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Product Name :

Static and Dynamic Balancing Apparatus

Product Code :

SLE/MCE/79



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Description :

Static and Dynamic Balancing Apparatus (Product Code: SLE/MCE/79) is a rotating-shaft trainer used to show the difference between static and dynamic imbalance and to practise balancing rotating masses in theory of machines laboratories. Four imbalance masses attach to a smooth shaft at any angular and longitudinal position, and a variable-speed motor with belt drive turns the shaft up to 1400 rpm with a digital speed display. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM manufacturer, at its own factory in Ambala, India.

Specifications

Parameter	Detail
Main element	Smooth shaft mounted on ball bearings
Imbalance masses	4, attachable at any angular and longitudinal position
Total imbalance	880 cmg
Drive	Variable-speed electric motor with belt drive
Speed measuring range	0–1400 min?¹ (rpm), displayed digitally
Guard	Transparent cover against contact with rotating parts, with a clear view of the shaft
Dimensions	600 x 300 x 600 mm
Weight	32 kg
Power supply	230 V, 50 Hz, 1 phase; or 230 V, 60 Hz, 1 phase; or 120 V, 60 Hz, 1 phase
Product code	SLE/MCE/79
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Static and Dynamic Balancing Apparatus Used For?

A rotor is statically balanced when it stays put in any angular position, yet it can still shake when it spins if its masses lie in different planes along the shaft; that is dynamic imbalance. On this unit, students first arrange the four imbalance masses so the shaft rests in any position, comparing the moment they produce about the shaft with the moment of the imbalance masses. They then run the motor and see whether the shaft turns smoothly or vibrates, which shows why static balance alone is not enough.

The usual exercise is to calculate the angular and axial positions of the masses by the graphical or analytical method taught in dynamics of machinery, set them on the shaft, and confirm the result by running at increasing speed on the digital display. Close the transparent cover before starting the motor and tighten every mass securely. For colleges building a set of mechanics lab equip

OEM

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