

## *Technical Specifications*



# **PREMIER ART2** **LSMCT**

Automatic Rapid Tester

## PREMIER ART2 - Automatic Rapid Tester

PREMIER ART2 is a fully automatic high volume fibre tester for testing all the important fibre properties. It operates with a radically new sample preparation thus totally eliminating operator influence. All critical functions such as weighing of sample, transportation from one module to another and disposal are automatic. The instrument is calibrated with the internationally accepted USDA standard cottons. BaleSMART, the bale management software helps for ensuring consistent quality and reduced mixing costs.

### Application Results

Length and Strength Characteristics:

HVI Mode (Recommended Mode of Testing)	ICC Mode
<ul style="list-style-type: none"> <li>Upper Half Mean Length (Inch/mm)</li> <li>Mean Length (Inch/mm)</li> <li>Uniformity Index (%)</li> <li>Short fibre index</li> <li>Bundle Strength – g/tex (High Volume Level)</li> <li>Elongation (%)</li> <li>Fibrogram, Force – Distance curve</li> </ul>	<ul style="list-style-type: none"> <li>2.5% span length</li> <li>50% span length</li> <li>Uniformity Ratio</li> <li>Short fibre index</li> <li>Bundle Strength – g/tex (High Volume Level)</li> <li>Elongation (%)</li> <li>Fibrogram, Force – Distance curve</li> </ul>

Moisture Characteristics : % Regain

Fineness Characteristics : Micronaire Value ( $\mu\text{g}/\text{inch}$ )

Colour Characteristics : Reflectance (Rd), Degree of yellowness (+b)  
Colour grade (Based on Upland Old, Upland New and Pima)

Optical Trash Characteristics : Trash Count, % Trash area & Leaf Grade (USDA)

Maturity Characteristics : Standard supply: Maturity Ratio (Estimated)  
Additional option: True Maturity (Traceable to image analysis)

Other Characteristics : RiSi: Ring Spinning Index, RoSi: Rotor Spinning Index

BaleSMART : Application Software for Bale Management

Report Features : Test Summary, Quality Trend Report, Quality Comparison Report

### Application Range

Fibre type : Cotton

Mode	Parameter	Measurement Range	
		Min	Max
HVI mode	Upper Half Mean Length (UHML) in mm	18	40
	Strength in g/tex, (min UHML of 21mm)	15	47
-	Micronaire, $\mu\text{g}/\text{inch}$ , Sample size 7 to 11.5 grams	2.5	6.0
-	Colour – Reflectance, Rd (%)	50	85
-	Colour – Degree of yellowness, +b (%)	2	15
-	Optical Trash (Minimum particle size in $\text{mm}^2$ )	0.2	-
-	Moisture Regain %	4.5	9.5

## Accuracy of Measured Characteristics

For Calibration Cotton (USDA Standards)	Standard Tiles (USDA Standards)
UHML, ML : $\pm 0.381$ mm	Colour Rd : $\pm 1.0$ %
Uniformity Index : $\pm 1$ %	+b : $\pm 0.5$ %
Strength : $\pm 1.3$ g/tex	Trash - % Area : $\pm 0.1$
Micronaire : $\pm 0.1$	Count : $\pm 1$

## Calibration [USDA recommends using HVI Mode for Length and Strength calibration]

Length, Strength	: USDA Cotton
Micronaire	: USDA Cotton or Engineering Calibration by metal plug
Colour and Optical Trash	: USDA Tiles

## Measurement Principle

Length & Length Uniformity	: Optical
Bundle strength & Elongation	: Constant Rate of Elongation
Micronaire and True maturity	: Air flow
Colour and Trash (optical)	: Optical
Moisture	: Electrical resistance

## Basic Configuration

- Modules for testing Length, Strength, Moisture, Fineness, Maturity, Colour and optical trash characteristics
- BaleSMART: Application Software for Bale Management
- Relative Humidity % and Room Temperature measurement
- ART2 software and PC with printer (Laser type).

## Additional Options

- True Maturity (True Maturity provides the real maturity values traceable to image analysis of cotton fibres unlike Maturity Ratio which is an estimated parameter)
- Bar Code Reader

## Testing Speed

Mechanically possible: Upto 140 samples per hour with one operator.

*(Actual testing speed will vary depending upon operator efficiency and samples availability for testing)*

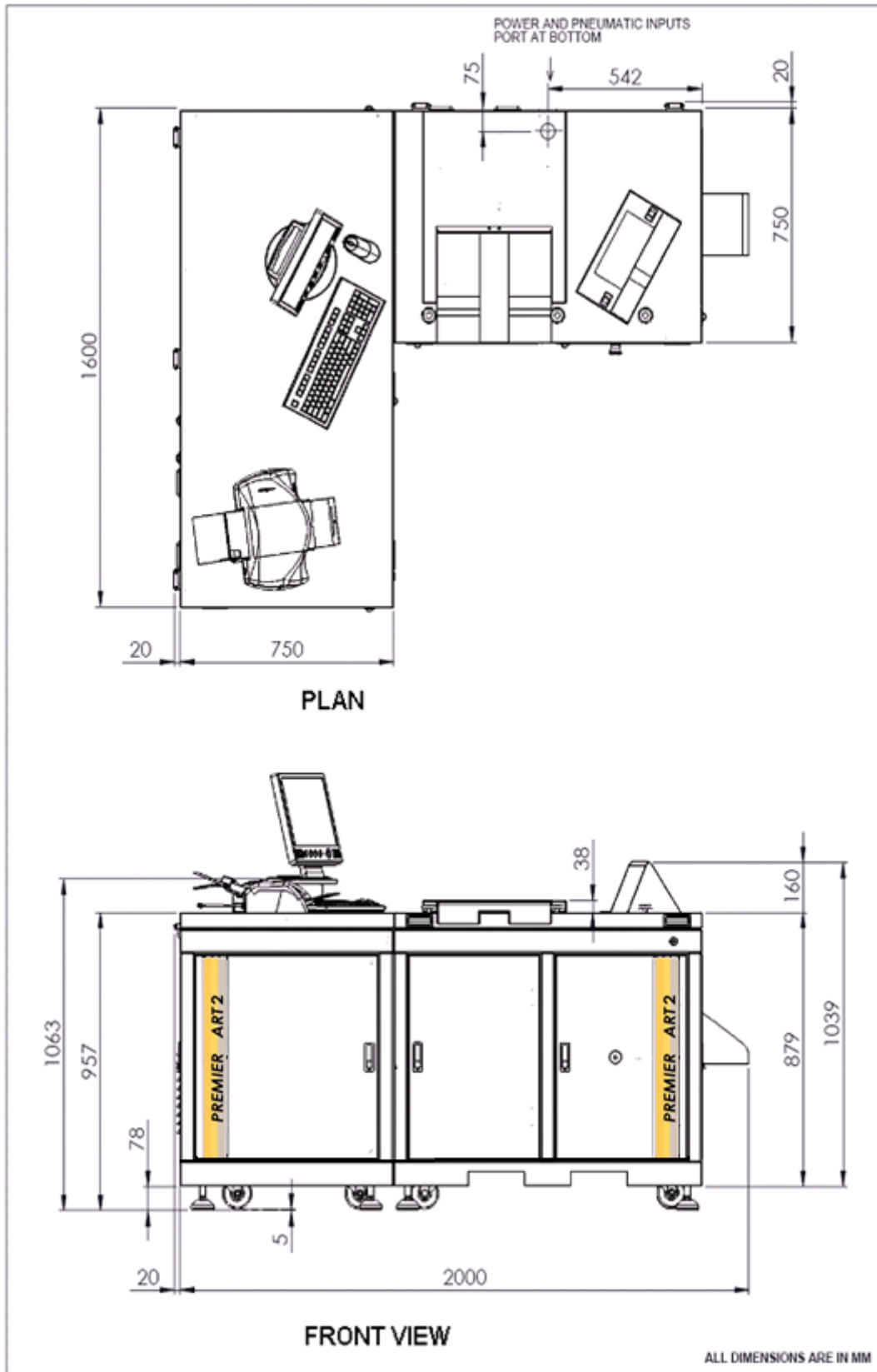
## User Interface

Reports	: Numerical presentation of results
Language	: English

## Dimensions

## ART 2 – LSMCT

Net Weight: 780 kg  
(Accessories:120 kg)



**Pre – Requisites**  
(To be provided by Customer)

**Electrical Power Requirements**

Particulars	Single Phase
<b>Voltage</b>	220V / 110V AC ± 10 %
<b>Power</b>	1.2KVA
<b>Frequency</b>	50 / 60 Hz ± 5%
<b>Harmonic distortion</b>	< 5%
<b>Electrical interference</b>	Use a separate line which should be free from transient voltage caused by other equipment
<b>Neutral to Earth voltage.</b>	< 2V
<b>Inrush current</b>	4 times the rated current for 2 cycles.

**UPS Requirements**

Supply power	For 200 - 230 VAC supply	For 100 - 120 VAC supply
<b>UPS type</b>	"Online" with protection against line transient.	"Online" with protection against line transient.
<b>Output ratings</b>	1.5 KVA at 220V± 10 %, 50 or 60Hz.	1.5 KVA at 110V± 10 %, 50 or 60Hz.
<b>Inrush current handling</b>	4 times the rated current for 2 cycles.	4 times the rated current for 2 cycles.
<b>Input ratings</b>	220VAC ± 10 %, 50 / 60 Hz ± 5% (single phase)	110VAC ± 10 %, 50 / 60 Hz ± 5% (single phase)

\*\* Recommended UPS makes available in Annexure-I

**Compressed Air**

- Compressor + Drier : 6 - 7 Kg / cm<sup>2</sup> (Pure dry and Oil free Air required.)  
 Max. Particle size : 40µm      Max. Particle Density : 8mg/m<sup>3</sup>  
 Max. Pressure dew point : +3deg C      Max. Oil concentration : 1mg/m<sup>3</sup>
- Consumption : 30 m<sup>3</sup> / hr
- Input connection : Pipe line with end connector to suit our inlet tube having Inner Diameter of 8mm supplied with unit. (Max length of 3 meters)

**Ambient Conditions**

- Relative Humidity : 65 ± 2%
- Temperature : 21 ± 1°C (70 ± 2°F)  
(By agreement, 27± 1°C (80 ± 2°F) for Tropical Conditions)

\* Technical Specifications subject to change without prior notice.