Retention control is important to papermakers due to the large influence it has on paper quality variability reduction. Stabilization of the wet end also reduces the amount of sheet breaks. ABB’s ultimate solution for monitoring and control of paper or board machine retention is KPM KRA and KRT Retention Measurement. The modern design coupled with the highest volume of individual measurements available ensures long-term use and accurate measurements.

**Retention Measurement System**

ABB offers two options for paper and board machine retention monitoring and control: the KPM KRA sensor measures total consistency and ash consistency, while the KPM KRT sensor is for total consistency only. The measurement range for total consistency is 0–2.0 percent Cs and 0–1.0 percent for ash consistency.

**Features:**
- Accurate total consistency and ash measurement for headbox and white water
- Latest optical sensor technology
- Robust stainless steel construction

**Benefits:**
- MD variation reduction in
  - Basis weight
  - Moisture content
  - Ash content
- Web break reduction
- Faster grade changes and start-ups
- Optimization of retention chemicals

**Robust design and construction**

The sensor is constructed of 316SS with an unbreakable stainless steel measurement cell, enabling the sensors to withstand harsh environments. The display unit and sensor have protection class of IP65 (Nema 4X) and do not need protective housing to withstand difficult conditions at the paper machine wet end.

KPM KRA or KPM KRT bypass sensors are connected to the headbox and the white water stock with sample valve and FEP sample line. White water sensor can also be equipped with deaeration module and sample pump. The measurement results are connected to the DCS, where retention is calculated.

**Maintenance-free operations**

Automatic flushing with water can be included to keep the sensors clean without maintenance. The optical sensor has a 3 mm gap between the lenses, which produces a self-cleaning effect due to the increased velocity. The white water sensor also has self-cleaning due to an automatic backflushing module.
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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