EMOS® CELL PERFORMANCE ANALYZER
ON DEMAND

FEATURES

On-demand analysis of precise KPI for each cell (CE, SPC, k, Uo)

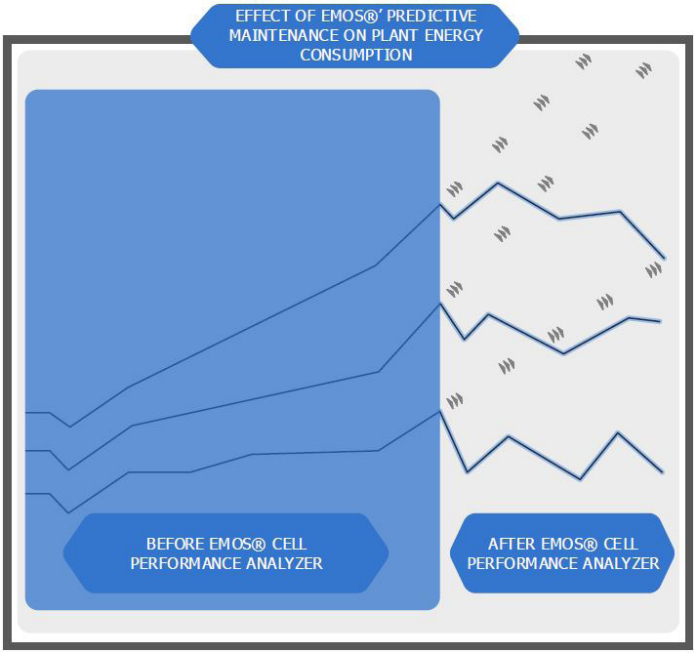
Precise characterization of each cell component: anode, cathode and membrane

BENEFITS

Save energy and maintenance costs

Receive timely analysis as needed

Stops the aging of the plant



OVERVIEW

CPA On-Demand offers a flexible, efficient, and cost-effective way to access the powerful capabilities of the EMOS Cell Performance Analyzer. This service eliminates the need for software installation at your facility, providing instant access to performance analysis and insights on an as-needed basis.

Presently, most producers are conducting two (2) types of maintenance strategies:

1. Component replacement campaigns based on the life-time warranty of their components or when the overall performance of their electrolyzers has greatly deteriorated. This demands a large amount of capital expenditure and a long shutdown period to conduct the maintenance activity.
2. Breakdown maintenance when operating a cell to failure. This is costly due to sudden and unplanned shutdown, loss of production and costs associated with consequential damages. At the core of the **EMOS® Predictive Maintenance Package**, the **EMOS® Cell Performance Analyzer** consists of determining highly precise KPI's for each cell: Current Efficiency (CE), Uo, k Value and the Specific Power Consumption. This provides the precise performance and operating costs of each single element which is key to be able to switch to a performance-based predictive maintenance strategy.

The decision to replace components can be reliably guided by the principal that if the cost of operating a cell exceeds the cost of replacing it, it should be replaced at the next scheduled shutdown. Scheduled replacement of degraded components greatly reduces the frequency (change occurrence to frequency) of unplanned shutdowns and production loss due to sudden element failure.

On the other hand, keeping over-performing elements in operation, translates to savings in component replacement. This performance-based Predictive Maintenance Strategy has proven effective in slowing the aging of the plant in terms of Specific Power Consumption, reducing energy costs, increasing throughput, extending the life of components and lowering the number of unplanned shutdowns.

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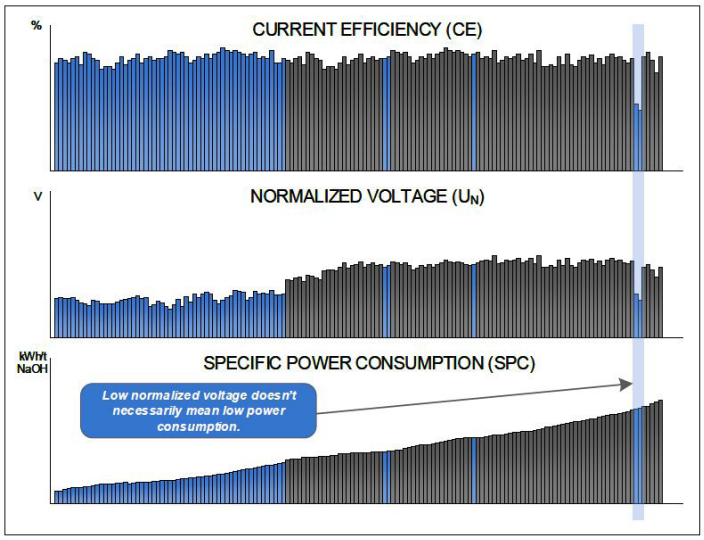
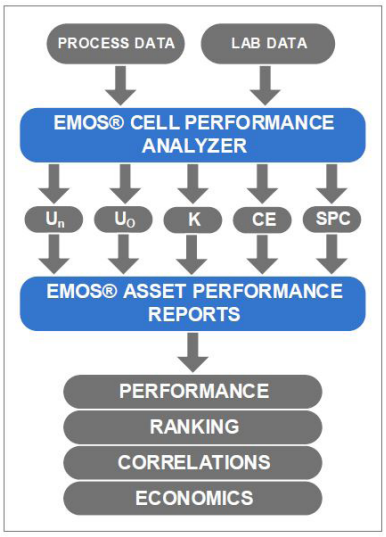
EMOS® CELL PERFORMANCE ANALYZER



EMOS® Asset Performance Report



EMOS® Cell Performance Analyser Inputs/Outputs

TECHNICAL SPECIFICATIONS

Accuracy of the Analysis	
Individual Cell U_0	±2.5mV
Individual Cell U_n	±2.5mV
Individual K-Factor	±0.001 Vm^2/kA
Current Efficiency (CE) of each membrane	±0.25%
Specific Power Consumption (SPC) of each membrane	±0.5%

REQUIREMENTS

Process Data	Laboratory Data
Historical process data is required for building the EMOS® Cell Performance Analyzer Engine. Contact us for the complete list.	A list of lab analyses must be supplied for our specialists to complete the EMOS® Cell Performance Analysis.

ORDERING INFORMATION

Part Number	Description
EN505	EMOS® Cell Performance Analyser Initial Setup, Test and Validation
EN507	EMOS® Cell Performance Analyzer on Demand Service

RELATED PRODUCTS

Part Number	Description
SWPER	EMOS® Asset Performance Reports
SW310	EMOS® Asset Management Database

ADDITIONAL INFORMATION

EMOS® Cell Performance Analyzer on Demand *is part of R2's Electrolyzer Maintenance, Optimization and Safety System. Contact us for more information.* ***EMOS® Asset Performance Reports*** *will be installed at no charge with the purchase of 3 or more* ***EMOS® Cell Performance Analyzer on Demand*** *reports.*

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