

Product Name :
Centrifugal Force

Product Code :
NETN995



Description :

Centrifugal Force

Technical Specification :

Centrifugal Force

Centrifugal force occurs in the motion of a rigid body on an orbit and is the inertia force, which acts with a direction away from the centre of rotation. The counter force associated with the inertial force is the centripetal force. Both forces are of equal magnitude and opposite in direction. Centrifugal forces occur in all rotating machinery such as turbines and controlled to prevent damage to machine elements.

The unit is perform the following experiments and investigations:

Learning Objectives / Experiments:

Investigation of the centrifugal force as a function of

The speed

The size of the rotating mass

The rotation radius

Specification:

[1] measure the centrifugal force on rotating masses

[2] adjustment of the orbital radii

[3] selection of different masses

[4] continuous adjustment of the speed

[5] drive with DC motor

[6] transmission of centrifugal force via the connecting rod and member to a bending beam

- [7] force-proportional deformation of the bending beam
- [8] measure the centrifugal force via an inductive position sensor on the bending beam
- [9] digital display of force and speed
- [10] protective cover with electronic coupling to the drive ensures safe operation

Technical Data:

Orbit

Orbital radii: 25mm, 50mm, 75mm, 100mm, 125mm

Velocity: 6,5m/s

Masses: 50g, 75g, 100g

Drive motor

Power: 35W

Speed: 6000rpm

Measuring ranges

Speed: 0...500rpm

Force: 0...25n, resolution: 0,1N

230V, 50Hz, 1 phase

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

Dimensions and Weight

Length x Width x Height: 420x400x270mm

Weight: 23kg

Naugralabequipments

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