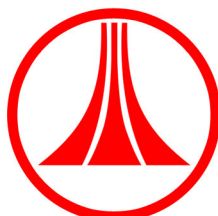


# WAVE T100



**TOBACCO ONLINE CONTACT  
REFLECTANCE MICROWAVE MOISTURE ANALYZER**

MEASUREMENT OF **TOTAL MOISTURE**



**SCA PACIFIC** PTE LTD

# WAVE T100C

**WAVE T100C** Tobacco Online Contact Reflectance Microwave Moisture Analyzer by **SCA Pacific Pte Ltd** is the state of the art and the leader of online tobacco microwave moisture analyzer. Special designed for robust and compact, the process-oriented and integrated electronics to provide high quality, long term performance. Hence, it encompasses new dimensions for total moisture determination in the tobacco products for real time control of the processing lines under the harsh environments in the tobacco industry.

## PRINCIPLE OF MEASUREMENT

**WAVE T100C** Tobacco Online Contact Reflectance Microwave Moisture Analyzer consists of:

- Microwave Sensor Probe
- Operator Interface Unit (OIU)

**WAVE T100C** Tobacco Online Contact Reflectance 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, non-destructive and 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.
- Measurements in seconds at ultra high measuring speed, the true process variations can be detected to enables the operator to get it right at the first time and every time
- 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 T100C** Tobacco Online Contact Reflectance Microwave Moisture Analyzer for the real time measurements of total moisture and temperature of tobacco products.

The wide spectrum of the sensor probes are dedicated for different location to meet all the contact reflectance measurement requirements used in the tobacco industry

The applications area:

- 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

0.5% to 1.0% (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, Response Time, Calibration and Control Limit
Network Connection	<p>Network interface protocols Via RS485 To PC, such as:</p> <ul style="list-style-type: none"> <li>• Ethernet</li> <li>• CANopen</li> <li>• DeviceNet</li> <li>• ProfiBus</li> <li>• ModBus</li> <li>• PC/104 slot.</li> </ul> <p>It provides fully automatic closed loop control to the process in the tobacco industry.</p>
Power	220VAC, 50HZ
Dimension of Operator Interface Unit (mm)	290(L) x 280(W) x 100(H)
Dimension of Microwave Sensor Probe (mm)	26 (D) x 450 (L)
Weight of Operator Interface Unit (kgs)	3
Weight of Microwave Sensor Probe (kg)	1

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