



USTER® LVI

The low-volume classification system

Technical Data

August 2005

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Think quality

THE LOW-VOLUME CLASSIFICATION SYSTEM

USTER® FIBROGRAPH 730

Function

The USTER® FIBROGRAPH 730 measures the bundle fiber length in cotton fibers.

INSTRUMENT	COMPONENTS INCLUDED IN DELIVERY
USTER® FIBROGRAPH 730	Testing instrument, USTER® FIBROSAMPLER 192 for preparing test samples (including fiber combs and hand brush), Metal length standard, Instruction manual

Instruments



THE LOW-VOLUME CLASSIFICATION SYSTEM

Optional Equipment USTER® DATAMANAGER 740 software

Application Range Measurement of bundle fiber length in cotton fibers.

Fiber Material (100% cotton)

- Bale, roller and saw ginned
- Card Mat

Measuring Principle: Optical

Measurements and Calculations:

Measurements:

- UHML – Upper Half Mean Length
- ML – Mean Length
- UI – Uniformity Index
- SFI – Short Fiber Index

Available Units: Millimeters (mm), Inches

Sample Size: Approximately 20 to 30 grams

Duration of Measurement: Approximately 20 seconds for two (2) repetitions per sample.

Operation:

- Minimum operation training required.
- Function keys on the front panel of the instrument.
- Unit selection via switch on the rear end of the instrument.
- Data presentation by LED display on the front panel of the instrument.

Connection Possibilities: Connection to a printer or PC system for data collection and analysis via RS-232 interface is possible.

THE LOW-VOLUME CLASSIFICATION SYSTEM

Dimensions

The USTER® *FIBROGRAPH 730* is a table-top instrument that requires only one operator.

Width x height x depth:

- 190 x 171 x 578 mm
- 7.5 x 6.75 x 22.75 inches

Weight: Approximately 13 kg (28 lbs)

The USTER® *FIBROSAMPLER 192* is a stand-alone instrument that requires only one operator.

Width x height x depth:

- 610 x 810 x 610 mm
- 24 x 32 x 24 inches

Weight: Approximately 27.5 kg (60 lbs)

Power

The following power requirements apply to both North American and European-type systems.

Voltage (nominal): 215 - 230 VAC

Frequency: 50 or 60 Hertz

Consumption: 60 Watts

Ambient Conditions

According to ISO 139, the following ambient conditions must be maintained in the laboratory in order to get repeatable and comparable test results:

- Temperature: 20±2°C; 65 °F to 72 °F
- Relative Humidity: 65±2%

For consistent test results, fiber samples should be conditioned in the laboratory environment with the above-mentioned ambient conditions for 24 hours. Samples should be laid out openly in the laboratory, and taken out of plastic bags, in order for the cotton to fully condition to the environment.

Subject to technical modifications

USTER® MICRONAIRE 775

Function

The USTER® MICRONAIRE 775 measures the bundle fiber length in cotton fibers.

INSTRUMENT	COMPONENTS INCLUDED IN DELIVERY
USTER® MICRONAIRE 775	Testing instrument, Calibration plug, Calibration cottons, Instruction manual

Instrument



THE LOW-VOLUME CLASSIFICATION SYSTEM

- Optional Equipment**
- USTER® DATAMANAGER 740 software
 - Balance: 0 to 20g with 0.01 mg sensitivity
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Application Range Measurement of cotton color in a bundle (tuft) of fibers.

Fiber Material (100% cotton)

Bale, roller and saw ginned

Measuring Principle: Air Flow

Measurements and Calculations:

- Measurements:*
- Micronaire value
 - Micronaire value range from approximately 2.4 to 6.5

Sample Size: 9.97 to 10.3 grams

Duration of Measurement: Approximately 20 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 LED display on the front panel of the instrument.

Connection Possibilities: Connection to a printer or PC system for data collection and analysis via RS-232 interface is possible.

Dimensions The USTER® MICRONAIRE 775 is a table-top instrument that requires only one operator.

- Width x height x depth:*
- 190 x 202 x 578 mm
 - 7.5 x 8 x 22.75 inches

Weight: Approximately 23 kg (50 lbs)

THE LOW-VOLUME CLASSIFICATION SYSTEM

Power

The following power requirements apply to both North American and European-type systems.

<i>Voltage (nominal):</i>	215 - 230 VAC
<i>Frequency:</i>	50 or 60 Hertz
<i>Consumption:</i>	60 Watts

Compressed Air

<i>Air Pressure:</i>	5.5 to 8.3 bar (80-100 PSI)
<i>Amount of Air:</i>	Approximately 3.5 m/h with normal (atmospheric) pressure.
<i>Air Tubes:</i>	10 mm

Ambient Conditions

According to ISO 139, the following ambient conditions must be maintained in the laboratory in order to get repeatable and comparable test results:

- Temperature: $20\pm 2^{\circ}\text{C}$; 65 °F to 72 °F
- Relative Humidity: $65\pm 2\%$

For consistent test results, fiber samples should be conditioned in the laboratory environment with the above-mentioned ambient conditions for 24 hours. Samples should be laid out openly in the laboratory, and taken out of plastic bags, in order for the cotton to fully condition to the environment.

Subject to technical modifications

USTER® COLOR/TRASH METER 760

Function

The USTER® COLOR/TRASH METER 760 measures cotton color and grade.

INSTRUMENT	COMPONENTS INCLUDED IN DELIVERY
USTER® COLOR/TRASH METER 760	Testing instrument, Calibration tile set (6), Sample weight, Instruction manual

Instrument



THE LOW-VOLUME CLASSIFICATION SYSTEM

Optional Equipment USTER® DATAMANAGER 740 software

Application Range Measurement of cotton color in a bundle (tuft) of fibers.

Fiber Material (100% cotton)

Bale, roller and saw ginned

Measuring Principle: Optical (measuring the light reflectance in the visible range)

Measurements and Calculations:

Measurements:

- Color brightness or reflectance (Rd)
- Color yellowness (+b)
- USDA color grades (American Upland or Pima) based on the Nickerson-Hunter color chart, or user-defined color grade
- Trash Grade (USDA)
- Trash Count
- Trash Area

Sample Size: Approximately 20 to 30 grams

Duration of Measurement: Approximately 20 seconds for two (2) repetitions per sample.

Operation:

- Minimum operation training required.
- Function keys on the front panel of the instrument.
- Data presentation by LED display on the front panel of the instrument.

Connection Possibilities: Connection to a PC system for data collection and analysis via RS-232 interface is possible.

THE LOW-VOLUME CLASSIFICATION SYSTEM

Dimension

The USTER® *COLOR/TRASH METER 760* is a table-top instrument that requires only one operator.

Width x height x depth:

- 270 x 220 x 580 mm
- 10.5 x 10.25 x 23 inches

Weight: Approximately 22 kg (52 lbs)

Power

The following power requirements apply to both North American and European-type systems.

Voltage (nominal): 110 - 240 VAC

Frequency: 50 or 60 Hertz

Consumption: 60 Watts

Subject to technical modifications

USTER® NEP TESTER 720

Function

The USTER® NEP TESTER 720 measures the nep content in cotton fibers.

INSTRUMENT	COMPONENTS INCLUDED IN DELIVERY
USTER® NEP TESTER 720	Testing instrument, Check material, Instruction manual

Instrument



THE LOW-VOLUME CLASSIFICATION SYSTEM

- Optional Equipment**
- USTER® *DATAMANAGER 740* software
 - Balance

Application Range Measurement of single neps in cotton fibers.

Fiber Material (100% cotton and up to 50/50% cotton/synthetic blends)

- Bale
- Card Mat
- Card and comber sliver

Measuring Principle: Optical

Measurements and Calculations: Nep count per gram

Sample Size: 1 to 2.5 grams

Duration of Measurement: Approximately 2-3 minutes for one (1) repetition per sample.

Operation:

- Minimum operation training required.
- Function keys on the front panel of the instrument.
- Data presentation by LED display on the front panel of the instrument.

Connection Possibilities: Connection to a printer or PC system for data collection and analysis via RS-232 interface is possible.

Dimensions The USTER® *NEP TESTER 720* is a table-top instrument that requires only one operator.

Width x height x depth:

- 394 x 660 x 203 mm
- 15.5 x 26 x 8 inches

Weight: Approximately 29.5 kg (65 lbs)

THE LOW-VOLUME CLASSIFICATION SYSTEM

Power

The following power requirements apply to both North American and European-type systems.

<i>Voltage (nominal):</i>	207 - 230 VAC
<i>Frequency:</i>	50 or 60 Hertz
<i>Consumption:</i>	250 VA

Ambient Conditions

According to ISO 139, the following ambient conditions must be maintained in the laboratory in order to get repeatable and comparable test results:

- Temperature: 20±2°C; 65 °F to 72 °F
- Relative Humidity: 65±2%

For consistent test results, fiber samples should be conditioned in the laboratory environment with the above-mentioned ambient conditions for 24 hours. Samples should be laid out openly in the laboratory, and taken out of plastic bags, in order for the cotton to fully condition to the environment.

Subject to technical modifications

USTER® *FIBROGLOW 380*

Function

The USTER® *FIBROGLOW 380* measures the fluorescence intensity of cotton or synthetic fibers.

INSTRUMENT	COMPONENTS INCLUDED IN DELIVERY
USTER® <i>FIBROGLOW 380</i>	Testing instrument, Calibration tile, Instruction manual

Instrument



