

## 1.3.16–11 Centrifugal force with Cobra3



## What you can learn about ...

- Centrifugal force
- Centripetal force
- Rotary motion
- Angular velocity
- Apparent force

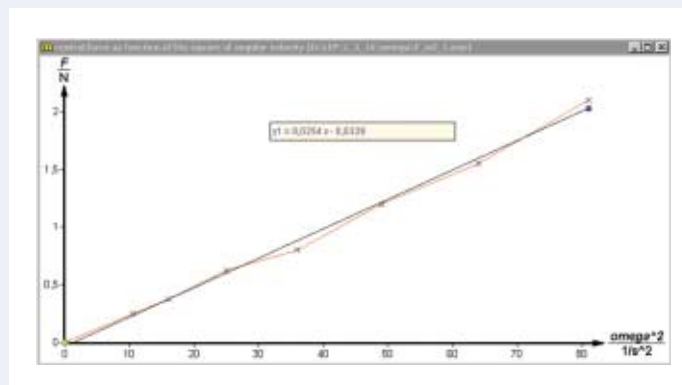
## Principle:

A body with variable mass moves on a circular path with adjustable radius and variable angular velocity. The centrifugal force of the body will be measured as a function of these parameters.

## What you need:

Cobra3 Basic Unit	12150.00	1
Power supply, 12V-	12151.99	1
RS232 cable	14602.00	1
Newton measuring module	12110.00	1
Newton sensor	12110.01	1
Cobra3 Force/Tesla Software	14515.61	1
Centrifugal force apparatus	11008.00	1
Car	11060.00	1
Holding pin	03949.00	1
Laboratory motor, 220 V AC	11030.93	1
Gearing 30/1, for 11030.93	11029.00	1
Bearing unit	02845.00	1
Driving belt	03981.00	1
Support rod w. hole, 100 mm	02036.00	1
Barrel base	02006.10	1
Support rod -PASS-, square, $l = 250$ mm	02025.55	1
Right angle clamp	02040.55	1
Bench clamp, -PASS-	02010.00	3
Fish line, $l = 100$ m	02090.00	1
Spring balance, transparent, 2 N	03065.03	1
Slotted weight, 10 g, black	02205.01	4
Slotted weight, 50 g, black	02206.01	2
Connecting cord, $l = 750$ mm, red	07362.01	1
Connecting cord, $l = 750$ mm, blue	07362.04	1
PC, Windows 95® or higher		

**Complete Equipment Set, Manual on CD-ROM included**  
**Centrifugal force with Cobra3 P2131611**



Typical evaluation of central force as a function of the square of angular velocity.

## Tasks:

Determination of the centrifugal force as a function

1. of the mass,
2. of the angular velocity,
3. of the distance from the axis of rotation to the centre of gravity of the car.