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TRANSFORMING IDEAS INTO INSTRUMENTS

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PAIN and INFLAMMATION

# Hot / Cold Plate

Cat. No. 35150



## General

This new **Hot/Cold Plate NG** offers a wide temperature range, presetable in the range  $-5^{\circ}\text{C}$  to  $65^{\circ}\text{C}$ , can be used as:

- A **conventional HOT PLATE**, to carry out a rapid precise screening of narcotic type analgesic drugs according to the well known Hot Plate Test devised by N.B. Eddy and D. Leinbach.
- As a **COLD PLATE**; the **Cold Plate Test** is useful in studying cold receptors and cold allodynia, a phenomenon very frequently observed in chronic pain on humans.

The lid reduces humidity condensation on the plate at low temperatures.

Two working modes allow for testing at fixed temperature or at increasing/decreasing temperature (RAMP).

An optional **auxiliary Plate** (heat only) can be connected to the main unit and will be useful in the habituation phase.

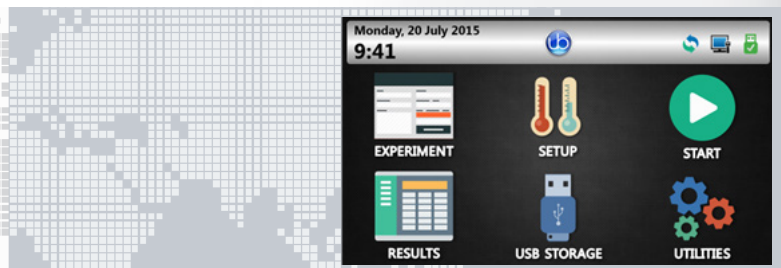
Brand new, user friendly software, to set up the experiment and manage the results.



for Rats

for Mice

- IT CAN BE USED AS HOT PLATE OR COLD PLATE
- NEXT GENERATION INSTRUMENT: SAME RELIABILITY, INNOVATIVE TECHNOLOGY!



## Main Features

- **OPERATING TEMPERATURE:**  $-5.0^{\circ}\text{C}$  to  $65.0^{\circ}\text{C}$  in steps of  $0.5^{\circ}\text{C}$  ( $0.1^{\circ}\text{C}$  precision)
- **DETECTION:** by pedal switch
- **OPERATING MODES:** fixed or ramping temperature, for dynamic experiments

- **X-PAD SOFTWARE:** brand new, user friendly software included as standard, to set up the experiment and manage the results
- **CONTROLS:** 4"3 touch-screen to set and monitor the test
- **DATA PORTABILITY:** via the USB Memory-Key, included as standard

Ugo Basile: more than 25,000 citations

## Instrument Description

The Ugo Basile Hot/Cold Plate NG features:

- a cabinet incorporating the **Heating/Cooling Plate** (20cm diam.) and the **4"3 touch-screen**
- a convenient **restrainer** (25cm tall, suitable to restrain either mice or rats), with anti-dew lid.

The plate temperature can be set in the range **-5.0 to 65.0°C**, with **0.5°C increments** (0.1°C precision). The extremes of this ample range can be reached, provided the room temperature remains in the interval 18-24°C.

Operating modes will allow to work with **constant** temperature or **ramp**, defining the initial and final temperature to set an upward or a downward ramp.

## What's new

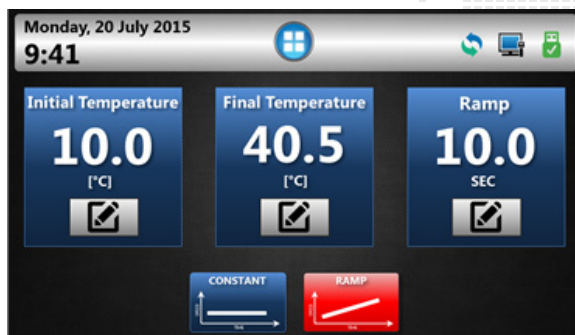
Physically similar to the previous versions, the new model features much quicker temperature changes and greater stability and uniformity.

Totally new is the **X-PAD** software included as standard, see below. Remote diagnosis and internet access are provided for.

## Experimental Configuration

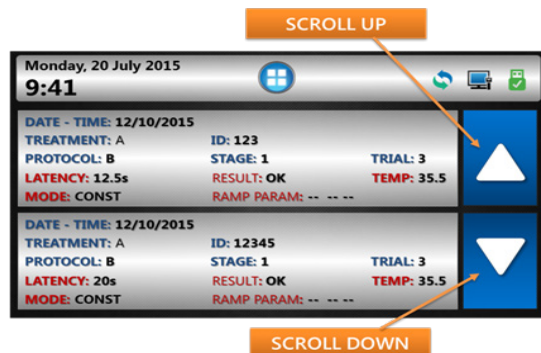
Via the **X-PAD** software, the operator can easily **organize** the experiment on her/his PC, and upload it to the Hot/Cold Plate via the USB key.

Treatments, protocols, stages, animals, and various test features (temperature, mode, etc.) can be quickly defined and saved for future use.



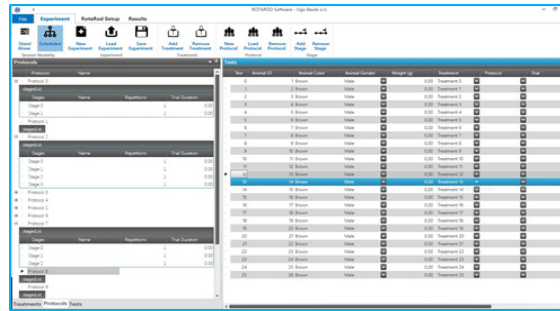
## Data Collection and Management

A basic version of the collected data can be viewed on the touch-screen



when transferred to PC via USB drive, test results appear in full version.

The software automatically classifies the data, combining configuration settings with test results; the user can add information, before or after the test. Results appear in a tree-like structure, where columns can be dragged and dropped to customize the layout.



Configurations and data are exported as **Text, Excel** or **Pdf** reports and can be saved to cloud via **DropBox, OneDrive, GoogleDrive**.

## Ordering Information

- |                  |                                                            |
|------------------|------------------------------------------------------------|
| <b>35150</b>     | <b>HOT / COLD PLATE</b> , standard package:                |
| <b>35150-001</b> | Cabinet (controller/display and Plate assy.)               |
| <b>35100-286</b> | Perspex Animal Restrainer, for Mice and Rats), 25cm height |
| <b>35150-320</b> | Restrainer Lid                                             |
| <b>35150-302</b> | Instruction Manual (on USB key)                            |
| <b>37215-303</b> | Pedal Switch                                               |
| <b>X-PAD</b>     | Dedicated Software Package (on USB)                        |

## Optional

An "auxiliary" Hot Plate 35150-002 is available as optional; a self-standing unit used in the habituation phase, thus reducing the use of the main unit to the test proper.

- |                  |                                 |
|------------------|---------------------------------|
| <b>35150-002</b> | Auxiliary Hot Plate             |
| <b>35160</b>     | Combo Package 35150 & 35150-002 |

A **Thermal Place Preference** set-up for either Rats or Mice is also available, see the specific datasheet:

- |              |                     |
|--------------|---------------------|
| <b>35250</b> | TPP Set-Up for Mice |
| <b>35260</b> | TPP Set-Up for Rats |

## Physical

Universal input	85-264 VAC, 50-60Hz
Dimensions	25x37x47(h)cm with restrainer
Weight	8.0Kg
Shipping Weight	12Kg approx.
Packing	68x34x28cm

## Bibliography

- C.V. Möser: "TANK-Binding Kinase 1 (TBK1) Modulates Inflammatory Hyperalgesia by Regulating MAP Kinases and NF- $\kappa$ B Dependent Genes" *J. Neuroinflammation* 12:100, 2015
- W. Kallenborn-Gerhardt et alia: "Nox2-dependent signaling between macrophages and sensory neurons contributes to neuropathic pain hypersensitivity" *Pain* 55(19): 2161-2160, 2014
- D. Piomelli et alia: "Anandamide suppresses pain initiation through a peripheral endocannabinoid mechanism" *Nature NSC*, 2010