



Dynamic Plantar Aesthesiometer

Cat. No. 37450

- Mechanical Stimulation
- Now with larger platform and modular animal cage

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.

Somesthetic (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
- 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 mini-printer

Ugo Basile: more than 10,000 citations

The **new model** encompasses:-

- a movable **touch-stimulator unit**, well proven in previous model, complete with filament actuator and adjustable angled-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 new modular **animal enclosure**, offering from 3 to 12 spaces.

Operation

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

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

- an electrodynamic actuator of proprietary design lifts a straight metal filament;
- the filament 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 the animal removing the paw or the point at which greatest preset force is met

The actuator filament (0.5mm diameter) produces force over the entire range of all typical aesthesiometer test devices. 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is automatically recorded using two metrics: the latency until withdrawal, in seconds, and the force at which paw was withdrawn, in grams.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 0.5 g steps
Force increasing rate	adjustable in the interval 1 to 20 seconds, in 1 s steps
Filament travel	12 mm
Latency time	read-out 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

37450 DYNAMIC PLANTAR AESTHESIOMETER,

complete with following standard accessories:

37450-001	Microprocessor controlled electronic unit
37400-002	Touch stimulator,
37450-003	Large Platform with supporting columns
37450-005	Framed testing surface (perforated platform)
37000-006	Modular animal enclosure (3 to 12 spaces)
37450-302	Instruction manual
37400-321	Set of two 0.5 mm diam. stainless-steel filaments and two calibration weights (5 & 50 g)

E-AU 041 Memory Key

E-WP 008 Mains Cable

52050-12 CUB Data Acquisition Software Package, with USB Connection Cable & USB-to-Serial Converter

Set of 2 fuses

OPTIONAL

37000-145 Panel-Mount Thermal Printer

57145 Thermal MiniPrinter

PHYSICAL

Universal Mains 85-264 VAC - 50-60Hz - 20 W max.

Total Weight Kg. 10.20

Shipping Weight Kg. 18.50 approx.

Bibliography

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- G. Villetti et alia: "**Antinociceptive Activity of the N-Methyl-D-aspartate Receptor Antagonist N-(2-Indanyl)-glycinamide Hydrochloride (CHF3381) in Experimental Models of Inflammatory and Neuropathic Pain**" *J. Pharmacol. Exper. Therap.*, 306, 804-814, 2003
- M. Isabel Arévalo et alia: "**Thermal Hyperalgesia and Light Touch Allodynia After Intradermal Mycobacterium butyricum Administration in Rat**" *Inflammation*, 27 (5), 293-299, 2003