

## MMA™-2020

Patented online microwave  
moisture and density deviation  
measurement analyzer for  
all processing stages of pulp,  
synthetic and organic fibers  
in bales / cases / boxes

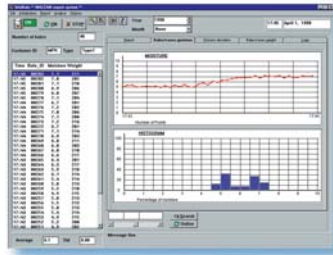


### MAIN FEATURES

- 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
- 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



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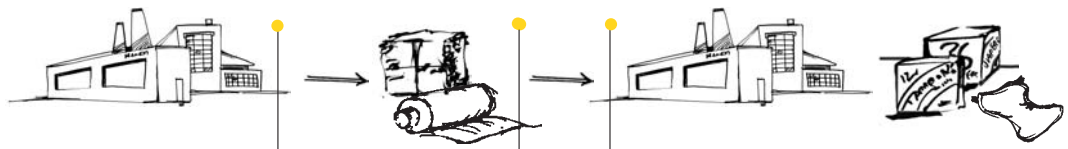


Informative Interface

Fiber Bales Production Plant/  
Real Goods Production Plant

Fiber Bales

Nonwoven and Textile Plant



● MMA checks quality and aids in fiber bale process control

● MMA checks quality at receiving point

The MMA-2020 is a non-contact online analyzer, which scans whole fiber bales and measures internal moisture and density levels in bulk packages. Based on MALCAM's highly successful series of analyzers, it provides better accuracy than any of the traditional laboratory/instrumentation measurement methods, and is operational on all types of fibers, including pulp, synthetic and organic fibers.

The MMA-2020 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-2020 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 package. This enables the MMA-2020 to scan every single package for overall moisture level and moisture vs. density by region, within seconds.

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

## SPECIFICATIONS



POSSIBLE LOCATIONS

Manufacturing plants for products based on fibers; manufacturers of fibers

PACKAGETYPES

Fiber bales/rolls, pulp bales, paper boxes

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. Operating under Windows 2000 and XP, it takes into account both the fiber type and other product features during the inspection process, and adapts measurements obtained by the analyzer to standard laboratory measuring methods

PRB-20 (OPTIONAL)

Automatic Pattern Recognition Bale profile system which allows automatic detection of defects (such as wet spots and air pockets) inside scanned cases/bales in real time

SDS-20 (OPTIONAL)

Smart Data Sharing System which provides easy, user-friendly access and management of collected data from various platforms.

REPEATABILITY

Better than 1% of the reading within  $\pm 1$  StD.

ACCURACY

Better than lab methods; less than 3% from moisture 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.