

CMS-CWS



Chip analyzer and density measurement system

The chip measurement (CMS) and chip weighing (CWS) systems developed at the CRIQ are used to measure the myriad characteristics of raw materials used in the production of paper pulp. The highly accurate moisture content reading system is unique in the world. Among other things, a better understanding of the intranet makes it possible, among other things, to stabilize the process and thereby better control it, increase production, and reduce expenses.

RETURN ON INVESTMENT AND DIRECT BENEFITS

At a medium-sized pulp or paper plant, the return on investment is generally appreciated within **approximately six months**. This return is attributable to:

- Decreased use of bleaching agents;
- Less contamination by undesirable substances
- Improved paper quality;
- Improved process stability;
- Better supplier management.

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CHARACTERISTICS

- On-line in real-time, no contact, load cell
- Sensors: colour camera, NIR sensor, weighing and profilometry
- Computer-assisted calibration
- Auto-diagnostic system
- Minimum maintenance
- Moderately complex installation
- Fast return on investment (under six months)

TECHNICAL SPECIFICATIONS

- Belt conveyor required (min. 12 feet of accessible chips)
- Conveyor speed: max. 700 feet/minute
- Samples: 6/second
- Operational distance: 60 to 180 mm (optimal at 100 mm)

MAIN DATA AVAILABLE

CMS

- Brightness (0=black, 150=white)
- Chip moisture content ($\pm 1.5\%$)
- Bark indicator
- Contaminants (min. dimension: 10 mm)
- Chip temperature measurement ($\pm 0.5^{\circ}\text{C}$)

CWS

- Chip weight measurement (± 0.2 kg)
- Chip volumetric measurement ($\pm 1\%$)
- Volumetric flow rate
- Dry/Wet mass flow rate
- Bulk/Basic density ($\pm 1.7\%$)

For further information and advice on CMS/CWS:

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MAIN APPLICATIONS

- Wood chip management including supplier quality control
- Kraft process control
- PTM process control
- Refining energy optimization
- Detection of contaminants
- Analyses of recycled paper
- **New applications: particle board (OSB, HDF and MDF) mines, foundries, sorting and recycling, food and cement factories**