

C15-2456-W0

I-Gauge OS-K

C15-2456-W1

I-Gauge OS-KB

(With BeeSpi v)

INSTRUCTION MANUAL

Thank you very much for purchasing this product.
Be sure to read this instruction manual before using it.

This product is used for “experiments for checking the movement of a weight rolling on a slope”. We can call it Weight Collision Test Apparatus or I-Gauge. It can easily change the height of point to release the rolling weight (i.e., inclination of a slope) or the mass of the weight. It enables collision experiments under stable conditions, since the rail on which the weight rolls down smoothly changes a slope angle or even get into a almost horizontal position.

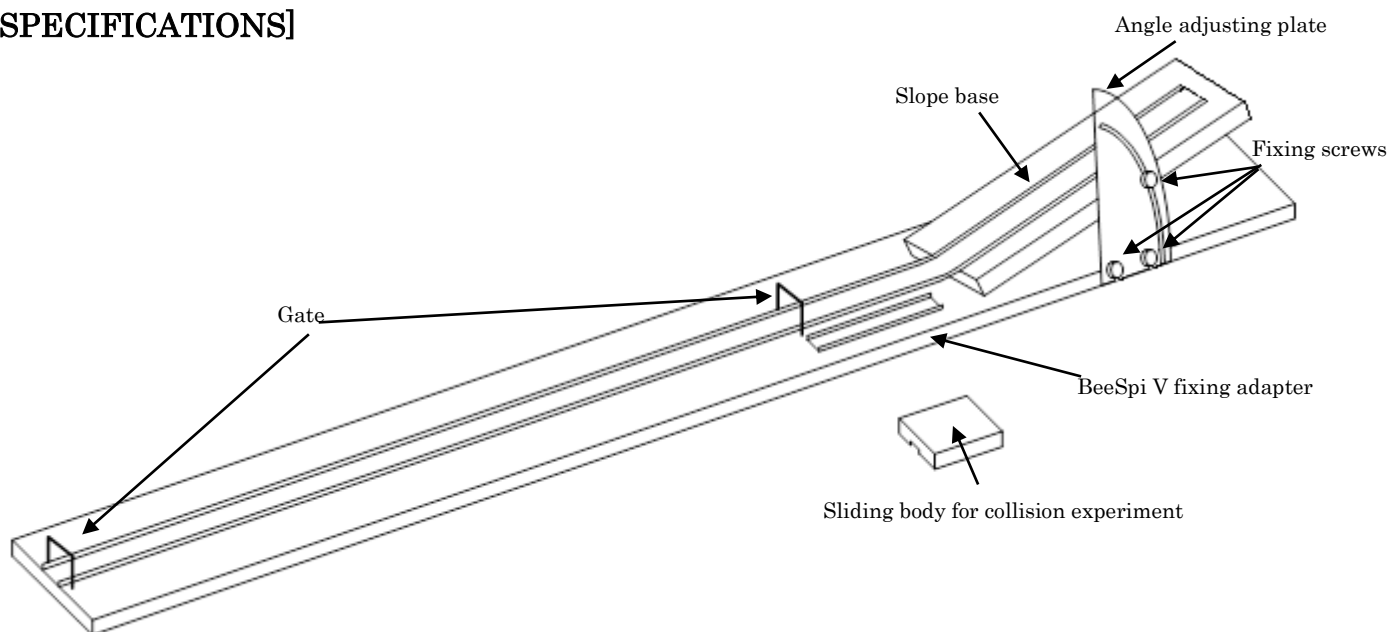
The advanced model OS-KB allows enhanced collision experiments while measuring the collision speed using the BeeSpi v (speed measurement device) supplied with the product.

! CAUTION

If the product is used improperly, injury or physical damages may result.

- Do not store the product in a dusty, humid, or hot place.
- Do not use or leave the product in a place exposed to strong direct sunlight, a car under the burning sun, or a hot place. Otherwise, it may deform or become defective.
- Do not make an experiment on an unstable table or on an inclined surface.
- Do not expose the product to a strong impact or throw it.

[SPECIFICATIONS]



Size: 1,050 x 100 x 185 mm

Angle adjustment: 0° to 45°

Material: Body (wood), Rail (plastic)

Rail length: 1,000 mm (scale length: 500 mm)

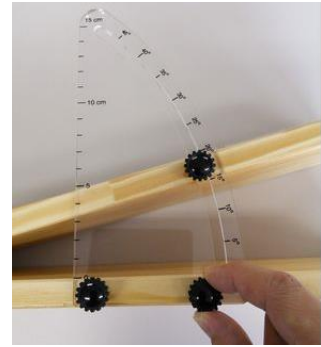
Accessories: ø 25 mm steel ball (70g), ø 25 mm porcelain ball (19g), two weight-stopping gates,

One sliding body for collision experiments (acrylic plate, 40 x 80 x 13.6 mm),

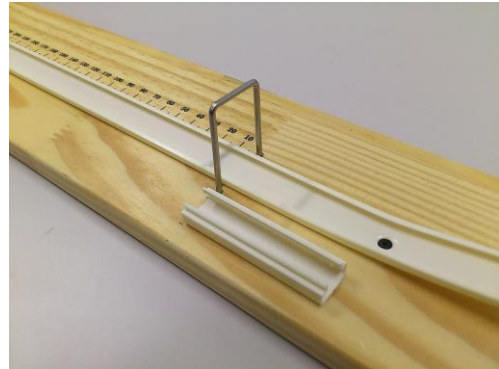
Three fixing screws, BeeSpi V (OS-KB only).

[PREPARATION]

- (i) Attach the angle adjusting plate to the body by the fixing screws. Fit the bottom and secure the plate firmly to avoid misalignment.



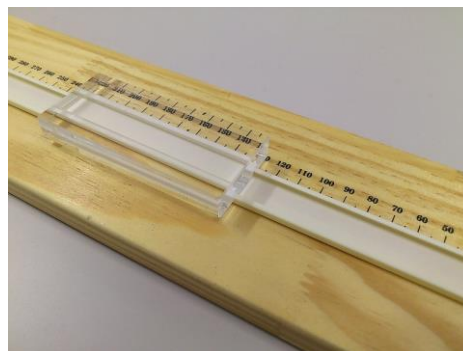
- (ii) Insert the two gates at the gate positions shown in the illustration in [SPECIFICATIONS] above. Be careful not to bend the gates.



- (iii) Insert the footing of BeeSpi V into the rail as shown on the picture below. If you purchased the OS-KB. Apply the BeeSpi V to the rail and push it firmly until it is securely attached.



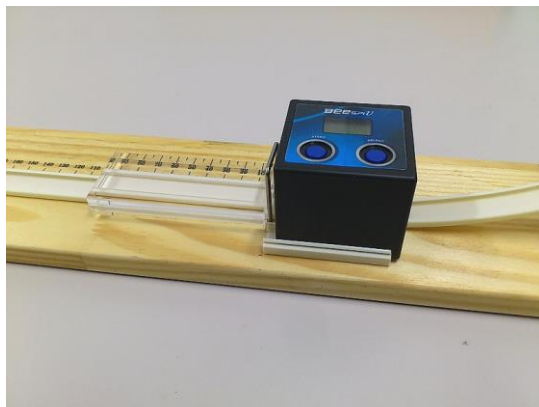
- (iv) The sliding body for collision experiments is to be put on the rail on the body, between the gates. It is a grooved plastic body sliding on the rail that has two grooves that fit the rails. Place it so that these grooves are right on the rails.



[USAGE]

This product is designed for collision experiments between a weight (ball) rolling down on a slope and the sliding body that is placed beyond the gate. Experiments are conducted by making a weight rolling down on a slope by colliding with the sliding body at the gate. Because the gate is used to stop the weight at the moment of collision the weight collides with the sliding body only once.

- (i) Loosen the fixing screw of the angle adjusting plate and move the slope base to the intended angle. Fix the angle adjusting plate with the fixing screw firmly, so that the slope will not move.
- (ii) Set the sliding body for collision experiments at the 0cm position of the scale (touching the gate).
- (iii) Select either of the steel ball or the porcelain ball and use it for an experiment.
- (iv) Drop the steel ball or porcelain ball from the highest position of the rail on the slope base.
 - * When using the BeeSpi V, turn on the switch to place the product in standby for measurements. (For details, refer to the manual of BeeSpi V.)
- (v) Record the distance the sliding body moved when the weight collided with it. Modify the way of measurement based on the experiment conditions.



[EXPERIMENT CONDITION EXAMPLES]

- Changing the rail height

Measure the height of the point to drop the weight with a scale and conduct experiments while changing the height.
- Changing the mass of the weight

Check the difference in the results of using the supplied steel ball and the porcelain ball.
- Changing the inclination of the slope (0° to 45°)

Change the inclination of the slope by adjusting the angle of the slope base and check the results.

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