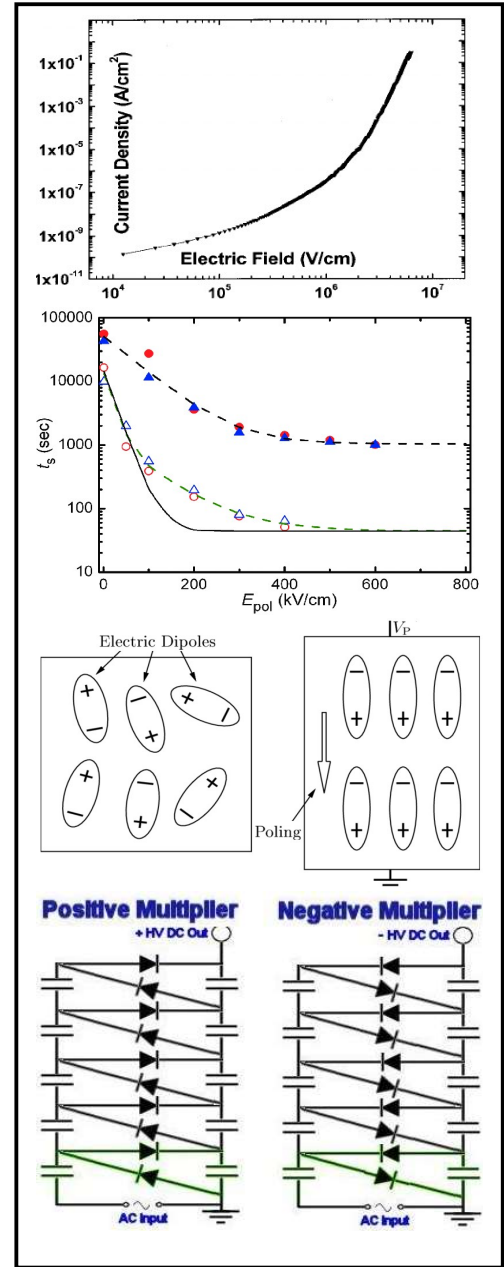


DIPOLE ALIGNING UNIT



ABOUT THE SYSTEM

The electric dipole moment is a measure of the separation of positive and negative charges within a system, that is, a measure of the system's overall polarity. The SI units for electric dipole moment are coulomb-meter (C·m); however, the most commonly used in the atomic physics and chemistry is the Debye. Theoretically, an electric dipole is defined by the first-order term of the multipole expansion; it consists of two equal and opposite charges that are infinitesimally close together. This is unrealistic, as real dipoles have separated charge. However, because the charge separation is very small compared to everyday lengths, the error introduced by treating real dipoles like they are theoretically perfect is usually negligible. The dipole's direction usually points from the negative charge towards the positive charge. Direction is independent of the sides. The Dipole aligning Unit is most advanced in its specifications and user can set desired voltage with utmost accuracy using a potentiometer. The accuracy and the resolution of the system is very precise as low as 200 Volt. The new system is digital and has I/O Functions. Dipole aligning Unit is a process in which a DC direct current electric field with larger than coercive field strength is applied to specimen at high temperature, but below Curie temperature or optionally applying field at room temperature.



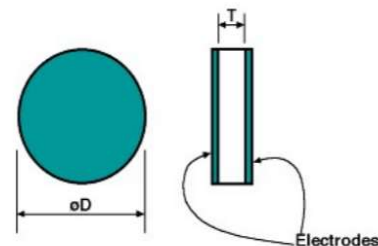
MODEL: 5DU

Various Tests Performed by this Model

- Dipole aligning at different fields
- Dipole aligning Unit at fixed bias current

Optional test performed by this model

- Dipole aligning under magnetic field
- Pulse Dipole



DIPOLE ALIGNING UNIT

TECHNICAL SPECIFICATIONS

The Highly advance Dipole aligning Unit is providing field up to 5KV for highly insulating samples. Such high field is important in break down testing. The current while applying the field is displayed/ Recorded Simultaneous The optional software takes care of the other important functions of the Dipole aligning Unit automatically without any human interventions. Following are highlights of important functions:

- Simultaneous measurement of current and graphical representation of the same.
- Maintain temperature using programable PID functions and number of temperature points.
- Protect the specimen from burn out due to over current.
- Overload protection circuits for current control.
- Representation of data and graphs in automatic scale.
- Online math work for different calculations using sample dimensions.
- Data in standard ASCII Format exportable to standard software's like excel origin etc.
- Online export of data from graph.

MODEL	5DU
Field	$\pm 5KV/ (50KV/cm)$ for 1 mm thick sample
Voltage resolution	1% of range
Over load protection	Current Controlled
Current limiting circuit	2 mA
Minimum Leakage Current	0.01uA
Input Capacitance	1 p F
ADC Resolution	16 Bit
Minimum Current Sensitivity of Bulk	1 μ A
Maximum Current Measurement	2mA
Minimum Sample Area	1 sq. mm
Maximum Sample Diameter	10 – 15 mm
Maximum Sample Thickness	3 mm (Field will reduce according to thickness)
Temperature	RT- 250 Degree with PID control.
Furnace and Sample Holder	For Bulk Samples
Sample holder	Spring Loaded
Sample Holder Construction	Brass/Teflon
Data	ASCI
PC Interface	USB/RS232
Size	Rack Mountable Unit 19 Inches 4U

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