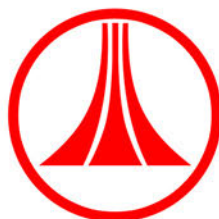


WAVE TL100



**TOBACCO AT-LINE / LABORATORY
REFLECTANCE MICROWAVE MOISTURE ANALYZER**

MEASUREMENT OF **TOTAL MOISTURE**



SCA PACIFIC PTE LTD

WAVE TL100

WAVE TL100 Tobacco At-line / Laboratory Microwave Moisture Analyzer by **SCA Pacific Pte Ltd** is the state of the art and the leader of the tobacco microwave moisture analyzer. It provides direct, safe and non-destructive total moisture measurement in the product without sample preparation in less than 1 minute. The integrated electronics designed provides high quality and long term performance. Hence, it encompasses new dimensions for total moisture determination of the QC and production samples in the laboratory and at the production site in the tobacco industry.

PRINCIPLE OF MEASUREMENT

WAVE TL100 Tobacco At-line / Laboratory Microwave Moisture Analyzer consists of:

- Microwave Sensor Head
- Operator Interface Unit (OIU)
- Sample Tray

WAVE TL100 Tobacco At-line / Laboratory Microwave Moisture Analyzer is using microwave energy which is generated by a safe oscillator and passes through the product. The principle is based on the dielectric constant of water which is higher than the dielectric constant of other materials, the signal decreases (attenuates) in direct proportion to the moisture content of the sample. This attenuated signal is measured by a detector. After calibration against laboratory standards, the attenuated signal will be directly converted into total moisture value of the tobacco product.

The amount of microwave energy is very small, the sample will not be heated up and microwave fully penetrate the product so all the free and inherent (bound) moisture will be measured to provide the total moisture measurement of the tobacco products.

UNIQUE FEATURES

- Measure total (free and bound) moisture.
- Instant and non-destructive contact reflectance measurement.
- Measurement result in less than 1 minute without sample preparation
- The microwave energy is transmitted through the sample, allowing accurate testing of heterogeneous samples.
- Very precise as microwave technology is highly selective on water in the product. The pH, conductivity of the material, surface structure and characteristic of the product will not be affected the measurement results.
- Microwave moisture measurement results will not be affected by the tobacco type, color, grade and blend variations as well as it will not be affected by the ambient lighting, environmental temperature and humidity.
- Self diagnostics feature to prevent measuring error.
- Designed with non moving and no consumables parts, truly service free analyzer
- Simple and easy calibration. Hence, the complicated Chemometric Data Analysis will not be required

APPLICATIONS

WAVE TL100 At-line / Laboratory Reflectance Microwave Moisture Analyzer provides direct, safe and non-destructive total moisture measurement in the product without sample preparation in less than 1 minute. It is widely used in the laboratory and the production site for accurate measurement of total moisture in the QC and production samples.

WAVE TL100 can be used as the At-line moisture analyzer for calibrating and checking of the On-line instrumentation in the production plant for the tobacco industry.

The different sizes of the sample tray are used for different type of tobacco products.

The applications area, in laboratory and production site of:

- GLT (Green Leaf Threshing)
- Primary Processing:
 1. Stem Processing Line,
 2. Lamina Processing Line
 3. Tobacco cut Rag Processing Line
 4. Expanded Tobacco (DIET) Processing Line
 5. Reconstituted Tobacco Sheet Processing Line
 6. Clove Processing Line
- Finished Blend Processing Line

ACCURACY

0.3% to 0.5% (Application Specific)

PRECISION

Measurement Range	% Precision
0 – 1%	±0.01%
1 – 5%	±0.1%
5 – 20%	±0.5%
20 – 40%	±1.0%
40 – 60%	±2.0%

TECHNICAL DATA

Specifications	Value
Measurement Range, Total Moisture (%)	0– 60
Measurement Resolution	0.1%
Measurement Speed	seconds
Measurement Method	contact Reflectance
Temperature Compensation	Yes, -10°C to +80°C
Weight (Density) Compensation	Yes
Self diagnostics	Yes
Analogue Output (4-20mA)	Two
Digital Output, RS232	One
Digital Output, RS485	One
Display	LCD
Control Limits (Upper)	Yes
Alarm Outputs	Yes
Calibration Equation Storage	9
Function Keys	Product, Temperature, Calibration and Control Limit
Power	220VAC, 50HZ
Dimension of Operator Interface Unit (mm)	290(L) x 280(W) x 100(H)
Dimension of Microwave Sensor Head (mm)	120 (D) x 150 (L)
Weight of Operator Interface Unit (kgs)	3
Weight of Microwave Sensor Head (kg)	1

SCA Pacific Pte Ltd
Block 108 Ang Mo Kio Ave 4, #01-88
Singapore 560108
Tel: +65 6298 9989
Fax: +65 6291 9989
E-mail: scapacific@singnet.com.sg
Website: www.scapacific.com.sg

Contact Our Authorized Distributor

www.scapacific.com.sg

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