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.

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.
Specifications

- **Sensor type**: Microwave consistency transmitter
- **Output signal**: 3 x analog outputs 4–20 mA + HART™ Foundation Fieldbus and Profibus PA with optional converter
- **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 Cs**: 0–16%
- **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
- **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 -10–60° C (-14–212° 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

### Conductivity limits

<table>
<thead>
<tr>
<th>Insertion type</th>
<th>Conductivity limits</th>
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<tbody>
<tr>
<td>25 mm (5&quot;)</td>
<td>50 mS/cm</td>
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<tr>
<td>20 mm (3&quot;)</td>
<td>80 mS/cm</td>
</tr>
<tr>
<td>15 mm (4&quot;)</td>
<td>100 mS/cm</td>
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<tr>
<td>15 mm (6&quot;)</td>
<td>150 mS/cm</td>
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<tr>
<td>15 mm (8&quot;)</td>
<td>200 mS/cm</td>
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<tr>
<td>15 mm (10&quot;)</td>
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<tr>
<td>10 mm (12&quot;)</td>
<td>300 mS/cm</td>
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<tr>
<td>10 mm (14&quot;)</td>
<td>350 mS/cm</td>
</tr>
<tr>
<td>10 mm (16&quot;)</td>
<td>400 mS/cm</td>
</tr>
<tr>
<td>25 mm (18&quot;)</td>
<td>25 mS/cm</td>
</tr>
</tbody>
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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

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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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