

The measuring unit which was equipped the MCP prove measures the characteristic volume resistivity or conductivity under controlled pressure by easy operation.

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# Powder Resistivity Measuring System

Loresta PA system <MCP-PD51>

Measuring equipment / Powder Resistivity Measuring System

**This is easily usable unit for the investigation and the quality control of the Electronics equipments and Electronics materials.**

**The resistivity can be the sub-index of powder materials.**



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# Powder Resistivity Measuring System (MCP-PD51)

- Roadcell in the unit, can measure the pressure by high accuracy till 20kN.
- The characteristic resistivity of the powder can be measured without any difficulty by prove unit which is easily attach and release.

## You can use the characteristic resistivity of material as a index.

- The MCP-PD51 equipped the high precision pressure gage. And it measures the resistivity [Ohm·cm] of the conductive powder material under controlled pressure by wide range of resistivity.
- Easy to measure the character of the powder at its unique fill up specification and characteristic resistivity under certain pressure. It is useful for the quality control of the powder materials.

## Application

- Research and Development
- Quality control

## Major object of the measurement.

- The powder materials of Carbon Products  
The material for the electrode of a rechargeable battery / the material for Condenser and for the resistance parts of Electronics / Cokes / Graphite / Carbon black / Carbon Fiber / Nano Carbon etc.
- Metal powders  
The material of the electrode of battery / The material of thin film like Copper powder or ITO powder / The material for circuit board like Conductive paste / Electro conductive paint.
- Others  
Tonner and related powder / magnetic material like Ferrite / Food material / Pharm related / Automobile parts / materials for motor.

## Feature

- The characteristic difference between the powder materials can be indicated by the resistivity and the density by dependency to the volume density of the materials.
- The prove for the four electrode method and the ring electrode method are available in the series. And these proves are well fit to the powder samples which is stay in the cylinder of the prove unit.
- Easy attachable prove unit provides the easy sample replace and cleaning.
- The unit is connected to the Loresta series or Highresta series of Resistivity meter. The measuring range can be wide enough for any determination of the resistivity or conductivity.

## Specification

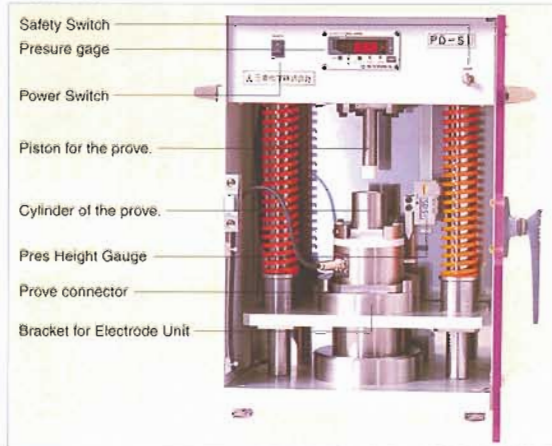
- Maximum load to the powder unit. /20kN (ca60MPa)
- Prove unit / Diameter 20mm X 50mm length
- Electrode / four terminal method (Interval of the electrode : 3mm) / Ring electrode method ( Electrode diameter : 20mm)
- Attaching method for the prove unit / one touch
- Pressure unit / Oil pressure method by manual action.
- Dimension / W430 X D230 X H490mm
- Weight / Main unit 56Kg, Oil pressure unit 22Kg)
- Power Source / AC90 - 110V (50 - 60Hz)
- Measuring Unit / High resistance ( $10^4 \sim 10^{13}$  Ohm) / Low resistance ( $10^{-3} \sim 10^7$  Ohm)

Measuring range (Ohm)	$10^{-3}$	$10^{-2}$	$10^{-1}$	$10^0$	$10^1$	$10^2$	$10^3$	$10^4$	$10^5$	$10^6$	$10^7$	$10^8$	$10^9$	$10^{10}$	$10^{11}$	$10^{12}$	$10^{13}$
High resistivity																	
Low resistivity																	

Note :

Follow the instructions in the manual to correctly install, connect and operate the instruments. Contents of the catalogue are subject to change without prior notice when improvement are made in the performance. The actual colors of the machine may appear different from colors printed in the catalogue.

## Main Unit



## Prove Unit



For LOW RESISTIVITY Measurement (Electrode for 4 Terminal Method) MCP-PD511

For High Resistivity Measurement (Ring Electrode) MCP-PD522



Powder Resistivity Measurement System (Loresta-GP)

## Measurement condition

Start-range	10E0P	0 (0ten)
y-oltage limit		30 V
Probe		4-pin probe
Electrode distance		3.0 mm
Electrode radius		0.7 mm
Sample radius		10.0 mm
Sample weight		1.000 g

## Results

Sample Name	Sample No.	Load (kN)	Pressure (MPa)	Thickness (mm)	RCF	Resistance (Ohm)	Volume-resistivity (Ohm-cm)	Conductivity (S/cm)	Density (g/cc)
1	2.00	6.37	4.95	2.933	OK	7.078E-02	9.908E-02	1.007E+01	6.431E-01
2	4.00	12.72	9.15	3.910	OK	5.133E-02	6.624E-02	1.517E+01	7.679E-01
3	6.00	19.07	3.48	2.049	OK	3.788E-02	7.389E-02	2.278E+01	9.208E-01
4	8.00	25.41	2.10	3.463	OK	3.206E-02	3.642E-02	2.905E+01	1.027E+00
5	10.00	31.76	2.86	3.523	OK	2.865E-02	2.880E-02	3.465E+01	1.113E+00
6	20.00	63.52	2.91	3.590	OK	2.570E-02	2.438E-02	4.108E+01	1.206E+00

