

KRT RETENTION MEASUREMENT



Retention measurement of Paper Machine

KPM offers a retention measurement system for Paper Machine retention monitoring and control. The KRT is applicable for paper and board machines with or without ash addition. All needed hardware is included to the system, where separate configuration for headbox and whitewater measurements are available. The KRT system measures Total Consistency of the headbox and whitewater sample. Measurement range is 0–1.5% Cs. The sensor measures fibers and particles that are greater than 0.44 microns, such as stock from 0.01% (100ppm) to 1,5%, (depending on type of stock). The measuring principle is based on the ability of fibers to depolarize light to a much greater degree than denser solid particles.

Retention measurement system

The KRT by-pass sensors are connected to the headbox and the whitewater with sample valve and PFA sample line. The whitewater sensor includes an automatic backflush valve that keeps the sensor and sample line clean. Whitewater sensor can also be equipped with a deaeration device and sample pump. The sensors measure Total Consistency of the sample and the consistency signals are connected to DCS, where retention is calculated

No maintenance needed

The sensor has a 3 mm gap between the lenses, which produces a self-cleaning effect due to the increased velocity. In addition, automatic flushing with 3-way valves can be supplied to keep the sensors clean without maintenance. Each sensor can have four remotely selectable calibration curves for applications with varying furnishes..

Robust design in SS316 steel

The sensor is constructed of 316SS with unbreakable stainless steel sample funnel making the sensors, to withstand the most aggressive media. The sensor pressure class is PN10. The display unit and sensor have protection class of IP65 (Nema 4X) and do not need protective housing to stand difficult conditions at the paper machine wet end.



SPECIFICATIONS

SENSOR TYPE	KRT Retention Sensor with Optical Consistency Transmitter	
MEASUREMENT RANGE	Total Consistency 0 – 1.5 %, minimum 0.01 %, 10 ppm	
PROCESS TEMPERATURE	Process temperature 10 - 60 °C (50 - 140 °F)	
PROCESS PRESSURE	max 10 Bar (140 psi)	
SAMPLE FLOW RATE	minimum 10 l/min (2.5 gpm)	
PROCESS PRESSURE	PN10 (150 psi)	
PROCESS CONNECTION	sample tab 3/4"	
OUTPUT SIGNAL	4 - 20 Ma	
BINARY INPUTS	4 binary inputs 24 VDC, pump stop, 2 for remote calibration selection	
BINARY OUTPUTS	2 relay outputs for alarm or flushing control, Max 110VAC or 24VDC, 2 A	
AMBIENT TEMPERATURE	0 - 60°C (32 - 129°F)	
FLUSHING WATER	Mechanically or Chemically purified, temperature 25 - 60 °C (77 - 129°F), pressure 2 – 6 Bar (30 – 90 psi)	
INSTRUMENT AIR	Pressure 4 – 8 Bar (60 – 120 psi)	
INTERCONNECT CABLE	10 m interconnect cable from Sensor to Display Unit; max 5 cables in series	
WEIGHT	Headbox Sensor	26 kg
	Whitewater Sensor	35 kg
CONFORMANCE	73/23/EEC, 89/336/EEC, EN 61000-6-4:2001, EN 61000-6-2:2001, EN 61010-1:2001	
ENCLOSURE CLASS	IP65, Nema 4X	
POWER SUPPLY	85 - 250 VAC, 50/60Hz; 20VA	

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