

Drainac™ IIIB On-line Freeness Transmitter

Product Summary

The Drainac™ On-line Freeness Transmitter is a continuous freeness analyzer that provides precise, real-time information to effectively manage changes in freeness.

Ideally suited for closed-loop control refiner controls, the Drainac™ measures freeness every 20-30 seconds and can compensate for any temperature or consistency changes. This allows refiner control systems to immediately adjust to variable conditions, resulting in better quality control, as well as fewer paper breaks.

The simple, in-line design of the unit allows for an easy, low cost installation. It is designed to operate in all types of installation situations including, pressured stock lines, low pressure stock lines, stock lines under vacuum, or from open vessels.

The Drainac™ is easy to use and understand. Automatic cleaning keeps the analyzer free from errors and minimizes any maintenance requirements, making the Drainac™ the best choice for on-line freeness measurement.



Features & Benefits

- Fast Sample Rate - 2-3 samples / minute allows for superior refiner control performance.
- Directly Measures Drainage Rate - calibrates to freeness (CSF), Williams Precision Slowness, or Schopper-Reigler.
- Complete In-line System - no wasted product or sewer samples.
- Multiple Calibration Characteristics - for applications with different grades and/or furnishes.
- Self Cleaning System - minimizing maintenance and sampling errors.
- Simple Design - easy to use and understand
- Low Installation Cost - the simple design allows for easy, cost effective installation.
- Digital Communication - easily integrates into any DCS platform.

Description

The Drainac™ operates on the basic principle of how easily water will drain through a pad of fiber. Approximately every 30 seconds, the Drainac™ measures the rate of filtrate flow through a fiber pad.

The Drainac™ consists of a totally enclosed vertical riser which has no moving parts. The compact detector is mounted directly in a pressurized stock line, or open vessel, avoiding any sampling lags or transport delay time. For pressurized applications, stock rises into the detector tube under controlled differential pressure. Fibers are retained on a perforated plate and filtrate passes through the pad which is formed. The time required to draw a known volume of filtrate through the pad is used to calculate freeness. For non-pressurized applications, the Drainac™ employs negative pressure to draw the stock sample into the detector tube for drainage rate determination.

Once the freeness has been determined, air pressure is increased to return the filtrate and fiber to the stock line in preparation for the next cycle. At the same time, flush water is introduced into the chamber to clean the screen and the interior of the chamber. Cycle time ranges from 30-60 seconds.

Specifications

Sensor		Transmitter	
Sample Rate	2-3 samples per minute typical	Display	Variable contrast graphical LCD
Pressure	Stockline (10 - 90 psi) Low Pressure Unit (0 - 25 psi)	Electronics	Microprocessor based
Stock Velocity	0.1 - 10 ft./sec	Analog Input	(1) 4-20 mA for active compensation
Freeness	0 - 800 CSF, 10 - 90 ⁰ SR, Williams Precision Slowness, 0 - 300 sec Drain Time	Analog Output	(1) 4-20 mA for compensated freeness
Consistency	0.5 - 6.0% (readily adaptable to other consistencies)	Communication	(1) full duplex choice of protocols: RS 232 / IEEE 422 / IEEE 485
Water	Min 10 psi above max stockline pressure Average consumption: 0.3 gpm	Calibration	Computer guided process sampling and internal parameter calculation.
Air	Min 10 psi above max stockline pressure Average consumption: 1.5 scfm for stockline units, 12.5 scfm for other units	Recipe Memory	Retains (10) ten settings and calibration parameters.
Probes	316SS (Standard) other materials available	Enclosure	NEMA 4X
Flush Points	Top of chamber spray, over screen spray, and below screen flush		

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