

Manual of Operation

Important!

Read the following before using this equipment:

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

Purpose

This is an apparatus designed to record a straight-line motion of a mechanical truck and other motion such as falling of an object by discharging onto a tape attached to a moving object at a certain interval of time, permitting visual examination of such a motion (speed, acceleration) from the intervals of chopper bars.

Major Features

- * Friction resistance of traveling tape is extremely small without variance in chopper-bar recording.
- * Frequency change-over switch permits a choice of two types of discharging records at the power supply frequency (50/60 Hz) and 10 Hz.
- * Discharge needles are raised when the power switch is turned off, thus facilitating smooth insertion of recording tape.
- * Easy to affix the tape to graph paper as it is 1 cm wide.
- * An AC cord can be coiled round the main body for storage.

Specification

Power supply: 100 VAC (50/60 Hz)

Tape: Discharge recording paper, 10mm wide x 40m long

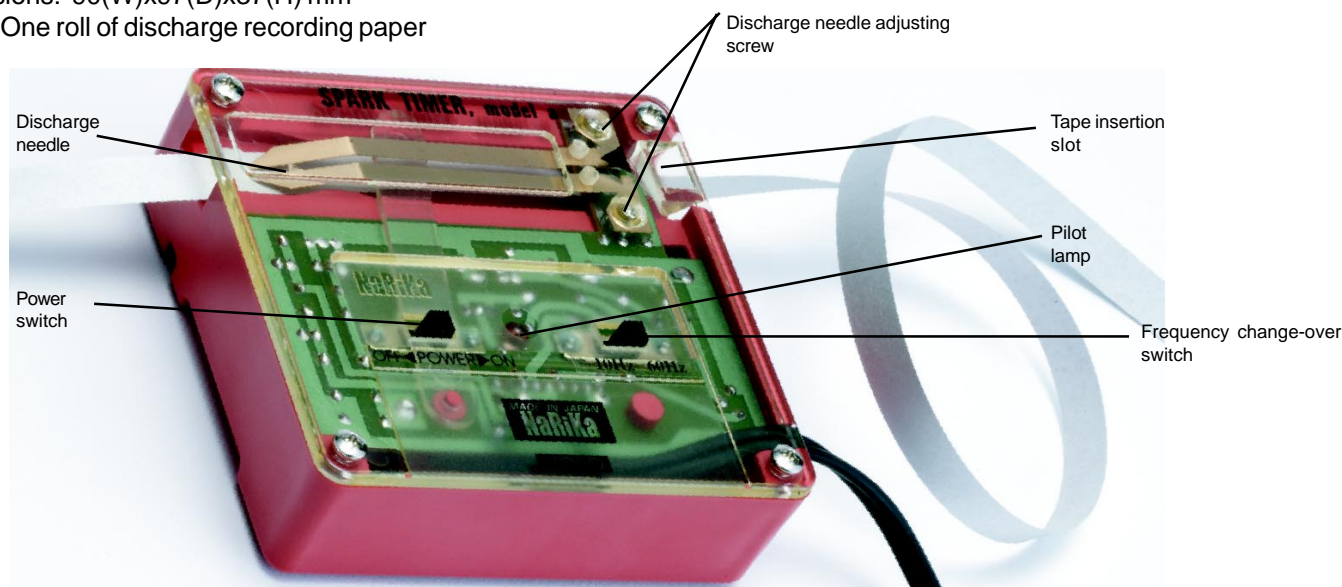
Discharge frequency: Power supply sync (50/60 Hz) and 10 Hz (change-over switch)

Outer case: Made of ABS resin for storing main body and lid made of AS resin

External dimensions: 90(W)x97(D)x37(H) mm

Appurtenance: One roll of discharge recording paper

Construction



- * Discharge needle: Needle electrode discharging onto recording paper (unless the electrodes are in contact with the tape, no discharging occurs.)
- * Discharge needle adjusting screw: If the needles do not come in contact with the recording tape or they hold the tape strongly to cause friction, adjust the screw. However, please note that the apparatus is factory adjusted.
- * Tape insertion slot: The direction of tape travel is pre-determined. Insert the tape in the direction of the arrow mark with the recording surface up. The outside of the roll is the recording surface.
- * Power switch: With this power supply switch in OFF position, the discharging electrodes are lifted to make it easy to insert the tape.
- * Frequency change-over switch: This permits selection of either 50/60 Hz (power supply frequency) or 10Hz.
- * Pilot lamp: When power switch is in the ON position, the lamp flashes at the discharge frequency selected.
- * HOLD: To move the main body to fix it with clamps or onto a metal stand, lay hands on this mark.

How to use

- * Place the recording timer at a proper location according to the type of experiment. Use clamps or other as necessary.
- * Turn power switch off, cut the recording tape to an appropriate length and insert it in the slot. Affix the other end of tape to a moving object.
- * Select either of the frequency values and turn power on.
- * Put the object in motion to record on the tape.

To store the apparatus, coil the AC cord round the main body with the plug on the rear side. To adjust the discharge needles, disconnect the AC cord from an outlet and put the power switch on the ON position. Turn the needle adjusting screw in either way so that the tips come in contact with the traveling surface of the tape. If the needle tips are off the recording paper, chopper bars can skip. If they are pressed hard against the tape, friction becomes greater (and resulting data will be inferior in quality especially when measuring the acceleration of gravity).