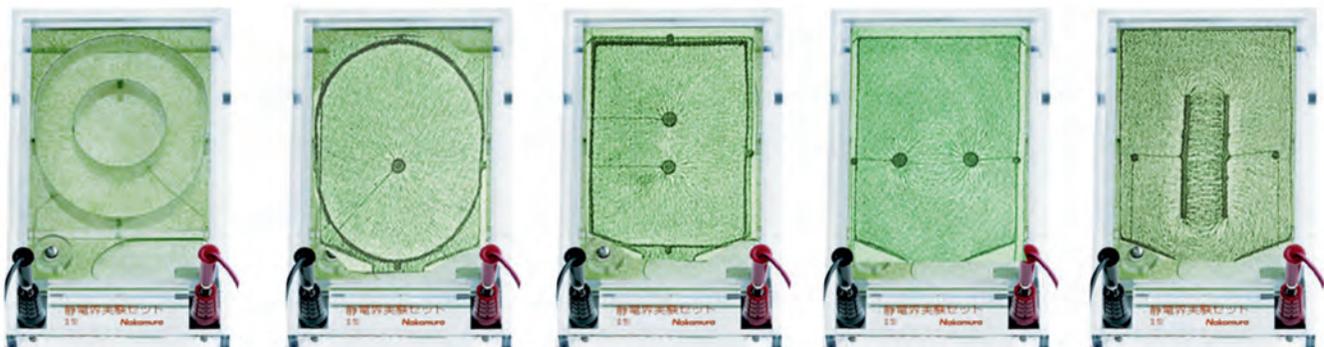


# ELECTROSTATIC FIELD APPARATUS with HANDHELD CHARGER

N99-B10-1492



## Manual of Operations

**IMPORTANT!**  
Read the following before using this equipment:

Carefully follow all instructions and observe all precautions given in this manual



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## ELECTROSTATIC FIELD APPARATUS with HANDHELD CHARGER

This unique apparatus is designed for the observation of electric lines of force. The visible lines are generated by applying an external electric field to the plastic observation cell filled with a special solution. Individual or classroom size demonstrations can be conducted by using an overhead projector. Select any of the five electrode plates to enhance the experiment.

### Construction:

- \* **Observation Tank:** Made of Transparent Plastic. Size: 160x105x7mm
- \* **Holder:** To hold the observation tank which is inserted laterally. Fix the tank with a stopper to prevent it from slipping off when tilted. Made of Transparent Plastic.
- \* **Electrode Plate:** To be set on the observation tank. **Caution: Do not press it down with force.**
- \* **Handheld Charger as high power source:** To apply high voltage to the electrode plate through the holder. Connect the blue lead wire to the black terminal of the holder.

### How to Use:

1. Attach the observation tank to the holder (insert it laterally with the air chamber upward). Set the stopper.
  - \* The observation tank should not be too clean. Slight smear by a drop of oil is effective for static electricity.
2. Lay the holder on an overhead projector. Tilt the holder so that the air bubble comes out of the air chamber for stirring liquid in the tank and goes back into the air chamber.
  - Caution: Do not set the electrode plate during this operation.**
3. Set the electrode plate in the position with electrode on the terminal side of holder.
  - Caution: Do not press the electrode plate forcefully on the observation tank.**
4. Adjust the focus of the overhead projector.
5. Connect the Blue earth lead wire of the Handheld Charger to the Black terminal of the holder and the needle tip of the Charger to the Red terminal of the holder.
6. Squeeze the Handheld Charger to generate electricity and to start the flow of electric current in the apparatus.
7. When replacing the electrodes or making a new electric line of force, be sure to remove the electrode plate and to stir the liquid with the air bubble each time.
8. In the case of unsatisfactory results because of humidity and other factors, wipe both glasses of the tank with a drop of oil.
  - \* Desirable conditions to obtain good results are:
    1. The observation tank is not charged with electricity.
    2. The observation tank is well insulated.



THE ELECTRODE PLATES



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