

DYNAMOMETER AND INCLINOMETER



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MEASURE FORCE AND ANGLE OF
INCLINATION

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MACHINERY >

WHAT ARE THEY?

What are a dynamometer and an inclinometer?

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The *dynamometer* is widely used in sports medicine, especially to determine an athlete's strength, but its primary function lies in the physical and mechanical field. The **dynamometer measures the weight force** of an object and can be calibrated in kg or Newton. It usually consists of an elastic spring made of steel or bronze, a graduated scale placed in the direction of the spring's deformation and a hook from which to hang the object to be weighed. The type of material must allow the spring to be stretched, compressed or deformed depending on the weight force used. Dynamometers use Hooke's physical law, according to which the deformation of an elastic material is directly proportional to the force exerted on it.

The *inclinometer*, on the other hand, is an instrument used to measure the inclination of a body. It usually consists of a fixed part and a moving part.

These two instruments cannot be used at the same time: either the dynamometer or the inclinometer function can be used.

What are the dynamometer and inclinometer used for?

DYNAMOMETERS AND INCLINOMETERS HAVE VARIOUS FIELDS OF APPLICATION, RANGING FROM THE MECHANICAL TO THE PHYSIOTHERAPEUTIC FIELD

In rehabilitation physiotherapy, the isokinetic technique is used. It allows a group of muscles to perform a number of constant contractions while their force is being measured by a device such as the Activforce 2 model on our site.

This type of instrument combines the functions of a dynamometer with those of an inclinometer. It is a state-of-the-art technology that collects and records objective data in real time to improve efficiency and ensure better results over time. The aim is to work on arms, legs and shoulders to help patients regain muscle strength.

How do the dynamometer and inclinometer work?

THE DIGITAL DYNAMOMETER AND INCLINOMETER CAN BE COMBINED IN ONE PRODUCT

The combination of these two tools allows specialists to achieve better results by creating and prescribing recovery programmes supported by precise data. The instrumentation calculates:

- ✦ the active and passive movement angle
- ✦ the maximum force, average force and force over time
- ✦ the force-to-weight ratio
- ✦ muscle symmetry
- ✦ the progress in strength

It also gives:

- ✦ accurate measurements
- ✦ real-time results

This allows the monitoring of neuromuscular control with precise and definitive biofeedback.

When are the dynamometer and inclinometer used?

THIS MEASURING INSTRUMENT IS PRECISE AND EASY TO USE AND HAS NUMEROUS APPLICATIONS

The uses of the dynamometer and inclinometer are numerous in the physiotherapy field, especially in the case of pulley injuries, but also just to restore muscle strength following surgery.