

Product Name :
Free and Forced Torsional Vibrations

Product Code :
TN993



Description :

Free and Forced Torsional Vibrations

Technical Specification :

Free and Forced Torsional Vibrations

The unit is perform the following experiments and investigations:

Learning Objectives / Experiments:

Determine the torsional stiffness of a torsion bar

Determine the mass moments of inertia

Decay behaviour of torsional vibrations

Determine the damping in torsional vibrations

Forced torsional vibrations, resonance

Torsional vibration systems with multiple masses

Two-mass torsional oscillator

Three-mass torsional oscillator

Specifications:

Experimental unit for investigating torsional vibrations and torsional stiffness

3 mass disks

4 freely positionable ball-bearing-mounted units with clamping chucks

Sealed oil damper

Exciter unit with drive crank; exciter amplitudes $1,4^\circ$, $1,8^\circ$, $2,4^\circ$

4 rotary angle sensors, $0,03\text{v}/^\circ$

Electrical exciter control unit for setting and displaying the exciter frequency and for powering the rotary encoder
Software for data acquisition via usb under windows 7, 8.1, 10
Including PC1 Computer-System with 21" TFT-Monitor Win 10 engl.

Technical Data:

Torsion bar

1300mm

$\tilde{A}=6\text{mm}$

Stainless steel

Rigidity: 1,0Nm/rad/m

Mass disks

$\tilde{A}=150\text{mm}$, 2,7kg

$\tilde{A}=228\text{mm}$, 4,8kg

Exciter frequency: 1...20Hz

Damper coefficient: 0,25...3,5Nm/rad/s

230V, 50Hz, 1 phase

230V, 60Hz, 1 phase; 120V, 60Hz, 1 phase

Dimensions and Weight

Length x Width x Height: 1400x410x400mm

Weight: 50kg

Naugralabequipments

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