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PARALLEL PLATE CAPACITOR

CAT NO. PH0879



Experimental Notes

PARALLEL PLATE CAPACITOR

PART LIST:

- * 1 pc. channel base with scale
- * 2 pcs side support
- * 2pcs. rider
- * 2pcs. Aluminium plates 120mm round
- * 2pcs. Terminals, with screws as alternative insulation
- * 1pc. Glass plate
- * 120 x 135mm as alternative insulation
- * 1pc. Plastic sheet 120 x 135mm as alternative insulation
- * 1pc. Card board sheet 120 x 135mm as alternative insulation
- * 1pc. Paper sheet 120 x 135mm as alternative insulation

This instrument is used to study the theory of capacitance and charge whilst using air as the insulation medium. The charge stored in a capacitor depends on the area of the capacitor plates, the distance between the plates and the dielectric material between them. Different plates are provided for study using alternative insulation materials.

To form Air Capacitor, two large plates of known diameter are required to be positioned parallel to each other with air between them and the distance between the plates must be adjustable.

ASSEMBLY OF THE INSTRUMENT:

Take the channel base and put the side supports at the ends of channel base as shown in the Fig - 1. Position the rider on the channel base & fix the pillars on the riders.

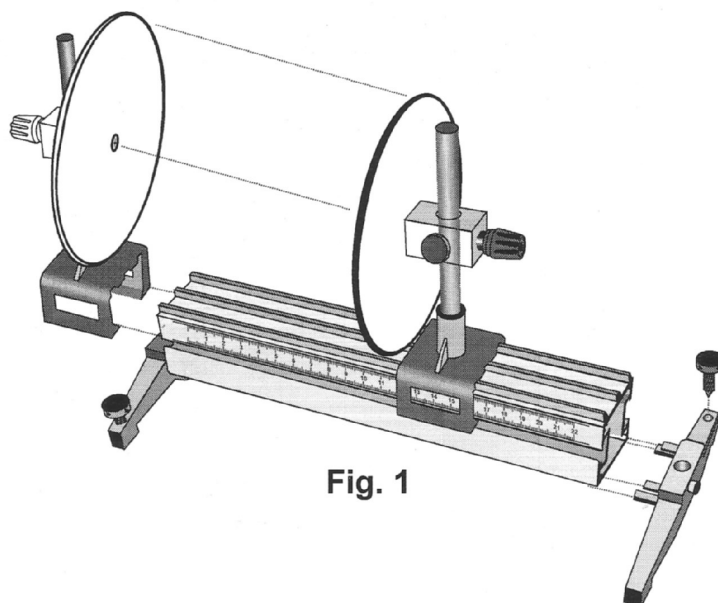


Fig. 1

Position the round plate against the plastic pillar & fit with the screw given on the base. Position the plate at the same level.

When both plates are fitted, one plate can be slide back and forth to adjust the space between them, When slide to the closest position, the 2 plates should not touch.

When the plates are separated a few millimeters an insulation sheet can be placed between the plate as shown in the Fig. 2. The plates can then be adjusted to press finally against the plate

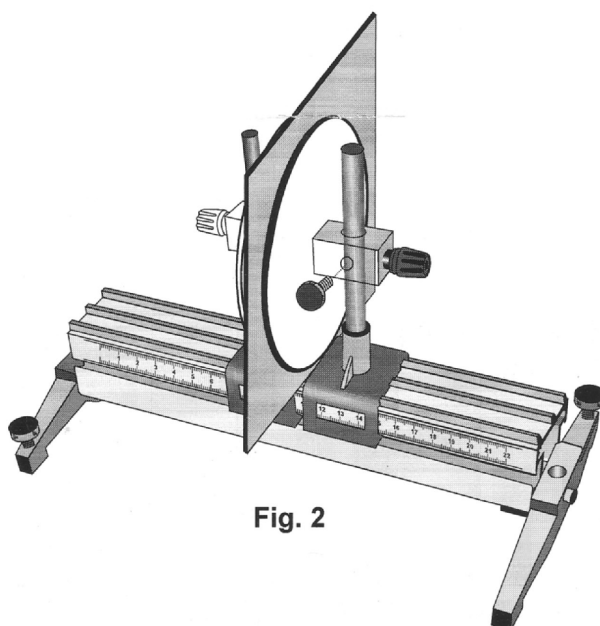


Fig. 2

EXPERIMENT:

Two flat, rigid aluminium plates, 120mm diameter, are mounted to face one another in a way that permits adjustment of the distance between their faces. Electrical connection to each plate is made by 4mm spin free terminals so that a high voltage Power Supply can be connected between the plates to deposit an electric charge and subsequently an Electrometer can be connected to measure the electric charge between them.