Good retention is important to the efficiency of the papermaking operation due to the large influence it have on furnish and production costs, as well as on the quality of the finished sheet. KRT Retention is a measurement system for monitoring and control of paper machine retention.

ABB offers a retention measurement system for paper machine retention monitoring and control. KRT Retention Measurement System is applicable for paper and board machines with or without ash addition. All needed hardware is included in the system where separate configuration for head box and whitewater measurements are available.

KRT Retention measures total consistency of the head box and whitewater sample. Measurement range is 0–1.5% Cs. The sensor measures fibers and particles from 0.01% (100 ppm) 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.

Connection to head box and whitewater
KRT Retention by-pass sensors are connected to the head box and the whitewater with sample valve and PP sample line. The whitewater sensor includes an automatic backflush valve that keeps the sensor and sample line clean. The whitewater sensor can also be equipped with a de-aeration device and a 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 steel with unbreakable stainless steel sample funnel, making the sensors 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.

Benefits
- Headbox and whitewater consistency for retention calculation
- Retention control with white water total consistency
- MD variation reduction in:
  - Basis weight
  - Moisture content
  - Ash content
- Chemical use optimization
- Web break reduction
- Accessories and configurations for different applications
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The information provided in this data sheet contains descriptions or characterizations of performance which may change as a result of further development of the products. Availability and technical specifications are subject to change without notice.

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