1.3.31-00 Moment of inertia and torsional vibrations

What you can learn about ...

- ➔ Rigid body
- ➔ Moment of inertia
- ➔ Axis of rotation
- ➔ Torsional vibration
- ➔ Spring constant
- ➔ Angular restoring moment
- ➔ Moment of inertia of a sphere
- ➔ Moment of inertia of a disc
- ➔ Moment of inertia of a cylinder
- ➔ Moment of inertia of a long bar
- ➔ Moment of inertia of 2 point masses

Principle:

Various bodies perform torsional vibrations about axes through their centres of gravity. The vibration period is measured and the moment of inertia determined from this.

What you need:

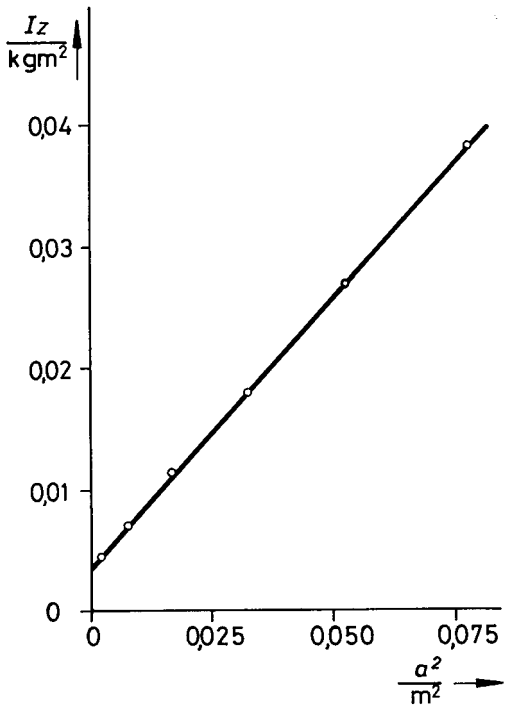
Rotation axle	02415.01	1
Sphere	02415.02	1
Disk	02415.03	1
Hollow cylinder	02415.04	1
Solid cylinder	02415.05	1
Rod with movable masses	02415.06	1
Spring balance 2.5 N	03060.02	1
Light barrier with Counter	11207.30	1
Power supply 5 V DC/0.3 A	11076.99	1
Tripod base -PASS-	02002.55	1
Barrel base -PASS-	02006.55	1

Complete Equipment Set, Manual on CD-ROM included
Moment of inertia and torsional vibrations P2133100

Tasks:

The following will be determined:

1. The angular restoring moment of the spiral spring.
2. The moment of inertia
   a) of a disc, two cylinder, a sphere and a bar,
   b) of two point masses, as a function of the perpendicular distance to the axis of rotation. The centre of gravity lies in the axis of rotation.



Moment of inertia of two equal masses, of 0.214 kg each, as a function of the distance between them.