# Wet End Monitoring and Control

Fiber, Ash Retention and Charge Control in the Wet End

Paper Machine wet end performance is important to create the best board, tissue and paper-making conditions. Controlling wet end stability is becoming more difficult as the number and complexity of chemicals in the wet end increases. Conmark's Wet End Analyzer includes Retention and Charge measurements with controls that can help bring the wet end under complete control. Conmark's wet end analyzer helps to create the best conditions *for stabilizing consistencies, ash content, charge and chemical balance*. Using the benefits of our proven analyzer produces improvements in quality, runnability and overall efficiency. Automatic charge control will stabilize wet end retention and provide online cationic/anionic charge measurement.

Retention measurement for fibers and ash is a well known technology that utilizes multi-wavelength LED technology to measure ash and fiber consistencies in the headbox and wire pit. Combining this optical technology with streaming current measurement techniques of the charge analysis, for reliable methods of measuring process charge and determining cationic demand. This wet end charge measurement has been successfully used in many paper mill applications to help optimize additive usage and resolve runnability problems.

Consistency Control | Retention Control | Charge Control

Wire Pit
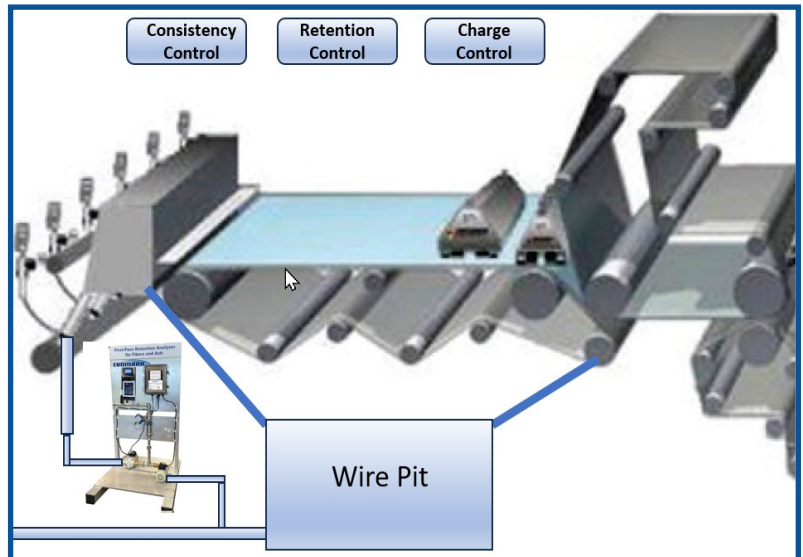
Retention Control Can Yield

Stable running condition = Productivity and constant Sheet Properties.

Important benchmarks to manage and control Retention:

- Stable stock consistency
- Stable cationic demand

Cationic Demand

Conmark's Online Cationic Demand determination will help identify the effectiveness of additives used to improve Wet Strength and optimize Retention.

Controls:

Lower basis weights and use of cheaper raw materials is a growing trend in paper making. To improve production paper machine speeds have been increased. Retention control is critical to papermaking. First-pass retention (Retention) is the measure of the amount of solids remaining in the paper sheet when compared to the amount leaving the headbox. Retention is considered the best indicator of the runnability of the paper making process.

The ProEye 100 Retention Analyzer provides a real-time retention measurement for Fiber and Ash. The addition of a Charge Analyzer makes automatic control of the Wet End simpler. Paper machine performance is improved dramatically.

The Wet End Charge Analyzer provides a tool to optimize wet-end chemistry and control anionic trash. The Charge Analyzer helps quantify the effect of various additives on system charge and is a useful tool for assessing and improving process efficiency.

Manufactured to require low maintenance and produce excellent reliability, the online Wet End Charge analyzer is well known technology for this measurement. The analyzer is used in process control as well as information source. Also, no chemicals are needed for measurement and all the materials are 316SS.

Basic Features:

- **Fiber Consistency 0-2%**
- **Ash Consistency 0-1%**
- **Continuous Measurement**
- **Two sample pumps**
- **All hardware included on the skid**
- **Charge range –1000 to +1000 mV**
- **Two 4-20mA Outputs for Retention**
- **One 4-20mA Output for Charge**