



# MICRONAIRE TESTER

009

## Digital Micronaire Fibre Fineness System

**Weigh Scale:**  
0 to 100 grams  
with  
**0.01 mg Sensitivity**

Micronaire is a critical cotton fiber quality that is harder to visualize than other properties like staple length, fiber strength or colour. It is more influenced by weather than just about any other fiber characteristic.

Micronaire describes both the maturity and fineness of cotton fiber. The end quality of cotton yarn or fabric is partially determined by micronaire.

When cotton's micronaire is too low, nep and dyeability problems result during textile processing.

When micronaire measures higher and closer to the discount range, it cannot be as efficiently spun into high quality, fine-count yarns

Cotton's quality is determined by the structure and dimensions of its fibers. Staple, length and micronaire are the dimensions of fiber.

Micronaire has no units of measurement, but is generally understood to be the weight in micrograms per inch of fiber length. Intrinsic fiber strength is thought to be influenced mainly by the structure of the primary and secondary cell walls of the fibers.

The commercial HVI measure of fiber bundle strength is called tenacity, which is the intrinsic strength per unit linear density and thus is directly influenced by one of the fiber dimensions, that is, micronaire.

To be specific, HVI strength is calculated from the breaking strength of fiber bundles in grams force to break divided by the micronaire value expressed in tex units.

Essentially, tex value is the metric equivalent of micronaire, or micrograms per millimeter of fiber length.

Micronaire is reported to be influenced to a greater extent by environmental conditions than by genetics. While this may be generally true, it by no means predicated that variety selection cannot have an important impact on the micronaire of the crop. Micronaire is a very sensitive measurement, and a small change can make a big difference.

For example, the difference between a micronaire of 4 and a micronaire of 5 is only 1 microgram per inch of fiber. There are a million micrograms in a gram and approx. 454 grams in a pound.

Such a minute difference can amount to a major difference when it comes to the farmer's bottom line.

The system is equipped with a sensor to measure the micronaire, interfaced with necessary electronics to display the value locally. There is also a facility to communicate the value to the PC using RS-232.

The system also consists of a weigh scale with ISI approval and accuracy of up to 3 decimal places. The system is calibrated according to ASTM standards.

### TECHNICAL DATA

#### Application Range

Measurement of cotton micronaire fibre material ( 100 % Cotton )  
Bale, roller and saw ginned.

Measuring principle: Air flow

Measurements: Micronaire value.

Range from approx. 2.4 to 6.5

Sample size: 9.97 to 10.3 grams

Duration of measurement:

Approx. 25 seconds for two (2) repetitions per sample.

Operation:

○ Minimum operation training required.

○ Pneumatic operation.

○ Function keys on the front panel of the instrument.

○ Data presentation by LCD display on the front panel of instrument.

○ Self calibration check.

Connection possibilities:

Connection to a PC system for data collection and analysis.

#### Dimensions:

W 410 x H 305 x D 600 mm

Weight: Approx. 23 kg ( 50 lbs )

#### Power:

Voltage: 230 VAC

Frequency: 50 Hertz

Consumption: 250 Watts

UPS 0.75/1KVA included.

#### Compressed Air:

Air pressure 4 to 6 bar.

(60 to 90 PSI)

#### Weigh Scale:

Range: 0 to 200 gms.

Resolution: 0.01 gms.

ISI Certified.



For further details, contact

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## MICRONAIRE TESTER 009 Digital Micronaire Fibre Fineness System Weigh Scale Range 0 to 200 gms