

KPM KC7 Microwave Consistency Transmitter

Testing and industry-specific instruments



ABB's KPM KC7 provides precise total consistency measurement of mixed pulps using the well-tested microwave true-phase technology. With a wide-range of options available, the flow-through model boasts the largest available diameter while the insertion-style's antennas have been designed to avoid microwave reflections in pipe and generate a self-cleaning effect. Mills get the most representative, accurate, reliable measurement unaffected by process variables or obstructions.

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01
KPM KC7 Microwave
Consistency Transmitter
– flow through sensor

Accurate consistency measurement

With a microwave signal utilizing phase vector modulation that contains a microwave-wide band sweep, KPM KC7 provides high accuracy measurement unaffected by variations in pulp species, fiber length, freeness and in process conditions, unlike optical and shear force technologies.

With single point calibration, KPM KC7 measures fibers and fillers for total consistency, making it ideal to measure mixed pulps.

Remote display unit

Remote electronics offers large display for easy operation and set-up. Intuitive, menu-driven interface features simple set-up, calibration and troubleshooting functions.

Two versions for wide range of installation options

The inline, dual-plate design is uniquely equipped with an optional retractable temperature sensor for hard processes. The flow-through model fits pipes up to 16", the largest size on the market for the most representative results.

No maintenance

KPM KC7 does not need preventive maintenance; it has no moving parts at all. The flow-through models do not have measurement parts inside the pipe to be hit by foreign particles.

Enhanced diagnostics

To further enhance the diagnostics features of the KPM KC7, all sensors will be equipped with an integrated pressure sensor, available as a spare part.

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KPM KC7 Microwave
Consistency Transmitter
– insertion style sensor

Features

- Inline (dual or single plate) or flow-through (for pipes up to 16") options
- Pressure sensor enables easy diagnostics
- Optional retractable temperature sensor
- Compatible with third-party couplings enables smooth replacements
- Absolute compensation parameters verified with every installation

Benefits

- Provides accurate, reliable measurement of total consistency, unaffected by process variables
- High uptime and no preventive maintenance requirements
- Low total cost of ownership
- Reduces number of measurement sensors needed



Specifications

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KPM KC7 Microwave
Consistency Transmitter
Display unit



Sensor type	Microwave consistency transmitter
Output signal	3 x analog outputs 4–20 mA + HART™
Binary inputs	24 VDC, process stop, grade change (2) and sampler input
Binary output	12–48 VDC max 10 mA, dry contact
Serial communication	USB PC-Interface, HART™
Measurement range in	0–16% Cs (as request over 16% Cs)
Repeatability	0.01%
Resolution	0.001% for sizes 50–400 mm (3–16") and insertion type (ITL)
Installation	Wafer type between flanges for all flow-type models Insertion type, Sandvik coupling NS110 mm
Length	100 mm (4") for all FT models
Pressure measurement range	0...10 bar (0...145 psi) ref
Pressure sensor accuracy	max 0,25% FS; 0.025 bar
Overpressure withstand	40 bar (580 psi) ref
Process temperature	0–100 °C (32–212 °F)
Process pressure	Pressure class PN25, recommendation >1,5 Bar (>22 psi), no air
Process pH	2.5–11.5 pH
Ambient temperature	Sensor -20–60° C (-4–140° F), display unit -10–55° C (-14–122° F),
Flow velocity	No effect, Insertion type max flow 5 m/s (16.4 ft/s)
Materials	Sensor: SS 316L; window: ceramic, display: polycarbonate
Approvals	EMC, CE, PED (Directive 2014/68/EU, Article 13,1,(b) substances and mixtures
Enclosure class	Sensor IP66 (Nema 4X), display unit IP65 (Nema 4X)
Power supply	86–264 VAC, 47–63Hz; 20 VA or 24 VCD low voltage

Conductivity limits	50 mm (2")	80 mm (3")	100 mm (4")	150 mm (6")	200 mm (8")	250 mm (10")	300 mm (12")	350 mm (14")	400 mm (16")	Insertion type
	25 mS/cm	25 mS/cm	20 mS/cm	20 mS/cm	15 mS/cm	15 mS/cm	15 mS/cm	10 mS/cm	10 mS/cm	25 mS/cm

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