



Flywheel Apparatus (SMT-TM-15)

Using the Apparatus basic experiments on uniformly accelerated angular motion can be performed. The experimental unit comprises a flywheel with shaft, a cable and a set of weights. The shaft forms the axis of rotation in the centre of gravity of the flywheel. It is mounted on two bearings. One end of the cable is attached to the shaft. A weight is attached to the other end. The attached weight sets the flywheel in a uniformly accelerated motion. The time needed to roll down is measured and compared to the times for other weights. The mass moment of inertia of the flywheel is calculated from the measured time, the mass of the flywheel and the acceleration distance. The experimental unit is designed to be fixed to a wall.

TECHNICAL SPECIFICATIONS

Technical Data:

- Flywheel:
 - Material: Steel
 - Dia=300mm
 - Thickness: 40mm
 - Mass: 22.5kg.
- Mass moment of inertia: 0.25kgm^2 .
- Pulley:
 - D=22mm
- Set of weights
 - 1x 1N (hanger).
 - 4x 1N.
 - 3x 5N.
- Base plate - WxH: 250x200mm.
- LxWxH: 250x350x1500mm
- Weight: approx. 30kg



Experimental Data:

- Determine the mass moment of inertia by experiment
- Dynamic fundamental law of rotational movement