

MMA™-4020

Patented online microwave moisture and density deviation measurement analyzer for receiving, preprocessing, primary and secondary processing of tobacco



MAIN FEATURES

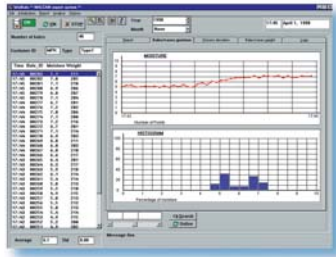
- Online, whole volume bale measurement analyzer
- Low cost and fast ROI
- Whole volume of every bale measured in line, without removal of packaging
- No physical contact with bales required
- Highly accurate and reliable results provided in real time, with repeatability of less than 0.1%
- Automatic storage and analysis of results for present and future use
- Requires minimal operator intervention
- Interfaces with existing plant information systems
- Not sensitive to ambient conditions
- Multi-scenario-based system for different product variations
- Proven compliance with all major industry standards

“...workers moved massive bales of tobacco onto a conveyor belt, which whisked them through a machine that weighed them and zapped them with microwaves to test their moisture content.”

- John Reid Blackwell, Danville Register & Bee, July 2001



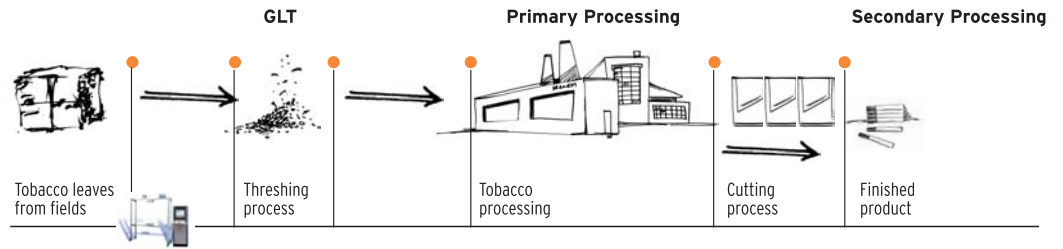
MMA™-4020



Informative Interface

PRE-PROCESSING

PROCESSING



- MMA tests material at receiving points
- MMA checks quality entering
- MMA checks quality after threshing
- MMA checks quality at receiving point
- MMA checks quality after cutting

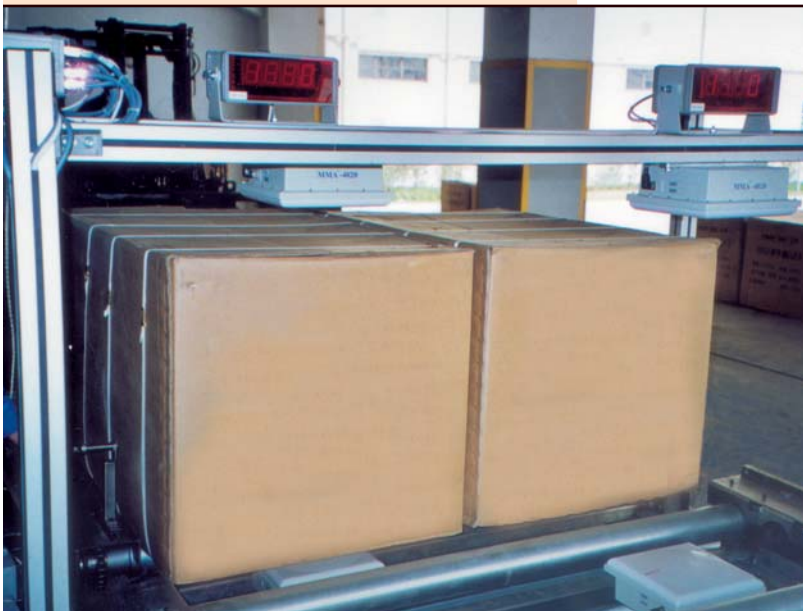
The MMA-4020 is a non-contact online analyzer which scans whole tobacco bales and measures internal moisture and density levels in bulk tobacco packages. Field-proven and operational in more than 200 sites worldwide, it provides better accuracy than any of the traditional laboratory/instrumentation measurement methods.

The MMA-4020 operates under both digital and analog links, enabling instant availability of all analysis results and data throughout the enterprise. Easy-to-read graphic displays allow engineers, plant managers and executives to interpret process conditions and make decisions, thereby reducing material costs and improving quality.

The patented MMA-4020 system also offers a range of optional software packages. These include proprietary 3D microwave scanning and signal processing for critical real-time feedback on the internal moisture content of the whole volume of each tobacco package. This enables the MMA-4020 to scan every single tobacco package for overall moisture level and moisture vs. density by region, within seconds.

These stringent quality control procedures enable the improvement of tobacco yields, reduction of rejection and product degradation rates, and increase of profits throughout all stages of the tobacco processing procedure.

SPECIFICATIONS



POSSIBLE LOCATIONS	Tobacco receiving points; GLT receipt and finished products; DCC control in primary processing; and checking of cut-rag bales before shipping
TOBACCO PACKAGE TYPES	Farmer bales; C-48 bales; barrels; cut tobacco; oriental tobacco bales; any tobacco by-product
OPERATING SYSTEM	WinBale™ Expert, a scenario-driven QC and engineering platform which analyzes, records and displays data, including the weight of each case/bale and uniformity of product temperature
PRB-20 (OPTIONAL)	Automatic Pattern Recognition Bale Profiler System allowing automatic detection of defects (such as wet spots and air packets) inside scanned cases/bales in real time.
SDS-20 (OPTIONAL)	Smart Data Sharing System providing easy, user-friendly access and management of collected data from various platforms.
REPEATABILITY	Better than 95% within $\pm 0.1\%$ from density and moisture readings
ACCURACY	Better than lab methods; less than 4% from moisture and density readings.

Specifications subject to change without notice.



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ABOUT MALCAM

MALCAM Ltd. is an ISO-9001 company that specializes in online and offline moisture and density deviation measurements tools for industries that automatically process bulk material. Established in 1996, the company holds several international patents and its systems are operational in hundreds of sites worldwide.