

## PhenoTyper 2

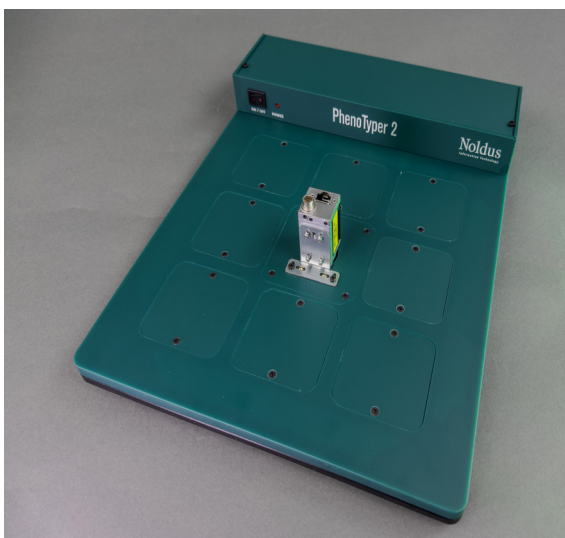
PhenoTyper 2® is a customizable cage environment ideal for behavioral experiments running for several minutes to weeks.



The PhenoTyper 2 cage is optimized for rodent behavioral testing and video-based tracking. It is ideally suited for long-term home cage experiments with its range of environmental enrichment possibilities. A more basic cage however can bring considerable advantages for shorter experiments.

### WHY USE PHENOTYPER 2

- Used in >200 labs worldwide and mentioned in >600 peer-reviewed research papers.
- Designed as a test environment for video-based behavioral experiments.
- Highly customizable to your research needs with a range of add-ons.
- Behavior analysis and all hardware is controlled with EthoVision XT video tracking software and experiment automation software.
- Ideal for short experiments or continuous monitoring and testing for up to weeks at a time.



*PhenoTyper 2 is most revolutionary due to its new and improved modular top unit. This creates a versatile platform upon which you can customize, and re-customize your desired setup*

### THE BASICS

The cage comes standard with two plain walls, a feeding wall, and a shelter wall, but there is a wide range of add-ons available, and all four walls are customizable to fit your needs. PhenoTyper 2 is available in two sizes (30\*30 cm and 45\*45 cm floor area) to suit individual mice and rats, or to house groups of animals. Custom-sized cages (such as a 90\*90 cm version) can be manufactured upon request.

### THE NEW TOP UNIT, BETTER CAMERA

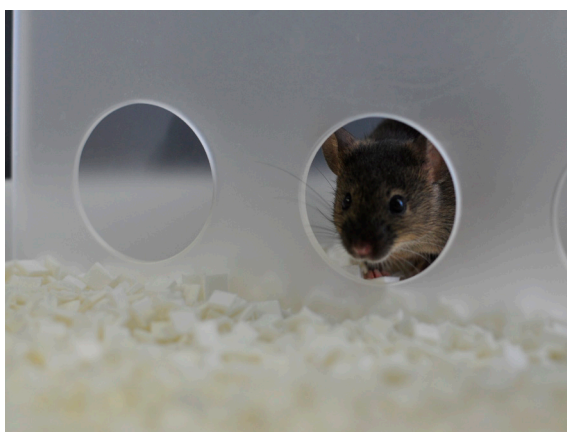
The new PhenoTyper 2 most important feature is its modular top unit. The top unit includes 9 module slots, which can be removed and replaced by add-on modules once these become available. Directly above the center of the cage, a camera module is located that can house any camera that you need for your experiment. Regardless of the camera type (e.g., thermal, color, or monochrome), the position is always consistent. A standard monochrome high-definition digital camera will be shipped with your PhenoTyper 2. The PhenoTyper 2 top unit now comes with a white light source, the intensity of which can be adjusted and switched on or off. With this, you can easily simulate day-night cycles during your study.

### WALL OPTIONS

PhenoTyper 2 has four fully customizable walls. There are over 20 standard wall options available for PhenoTyper 2. Some fit drinking bottles and a feeding station, while others lock the shelter in place or allow the attachment of a running wheel. Custom options for PhenoTyper 2 walls are also possible: levers, lights, and displays can all be incorporated with laser precision.

## ADD-ONS AND CUSTOM OPTIONS

A wide range of additional hardware add-ons is available to combine with your PhenoTyper 2. These include a pellet dispenser (to provide reward during operant tasks), Mouse Feeding Monitor (measures feeding behavior via IR beam break), Lickometer (to measure drinking), PhenoWheel (to measure running wheel activity), the CognitionWall™ (to measure cognitive performance), IR-translucent shelters (to observe the animal within the shelter), optogenetic wires and commutators, and much more. Don't see the add-on that you require? Ask your Noldus representative and we can help customize the cage to meet your needs.



*PhenoTyper equipped with a CognitionWall for operant cognitive tests in mice.*

## FULL AUTOMATION

PhenoTyper 2 is powered by EthoVision XT video tracking software to automatically record the animal's spontaneous or test-induced behaviors. Locomotor behaviors, meandering, velocity, and sleep/wake cycles, to name a few, can all be assessed with EthoVision XT. The Behavior Recognition Modules allow for automatic assessments of behaviors in rats and mice, such as grooming, licking, rearing, feeding, and drinking. The Trial & Hardware Control Module allows for easy programming and control of external hardware and software tools, based on timing or animal behavior. With this module you can define protocols to deliver a reward pellet during learning tasks, deliver a light pulse via optogenetics equipment at a specific interval or location, or trigger a light to turn on when the animal approaches a specific shelter entrance.

## LONG-TERM STUDIES

Controlled by EthoVision XT, each PhenoTyper 2 home cage can operate automatically for weeks without any human intervention. Because the animal is assessed inside the PhenoTyper home cage, you can perform multiple or repeated experiments several days in a row, decreasing stress on your subjects. To allow high throughput testing, your set-up can easily be expanded to contain multiple cages, all running off a single computer.

## OTHER TYPES OF TESTS

Many tests have been adapted to and validated in PhenoTyper 2, including novel object recognition, operant conditioning, and other learning tests. There are also specific tests developed for this type of environment, such as the CognitionWall that efficiently tests discrimination learning in mice, in a faster and more sensitive way than standard learning protocols such as the water maze.



## ASK FOR MORE INFORMATION

With PhenoTyper 2, you can set up anything from basic home cage behavior assessments to straightforward learning paradigms, to sophisticated protocols including optogenetics and operant conditioning. If you are interested in learning more about the possibilities or have any feedback on the ongoing development of PhenoTyper 2, ask one of our representatives for more information or to schedule a demo.

VISIT OUR WEBSITE  
TO LEARN MORE

REQUEST A  
FREE DEMO

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