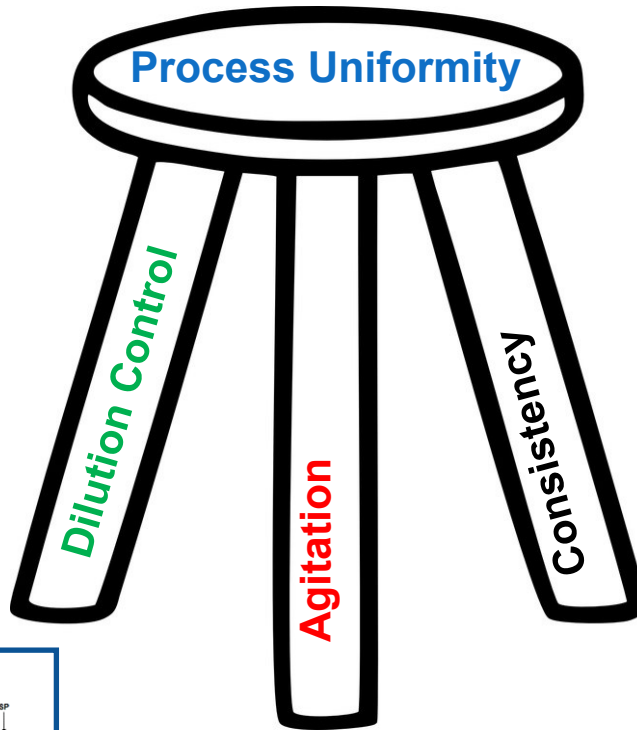


VARIABILITY REDUCTION IN P&P PROCESSES

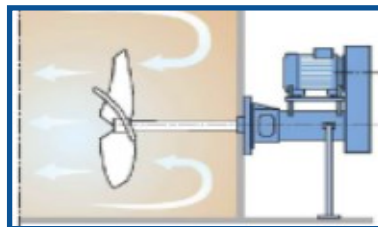
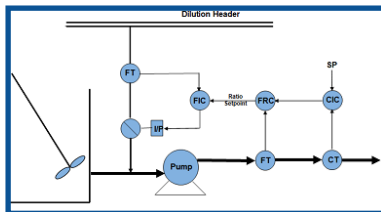
CONMARK

Three Leg Stool for Variability Reduction

The “three-legged stool” is an old phrase that many industrial planners once used to describe the three most common sources of variability in P&P Industry processes.



A three-legged stool is a wonder of physics and is the reason for balance in variability reduction. You have to have all legs used to meet best Process Uniformity.



Dilution Control

With Ratio Control, which eliminates the effect of line pressure swings, flow variability and time lag changes and can be easily implemented.

Agitation

Bad Agitation is the major source of variability in current Pulp and Paper Processes and with Conmark Agitators it can be drastically improved.

Cs Analyzer

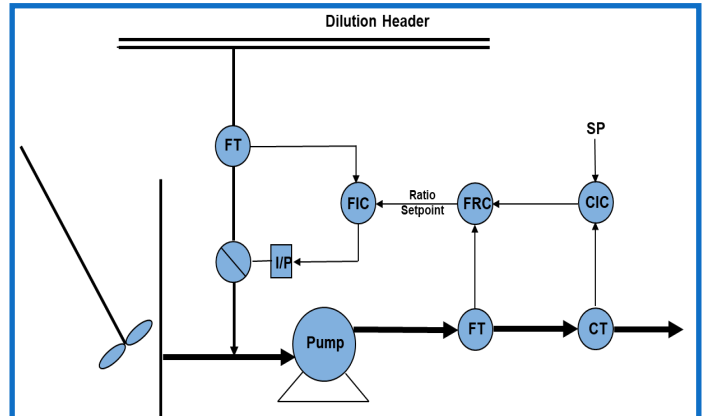
The Pro-Eye 100 can provide an accurate and reliable consistency measurement without need for regular maintenance.

Variability Reduction

A Pulp and Paper process is very complicated process impacted by numerous process parameters in the effort to manufacture a quality products with the minimal cost. To produce high quality product and lower the overall daily cost, pulp and paper mills need to increase their effort in Variability Reduction.

Conmark Systems has worked several years with paper mill customers to develop advanced means of finding root causes for process events and upsets utilizing the mill's existing industrial databases and advanced visual information tools. These advanced technologies help mill personnel reduce breaks, increase runnability of the paper machines, reduce waste and drastically reduce variability in pulp and paper processes.

TRADITIONAL DILUTION CONTROL is primary reason for poor Consistency Control. The correct dilution control requires flow meters in dilution line and stock line to eliminate influence of pressure variability in water feed line and stock flow variability which creates consistency changes due to time lag between water insert and consistency transmitter. All of this variability can be eliminated by building flow Ratio controller with setpoint control from Consistency controller.



BAD AGITATION is the major source of variability in current Pulp and Paper Processes and with Conmark Agitators it can be drastically improved. If a pulp and water mixture is allowed to stand in a chest for just a short period of time, the fiber and water mixture will begin to separate. When this occurs, the chest content is composed of irregular high consistency zones that cannot easily be re-introduced to the papermaking process. These stock irregularities create consistency variations. Agitation in a stock chest is the only way to keep the stock from dewatering.



Pro-Eye 100 uses a proprietary measuring technique to determine the Properties of the pulp by calculating a matrix of five different color strobed LED responses from the furnish. Pro-Eye 100 produces a real time Pulp properties readings using advanced modeling technology to be used by mill operations. Pro-Eye 100 has two independent process variables it can measure simultaneously, like Consistency and Freeness or Ash and Consistency. Unlike other on-line measurement technologies, Pro-Eye 100 provides a real-time process measurements for more precise process control.

