

Ballistic Pendulum

The ballistic pendulum allows to study the laws of conservation of energy and conservation of momentum in a perfectly inelastic collision.

This device is particularly sturdy, firmly fixed to its base and equipped by a state-of-the-art launcher made by using CNC technology.

The item is entirely manufactured in our factory, from the production of every component to assembly.

The launching system is removable and suitable to verify the initial speed of a projectile according to the laws of parabolic motion.

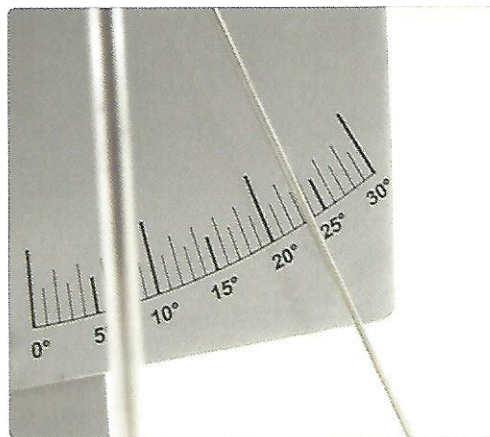
Dimensions:

Height: 30 cm

Base: 43x15 cm



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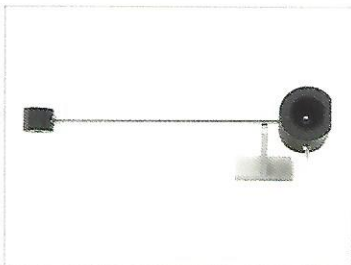
Launcher

The launcher is made of anodized aluminum. It has 5 positions of launch and can be easily used for the study of the parabolic motion.



Aluminum T-shape holder

Useful for determining center of mass of pendulum system.



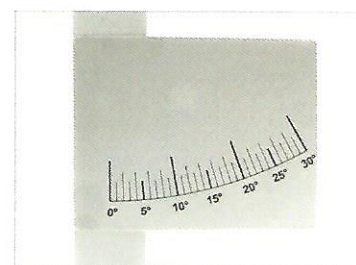
Removable pendulum

Removable pendulum allows to determine its mass and center of mass.



Protractor

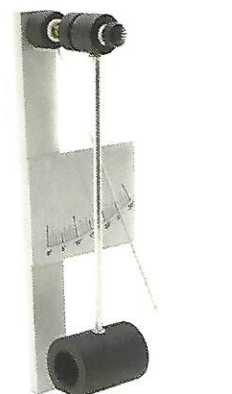
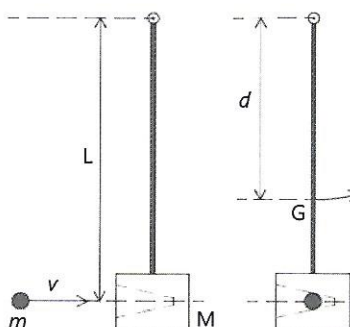
With an accuracy of 1°, the graduated scale is screen-printed on an aluminum plate for a simple and quick measurement reading.



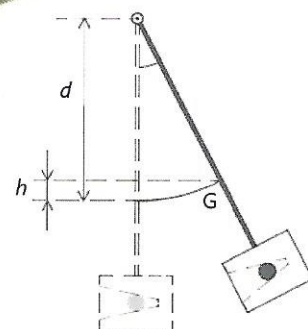
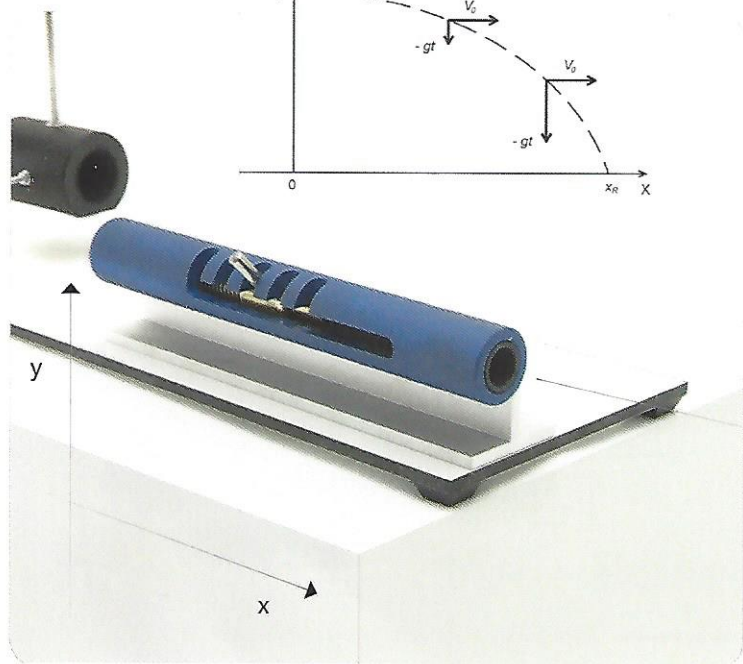
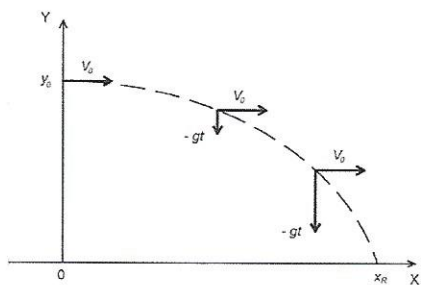
EXPERIMENT DESCRIPTION

A steel projectile having mass m and speed v is fired horizontally into the PVC pendulum swinging block which is initially stationary and whose mass M is far greater than the projectile's one. The speed of the projectile can be calculated thanks to the law of conservation of angular momentum, neglecting the effect of any external or frictional forces.

Ballistic pendulum experiment



Parabolic motion experiment



v_0

The launching system is removable and suitable to verify the initial speed of a projectile according to the laws of parabolic motion; this allows to compare the result with that one obtained by performing the inelastic collision experience.