LAB ENGINEERING

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Product Name : Free and Forced Vibration Apparatus	**Product Code :** Dynamics0009

Description :

Free and Forced Vibration Apparatus

Technical Specification :

The experimental unit clearly demonstrates the fundamentals needed to deal with free and forced vibrations.
The central element of the experimental unit is a sturdy aluminum profile frame to which the different experimental setups are attached.
The differences between the two main types of excitation for forced vibrations can be shown on a simple vibration model.
A bar-type oscillator is used as the vibration system.
This offers easy and flexible configuration.
The spring, damper and vibration exciter can be mounted in any position.
An imbalance exciter and a displacement exciter are available for spring base-point excitation.
The excitation frequency is set and displayed on a control unit.
An oil hydraulic damper allows damped vibrations with adjustable damping level.
A mechanical drum recorder offers the option of recording the vibrations.
The measured values can be displayed and analyzed on a PC using the optional unit for data acquisition.
FEATURES:
Demonstration of basic fundamentals of mechanical vibration theory
Free vibrations
Damped vibrations
Inertia force and displacement excitation
Forced vibrations
Resonance

Amplitude response and phase response
SPECIFICATION:
Fundamentals of mechanical vibration theory; free, damped and forced
Bar-type oscillator: LxWxH: 700x25x12mm, 1,6kg
Damper constant: 5…15Ns/m, oil-filled
Coil springs :
0,75N/mm
1,5N/mm
3,0N/mm
Exciter :
Frequency: 0…50Hz, electronically controlled
Imbalance of the imbalance exciter: 0…1000mmg
Stroke of the displacement exciter: 20mm
Mechanical drum recorder :
Feed: 20mm/s
Paper width: 100mm
Required for operation :
230V, 50Hz, 1 phase
230V, 60Hz, 1 phase; 120V, 60Hz, 1 phase

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