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PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Vibration of Spiral Spring Apparatus | Vibrano X - 03

Category: Vibration Technology Lab Equipment · **Country of Origin:** India

Product Overview

The Vibration of Spiral Spring Apparatus - Vibrano X - 03 studies the vibration behavior of a spiral spring rotating mass system. It features a cold rolled steel spiral spring with stiffness of c = 238Nmm approximately, clamped between a ball bearing mounted shaft and a fixed bracket. This Vibration of Spiral Spring Apparatus uses two adjustable sliding weights on diametrically opposite levers to vary moment of inertia. Rotation angle is read on a 0...360° scale disc with 1° resolution. The unit is wall mounted and includes a stopwatch for timing measurements.

View this product online: https://scienticoindia.com/product/vibration-of-spiral-spring-apparatus-vibrano-x-03/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

Vibration of Spiral Spring Apparatus - Vibrano X - 03, Technical Specifications

Specification	Detail
Function	Determines the periodic time for a spiral spring attached to a shaft of vibration moment of inertia
Effective Torque	30mm
Timing	Stop watch
Accessories	All necessary accessories with list
Instruction	Instruction language
Mounting	Wall mounting
Internal Reference Code	**Vibrano X - 03**

Technical Data

Spiral Spring

Parameter	Value
Stiffness	c = 238Nmm approximately
Cross-section	10x1mm
Effective length	approx. 800mm
Inside radius	10mm

Parameter	Value
Outside radius	50mm

Weights (Made of Stainless Steel)

Parameter	Value
Mass	0.5kg
Diameter	50mm

Levers (Made of Stainless Steel)

Parameter	Value
Diameter	8mm
Length	154mm

Measurement

Parameter	Value
Arm radius of the rotating mass	36...150mm
Angle measuring scale	0...360°
Resolution	1°

Key Features

Key Features

- **Core Function:** this Vibration of Spiral Spring Apparatus determines spring stiffness and natural frequency of a rotating mass system
- **Spring Material:** cold rolled steel
- **Spring Stiffness:** c = 238Nmm approximately
- **Spring Cross-section:** 10x1mm
- **Spring Effective Length:** approx. 800mm
- **Spring Radii:** inside 10mm, outside 50mm
- **Shaft Mounting:** ball bearing mounted shaft, clamped to fixed bracket
- **Levers:** stainless steel, diameter 8mm, length 154mm, fitted diametrically opposite
- **Sliding Weights:** stainless steel, mass 0.5kg, diameter 50mm, secured with clamping screws
- **Moment of Inertia:** adjustable via sliding weight position
- **Arm Radius:** 36...150mm
- **Angle Scale:** 0...360°, 1° resolution
- **Effective Torque:** 30mm
- **Mounting Type:** wall mounting
- **Timing:** stop watch included

Experiments

- Determination of the stiffness of a spiral spring
- Determination of the natural frequency of a spiral spring-rotating mass system, with varying total vibrating mass
- Determination of the natural frequency of a spiral spring-rotating mass system, with varying mass distribution

Construction and Design

The Vibration of Spiral Spring Apparatus - Vibrano X - 03 is built around a spiral spring made of cold rolled steel. The spring is clamped between a ball bearing mounted shaft and a fixed bracket. Two levers are fitted to the shaft, positioned diametrically opposite each other. Two sliding weights made of metal are mounted on the levers. These weights can be securely fixed in position using clamping

screws, forming a rotating mass with adjustable moment of inertia. The system is displaced by hand to initiate vibration. The angle of rotation is read off a 1° scale disc attached to the shaft. This Vibration of Spiral Spring Apparatus is designed for wall mounting.

Scope of Delivery

- 1 Experimental module
- 1 Set of weight
- 1 Stopwatch
- 1 Instruction manual

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q: What does the Vibration of Spiral Spring Apparatus - Vibrano X - 03 measure?
A: It measures the stiffness of a spiral spring and the natural frequency of a spiral spring-rotating mass system.

Q: What material is the spiral spring made of?
A: The spiral spring is made of cold rolled steel.

Q: How is the angle of rotation measured?
A: The angle of rotation is read off a 1° scale disc attached to the shaft, with a measuring range of 0...360°.

Q: How is the moment of inertia adjusted?
A: The moment of inertia is adjusted by sliding the metal weights on the levers and securing them with clamping screws at different arm radii, ranging from 36 to 150mm.

Q: How is this unit installed?
A: The unit is intended for wall mounting.

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