



CENTRE OF GRAVITY SCALE MANUAL

Dear customer, thank you for buying the Portachiavi 3D centre of gravity scale.

The centre of gravity scale, hereafter known as the scale, operates with the data obtained from two weight sensors and the measurement of the position of the glider according to the location of the metallic pins and pads.

For the use of the scale a 9 V battery (type 6LR61 or equivalent) is already included, due to safety reasons the battery is not included in international shipments. The battery is located in the compartment just behind the on/off switch, to locate or substitute it you only need to remove the four screws of the cover and the central screw of the sensor shield.

The measuring range of the scale is 0-4 kg or 0-8 kg depending on the model chosen. The maximum permissible dimensions for the fuselage of the glider are 45 mm wide and 60 mm high, from the underneath of the wing to the lower part of the fuselage and has an error of +/- 0.2 mm in the measurement of the centre of gravity, and +/- 3 grams in the total weight.

Use of the scale.

In order to use the scale switch the device on, a red LED will blink, and after a few seconds the display will show **Portachiavi CG** and the battery voltage. You must replace the battery when the voltage shown is less than 6v .

When the display shows Gr: 000 the scale is ready. Place your model gently on the device and slide it lightly from left to right and forward until the leading edges stops at the pivots.

After a few seconds the display will show values every four seconds, wait until these values are stabilize and those are your current data. The display will show GR: xxxx which refers to the total weight of the model in grams and CG: xxxxxx which is the distance from the leading edge to the centre of gravity.

Sometimes the display might show an error, shown as ERR, your scale is perfect, this error is displayed when the measurement is negative, for example, if you accidentally happen to touch the scale with your hand on one of its sensors. To solve this problem, make sure that nothing is touching the sensors, turn off the device and then turn on again to reset it.



Maintenance of your scale.

To replace the battery you must unscrew the four screws on the top compartment of the switch and the central screw that secures the sensor guard; under the square cover you will find the 9V battery connector. Take care and be careful when removing the sensor protector, the sensor wires are thin and can be easily broken if pulled too hard..

Also take care not to pull heavily on the cable connecting the scale to the LCD screen, it may be damaged.

Do not store the scale with weight or any aircraft over it, it could deform and therefore lose calibration.

Always use your scale on flat and level surface, and away from drafts.

Do not store the scale inside the car or expose to direct sunlight or any source of heat, this could deform it.

Respect the maximum weight for your scale, you can easily see the maximum weight limit on the cover of the battery and electronics.

