

# ProEye® CA Wet End Charge Analyzer

## Streaming Current Technology for Paper Machine Control

The Wet End Charge Analyzer gives the ability to optimize wet-end chemistry and control anionic trash. The Charge Analyzer is used as well to quantify the effect of various additives on system charge, providing a useful tool for assessing and improving process efficiency.

Manufactured for easy maintenance and excellent reliability, the online Wet End Charge analyzer is the most proven technology available in this field. The analyzer is suitable for process control as well as an information source. Also, no chemicals are needed for measurement and all the materials have been specially chosen for corrosion resistance.

### The Reliable Tool for Full Control

In many paper and pulp mills, the Wet End Charge Analyzer has proven to be a solid tool for controlling both the process and the chemicals at the paper machines. The Analyzer can be used at various measurement points in the stock prep and wet end that help papermakers analyze the sources for anionic trash. The most typical installations in paper mills have been in the short circulation loop of the paper machine or in the wire pit.

Several wet-end measurements have been successfully used to help optimize additive usage and resolve problems such as deposits or poor runnability. However, few methods exist for monitoring the performance and effectiveness of total wet end conditions and how the condition affects the runnability and number of breaks on the machine.

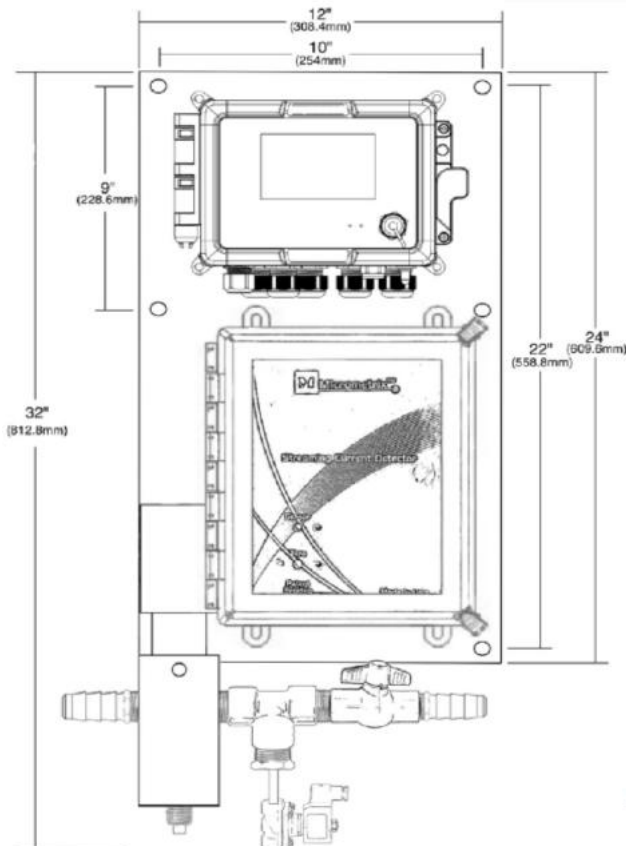
Minimal variability of the furnish charge (in the white water) is a critical factor to maximize the runnability and produce the best quality paper on any kind of machine. The stability of a paper machine electrochemistry strongly affects machine drainage, retention, and machine draws. Moreover, the wet end of the machine can be easily upset with increased water system closure and the use of recycled furnish.



# ProEye® CA Online Charge Measurement for Papermaking

**Wet end charge** measurement has been successfully used in many paper mill applications to help optimize additive usage and resolve problems such as deposits or poor runnability. There are many methods in existence for measuring the physical properties of the papermaking furnish which influence machine efficiency. Among these are drainage, retention, formation, wet strength, and others. However, very few methods exist for monitoring the performance and effectiveness of additives used to control these properties. A practical and economical method has been developed for online Wet End Charge Analysis.

The control of cationic materials in the wet end of papermaking has long been a concern. For several years, the work of investigators have been reported in the potential use of streaming current charge measurement devices. The online Charge Analyzer utilizes a flow through measurement cell, along with the "streaming current" technique of charge analysis, for a reliable method of measuring process charge and determining cationic demand. Even though streaming current theory is complex and not completely understood, the results can be interpreted in a qualitative sense. The online Charge Analyzer can measure the capacity of a pulp sample to adsorb cationic materials such as those used to give wet strength or optimize retention. The strength of the treated paper increases with greater adsorption of the cationic material on the pulp. The increased strength is directly proportional to the cationic material concentration until the neutral charge point is reached. Other reasons for optimizing control of cationic materials include improving runnability, achieving proper drainage and formation .



Measurement	Streaming Current
Power	110 VAC / 230VAC
Range	-1000 to +1000 mV
Accuracy	0.1%
Display Type	Color Touchscreen
Flow Rate	1~ 4 Liters/Min (Standard) or 1~ 10 GPM (Optional)
Connection	Type 3/4" Barb Inlet 1" Barb Outlet
Response Time	1 Second
Self-Diagnostic	Sensor LED
Probe Materials	Delrin, 316 SS, PTFE
Outputs	4~20mA
Communication	Modbus (Optional)
Alarms	High , Low , Fault Alarm
Zero Adjust	Full Range
Enclosure	NEMA 4x, IP 65
Mounting Holes	22.0" x 10.00"
Weight	29 lbs , 13 kg