

**Please contact us with your specifications as various combinations of material, pressure rating, number of coupons and combinations of task are available.**



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