# WAVEHIIO



## MEASUREMENT OF TOTAL MOISTURE



#### **WAVE HT100**

**WAVE HT100** Portable / At-line Microwave Moisture Meter by **SCA Pacific Pte Ltd** is a low cost microwave moisture meter for the tobacco industry. Special designed for robust, compact and easy to use on-the-spot measurement of total moisture in tobacco products. It provides fast and accurate LCD total moisture readout.

#### PRINCIPLE OF MEASUREMENT

WAVE HT100 Portable / At-line Microwave Moisture Meter consists of:

- Microwave Sample Probe
- Compact Electronic Control Unit (ECU)

**WAVE HT100** Portable / At-line Microwave Moisture Meter 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.
- Portable on-the -spot measurement of total moisture of tobacco products in anywhere and at anytime.
- Easy, fast and accurate LCD total moisture readout.
- Instant and non-destructive contact reflectance measurement.
- 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 moisture meter
- Simple and easy calibration. Hence, the complicated Chemometric Data Analysis will not be required

#### **APPLICATIONS**

**WAVE HT100** Portable / At-line Microwave Moisture Meter provides easy to use onthe-spot measurement of total moisture in tobacco products.

The 9V battery or 240V, 50/60 Hz AC current allows the measurement of the total moisture in the tobacco products in anywhere and at anytime.

WAVE HT100 widely used in the warehouse, buying station and remote areas.

The applications area:

- Tobacco leaf
- Tobacco stem
- Lamina
- Cut tobacco
- Expanded tobacco
- Clove
- Finished Blend

#### **ACCURACY**

0.5% to 0.7% (Application specific)

#### **PRECISION**

Measurement Range	% Precision
0 – 1%	±0.1 %
1 – 5%	±0.3%
5 – 20%	±0.7%

#### **TECHNICAL DATA**

Specifications	Value
Measurement Range, Total Moisture (%)	1– 20
Measurement Resolution	0.1%
Measurement Speed	seconds
Measurement Method	Contact Reflectance
Temperature Compensation	Yes, -10°C to +80°C
Display	LCD
Calibration Equation Storage	9
Data Storage	100
Function Keys	On, Off, Start, Hold, Product, and Calibration
Power	Battery 9V, or  AC current 240V,50/60 Hz.
Dimension of Electronic Control Unit (mm)	130(L) x 110 (W) x 56(H)
Weight of Microwave Sample Probe(g)	350
Weight of Electronic Control Unit (g)	200

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