1.3.15-00 Moment and angular momentum

What you can learn about ...

- ➔ Circular motion
- ➔ Angular velocity
- ➔ Angular acceleration
- ➔ Moment of inertia
- ➔ Newton's laws
- ➔ Rotation

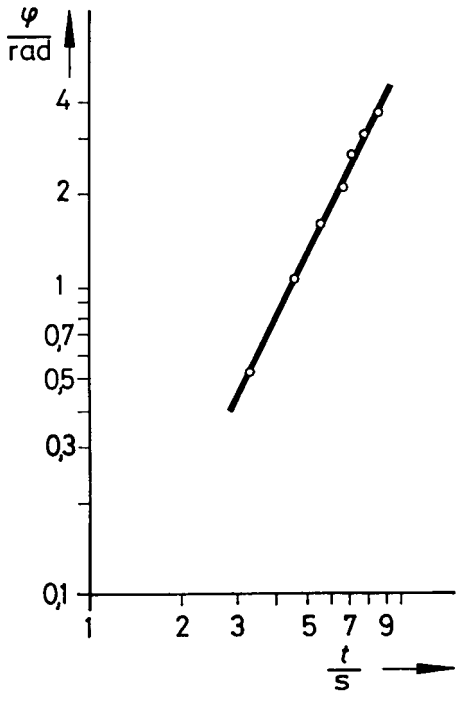
Principle:

The angle of rotation and angular velocity are measured as a function of time on a body which is pivoted so as to rotate without friction and which is acted on by a moment. The angular acceleration is determined as a function of the moment.

What you need:

Turntable with angle scale	02417.02	1
Aperture plate for turntable	02417.05	1
Holding device w. cable release	02417.04	1
Air bearing	02417.01	1
Precision pulley	11201.02	1
Pressure tube, l = 1.5 m	11205.01	1
Blower	13770.93	1
Light barrier with Counter	11207.30	1
Power supply 5V DC/0, 3 A	11076.99	1
PEK capacitor, 100 nF/250 V	39105.18	1
Adapter, BNC-plug/socket 4 mm	07542.26	1
Weight holder 1 g	02407.00	1
Slotted weight, 1 g, natur. colour	03916.00	20
Silk thread, l = 200 m	02412.00	1
Connecting cord, l = 1000 mm, blue	07363.04	1
Connecting cord, l = 1000 mm, red	07363.01	1
Circular level	02122.00	1
Tripod base -PASS-	02002.55	1
Barrel base -PASS-	02006.55	1
Bench clamp -PASS-	02010.00	2

Complete Equipment Set, Manual on CD-ROM included
Moment and angular momentum P2131500



Angle of rotation as a function of time with uniformly accelerated rotary motion for m = 0.01 kg, r = 0.015 m.

Tasks:

With uniformly accelerated rotary motion, the following will be determined:

1. the angle of rotation as a function of time,
2. the angular velocity as a function of time.
3. the angular acceleration as a function of time,
4. the angular acceleration as a function of the lever arm.