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Product Name :

Free and Forced Vibration Apparatus

Product Code :

SLE/MCE/76



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Description :

Free and Forced Vibration Apparatus (Product Code: SLE/MCE/76) is a vibration trainer used to study free, damped and forced mechanical vibration of a bar-type oscillator in mechanical engineering laboratories. Its electronically controlled exciter runs from 0 to 50 Hz, an oil-filled hydraulic damper gives adjustable damping, and a mechanical drum recorder traces each response on paper. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM technical educational equipment manufacturer, at its own factory in Ambala, India.

Specifications

Parameter	Detail
Topics	Fundamentals of mechanical vibration theory: free, damped and forced
Bar-type oscillator (L x W x H)	700 x 25 x 12 mm, 1.6 kg
Coil springs	0.75 N/mm, 1.5 N/mm, 3.0 N/mm
Exciter frequency	0–50 Hz, electronically controlled; set and displayed on a control unit
Imbalance exciter	Imbalance 0–1000 mmg
Displacement exciter	Stroke 20 mm
Damper	Oil hydraulic, oil-filled; damper constant 5–15 Ns/m, adjustable damping level
Drum recorder	Mechanical; feed 20 mm/s; paper width 100 mm
Data acquisition	Optional unit for displaying and analysing measured values on a PC
Dimensions	1200 x 600 x 1400 mm
Weight	125 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/76
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Free and Forced Vibration Apparatus Used For?

The bar-type oscillator works together with interchangeable coil springs and, depending on the experiment, is left to vibrate freely, slowed by the oil damper, or driven by one of the two exciters. In free vibration tests, students displace the bar, release it and use the drum recorder trace to find the natural frequency; with the damper connected, the decay of successive peaks gives the logar ings show

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