

# COREMA – RM Specification

## 1. Standard System

### 1.1 Mechanical Setup

#### **Components**

Vacuum chuck diameter	90 mm
Probe Height Positioning	Automatic non-contact adjustment procedure
Permanent magnet unit	Automated pneumatic lifting and lowering

#### **Specifications**

Wafer Thickness	250 $\mu\text{m}$ – 2000 $\mu\text{m}$
Wafer Diameter	2 inch to 200 mm
Lateral Thickness Variation	< 20 $\mu\text{m}$ within area of 20 mm diameter
Sample Surface	Etched or polished, roughness below 10 $\mu\text{m}$

### 1.2 Measurement System

#### **Components**

Charge Amplifier	Specially developed
Digitizer	OEM
Pulse Generator	OEM
Permanent magnet system	Specially designed

#### **Specifications**

Measurement Range	> 1000 $\text{cm}^2 / \text{Vs}$
Resistivity range	$1 \times 10^6 - 1 \times 10^9 \text{ Ohm} \cdot \text{cm}$
Magnetic field	0.8 Tesla
Probe Size	1 mm diameter
Repeatability	1%
Edge Exclusion	2.5 mm
Mobility Evaluation Time	about 30 s

### 1.3 Measurement Control

#### **Components**

Computer	Pentium PC with CD-RW and NIC – Microsoft Windows
Software	Custom Windows based program

#### **Specifications**

Operation	User-friendly menu-driven selection and control of measurement routines Automated procedure to measure resistivity w/o magnetic field, subsequent evaluation of mobility
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## **2. Options**

For improved control and convenient selection of the measurement spot, a manual translation stage may be provided, allowing e.g. to evaluate stepwise along a certain wafer diameter. The system is designed to allow automated cassette-to-cassette operation.

The system is designed to allow upgrading to automated cassette-to-cassette operation.