

Dynamic Plantar Anesthesiometer



- Models for mice or rats
- For the assessment of animal sensitivity to the light touch of the paw
- Computer compatibility, direct connection to a PC
- Read-out via multifunction graphic display
- Software included!
- Memory key for easy data acquisition

The Dynamic Plantar Anesthesiometer consists of a movable force-actuator below a network platform upon which the operator deposits the rodent. A Perspex enclosure renders the animal unrestrained for the duration of the experiment.

The operator places the actuator beneath the paw (proper placement ensured via an angled mirror) and the actuator confers a use-defined force on a Von Frey-type filament. The filament exerts an increasing force to the plantar surface, starting below the threshold of detection and increasing until the animal removes its paw. At the retraction reflex movement when the paw is withdrawn, the registers and displays the actual force at which paw withdrawal occurred.

The Dynamic Plantar Anesthesiometer is a new instrument for the assessment of "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- analgesia, brought about by drugs, neural pathology or experimental lesions, etc., in model systems and experimental systems using laboratory animals.

The instrument consists of:

- Movable touch-stimulator unit
- Framed metal mesh
- Modular animal enclosure, offering 3 to 12 spaces
- Microprocessor controlled electronic unit

The electronic unit is enclosed into a tiltable cylindrical case of original design, with graphic LCD display, USB port and four membrane switches for setting experimental parameters. The unit also has an internal memory for data storage, scrolling screen review, and optional output to PC.

The rat, mouse or other small rodent moves about freely in one of the compartments of the enclosure, positioned on the metal mesh surface. Following acclimation after cessation of exploratory behavior, the operator

places the touch-stimulator unit under the animal's paw, using the adjustable angled-mirror to position the filament below the target area of the paw. A START key is provided at both sides of the handle of the touch-stimulator vessel, to help both left- and right-handed operators.

Pressing START invokes the following automatic sequence:

- An electro-dynamic actuator of proprietary design lifts a straight plastic filament
- The filament touches the plantar surface and begins to exert an upward force below the threshold of feeling
- The force increases (at your preset rate of application), until a stop signal is attained. The stop signal is either the animal removing the paw or the point at which greatest preset force is met.

The actuator filament (0.5 mm diameter) produces force over the entire range of all typical anesthesiometer 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.

Data Acquisition

The Dynamic Plantar Anesthesiometer is microprocessor controlled and features direct PC output. Internally-stored data can be routed to the PC serial port or USB. Data output is achieved through the dedicated acquisition package or the optional Win-DAS Software. This Windows® based Data Acquisition Software Package stores the data into individual files which make the data easily exportable to most statistical analysis packages available on the market.

Each Anesthesiometer is supplied complete with the following components: Controlled Electronic Unit, Touch Stimulator, complete with Filament Actuator and Adjustable Angled-Mirror, Platform with Supporting Columns, Framed Testing Surface, Metal Mesh, modular Animal Enclosure, Set of Two 0.5 mm Diameter Stainless-Steel Filaments and Two Calibration Weights (5 & 50 g), Mains Cord, Set of 2 fuses for either 230V or 115V operation, and Instruction Manual.

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 the graphic display, in 0.1s steps
Connection to PC	Through USB. See DATA ACQUISITION
Power Requirements	115 V/230 V, 50/60 Hz, 20 W maximum
Dimensions:	
Electronic Unit	12 x 26 x 13 cm (4.73 x 10.2 x 5.1 in) (H x W x D)
Assembled Platform	40 x 50 x 32 cm (15.75 x 19.7 x 12.6 in)
Total Weight	10.20 kg (22.5 lb)
Shipping Weight	18.50 kg (40.8 lb), approximately

Order#	Model	Product
PY2 72-6704	37450	Dynamic Plantar Aneasthesiometer

Accessories

PY2 72-6712	37400-321	Set of Two 0.5 mm Diameter Stainless-Steel Filaments and Two Calibration Weights (5 & 50 G)
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