Air rail, scrolling multi-timer, 12 functions, 2 sensors and flow unit

EQ238FA

Function

Intended for experimental study, physics laboratory and carrying out physics experiments on: Kinematics. Reference, position, movement and trajectory. The mobile. The trajectory and displacement. The difference between displacement and distance travelled. The Cartesian reference system in the plane, Cartesian plane. Scalar magnitude. Vector magnitude. The straight and uniform movement, MRU. Checking initial conditions. Table and graph. Determining the average speed. Determining the MRU hourly equation. Checking the characteristics of the MRU. Uniformly varied rectilinear motion, MRUV. Identifying reference positions. Building data table and graph. The function that represents the trend line of the points on the graph. The MRUV time function. Identification of the coefficients of the movements hourly function. The S versus t graph and the slope of the tangent on the graph. The physical meaning of the area and slope, slope, in the MRUV v versus t graph. The time-independent equation, Torricelli equation, for the MRUV. Dynamics.

The fundamental law of dynamics, Newton second law. The initial mass of the furniture. The values ¿¿of the forces that will be applied to the furniture. The movement of the furniture under the action of forces with different intensities. The relationship between acceleration and force. Energy Conservation. Coefficient of restitution, momentum and kinetic energy in an inelastic collision. Data collection from car 1, before the collision, sensor S0. Data collection from car 2 plus car 1 system, sensor S1. Mechanical collisions, momentum and kinetic energy. The refund coefficient. The amount of motion, momentum, before and after the inelastic collision. The kinetic energy before and after the inelastic collision. Coefficient of restitution,

momentum and kinetic energy in an elastic collision. The refund coefficient. The amount of motion, momentum, before and after a perfectly elastic collision. The kinetic energy before and after the perfectly elastic collision. Wave. Determination of the elastic constant of a mass-spring system, the MHS. Determining the equilibrium position. Determining the initial amplitude. Measuring periods and calculating their average value. Determining the elasticity constant by the dynamic process, etc.

Knowledge areas

Physics

Key Experiments

The movement and the trajectory.
The straight and uniform movement
The uniformly varied rectilinear movement
The amount of motion and the kinetic energy in an inelastic collision.
The amount of motion and the kinetic energy in an elastic collision.