

## MM 343 STATIC AND DYNAMIC BALANCING APPARATUS



*Photograph includes optional equipment*

### GENERAL DESCRIPTION

This apparatus is for demonstration of simple balancing techniques.

It consists of a balanced steel shaft mounted on two self aligned ball bearings on a rigid frame with rubber footings to minimize vibration. Four different balance masses, which can be easily clamped on any position on the shaft are provided.

For static balancing, an extension shaft with a pulley is fitted to one end of the shaft. Two weight containers with a cord are wound around the pulley. Steel balls are then added to one container until the shaft is in equilibrium to determine the maximum moment of each balance mass. An angular scale is attached to the other end of the shaft and a linear scale is attached along the frame parallel to the shaft to measure angular and linear positions of each mass.

For dynamic balancing, the shaft assembly is driven by a fixed speed motor via a belt. In the case of unbalance, the shaft will vibrate and the vibration is absorbed on the rubber footings. A guard with transparent front is provided for safety.

### TYPICAL EXPERIMENTS

- Static balancing of the system using moment polygon.
- Dynamic balancing of the system by calculating positions of the masses along the shaft and by resolving and taking moments about one end of the shaft.
- Demonstration of a balanced and unbalanced system by actual running of the apparatus.

### TECHINCAL DATA

- Shaft length : 200 mm.
- Balance masses : 4 ea, different weights.
- Baskets : 2 ea with cord.
- Steel balls : 1 lot.
- Power supply : 220, 1 Ph, 50 Hz. Other power supply is available on request.

### OPTIONAL EQUIPMENT

- MM343-001 Inverter for speed control with speed display.

**Net (unpacked) shipping dimensions WxLxH** : 45 x 45 x 50 cm  
**Net weight** : Approx. 40 kg