

# Dynamic Plantar Aesthesiometer

Cat. No. 37450

- Mechanical Stimulation
- With large platform
- Modular animal cage for Mice & Rats

**ASSESSMENT OF  
ANIMAL  
SENSITIVITY TO  
LIGHT TOUCH  
OF THE PAW**

## General

The Dynamic Plantar Aesthesiometer has been designed to assess **"touch sensitivity"** on the plantar surface of the rodents.

Somaesthetic (mechanical) stimulation has a long history of effective clinical use to diagnose pathologies of hyper- or hypo-aesthesia, brought about by drugs, neural pathology or experimental lesions, etc., in model and experimental systems using laboratory animals.



## Main Features

- Automatic detection of animal response (no visual score needed)
- Consistent application of force at an adjustable rate (force ramp)
- Software included as standard
- Data Portability via the Memory-Key provided with the standard package
- Print-out: by optional panel mount or independent thermal MiniPrinter
- NEW: orofacial stimulation by optional holders

**Ugo Basile: more than 10,000 citations**

The **37450** encompasses:-

- a movable **touch-stimulator unit**, complete with filament actuator and adjustable angle mirror
- a microprocessor controlled **electronic unit**, of new design provided with graphic display, internal memory for data storage, memory stick and optional printer.
- a large **testing surface**
- a modular **animal enclosure**, in which the 3 spaces can be further divided into 2 or 4 by removable partition, thus obtaining up to 12 spaces.

## Operation

The animal moves freely in one of the enclosure compartments, positioned on the testing surface.

After cessation of exploratory behaviour, the operator places the touch-stimulator below the target area of the animal paw, using the adjustable angled mirror to position the filament.

The **START** key provided at both sides of the touch-stimulator handle, invokes the following automatic sequence:

- an electrodynamic actuator of proprietary design lifts a straight metal (NiTi alloy) filament
- the small diameter rod touches the plantar surface and begins to exert an upward force below the threshold of feeling
- the force increases at the preset application rate, until a stop signal is attained, either when the animal removes its paw or when the preset force is reached.

The filament (0.5mm diameter) transmits force over the entire range of typical aesthesiometers. Paw withdrawal reflex is automatically recorded using two metrics: the latency until withdrawal, in seconds, and the force at which paw was withdrawn, in grams.

## Basic Specifications

Starting	via keys on the touch-stimulator vessel
Force range	0 to 50.0 grams, in 0.5g steps
Force increasing rate	adjustable in the interval 1 to 20 seconds, in 1 s steps
Filament travel	12 mm
Latency time	on graphic display, in 0.1s steps
Connection to PC	through DELTA 9-pin connector

## Data Acquisition

The 37450 is a microprocessor controlled unit. The experimental data, stored in its internal memory can be directly exported to the PC USB or serial ports.

Communication is managed by the dedicated CUB Data Acquisition Software Package, **Cat. 52050-12**, included as standard. The CUB Windows®-based Software Package enables the user to route the experimental data to the PC and store them into individual files, to be managed by most statistical analysis packages available on the market.

The 37450 is provided with a **memory key**, to record all the experimental data of one or more sessions and to program the experiment layouts from a remote PC.

## Ordering Information

<b>37450</b>	<b>DYNAMIC PLANTAR AESTHESIOMETER</b> , complete with following standard accessories:
<b>37450-001</b>	Microprocessor controlled electronic unit, with USB key
<b>37400-002</b>	Touch stimulator
<b>37000-003</b>	Large platform
<b>37400-327</b>	Supporting Columns
<b>37450-005</b>	Framed testing surface (perforated plat-form)
<b>37000-006</b>	Modular animal enclosure (3 to 12 spaces)
<b>37450-302</b>	Instruction manual (on USB key)
<b>37400-321</b>	Set of two 0.5mm diam. NiTi alloy filaments, two calibration weights (5 & 50 g) and accessories, in a plastic case
<b>E-WP 008</b>	Mains Cord
<b>52050-12</b>	CUB Data Acquisition Software Package, with USB Connection Cable

### Optional

<b>37000-145</b>	Panel-Mount Thermal Printer
<b>57145</b>	Thermal MiniPrinter
<b>37450-278</b>	Additional stimulation base, with perforated platform and animal enclosure
<b>37100</b>	Set of two <b>Durham Holders</b> for <b>orofacial</b> stimulation ( <a href="#">see separate leaflet</a> )

### Physical

Universal Mains	85-264 VAC - 50-60Hz - 20 W max.
Total Weight	Kg 12.5
Packing	98x49x47cm
Shipping Weight	Kg 21 approx.

## Bibliography

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- V. Brázda et alia: "Dynamic Response to Peripheral Nerve Injury Detected by In Situ Hybridization of IL-6 and its Receptor mRNAs in the Dorsal Root Ganglia is not Strictly Correlated With Signs of Neuropathic Pain" *Molecular Pain* 9(42), **2013**
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