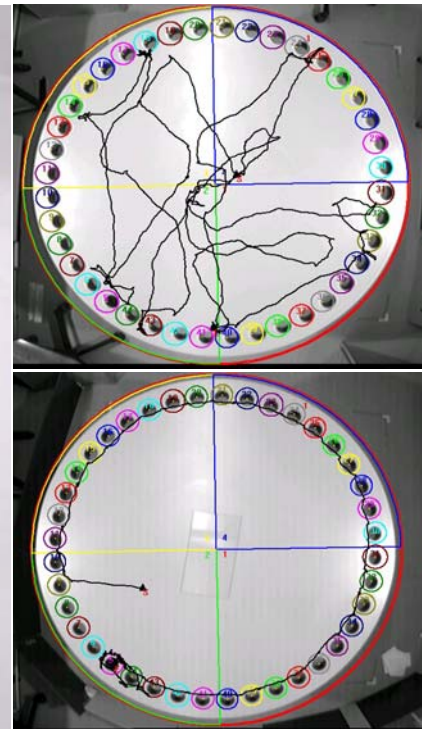


Product Overview

Sophisticated Life Science Research Instrumentation



TSE Barnes Maze

Testing spatial learning & memory in mice

Specifications subject to change without notice

◆ TSE Barnes Maze

The TSE BARNES Maze for mice is a manual system without light barriers for studies of spatial learning & memory using the VideoMot2 System or other video tracking systems or for visual observation.

The animal is placed in the center of an aversive (brightly lit) open platform. An escape tunnel is fixed below one of the holes. During acquisition the animal is supposed to learn the spatial location of the escape hole that serves as positive reinforcement. Extra-maze cues have to be available in the environment to allow for spatial orientation.



The BARNES Maze includes a dark gray PVC escape tunnel that can be easily fixed as required beneath any of the 40 openings. The design of the escape tunnel ensures that the user can easily remove the animal at the end of the experiment by simply pulling the tunnel from the mounting tube. Due to its modular design the length of the tunnel is variable. Custom-made manufacture is also possible.



A starting tube made from gray PVC with cover and base plate is included as part of the standard equipment. Start tubes without lid made from clear perspex for high-anxiety animals are available on request.

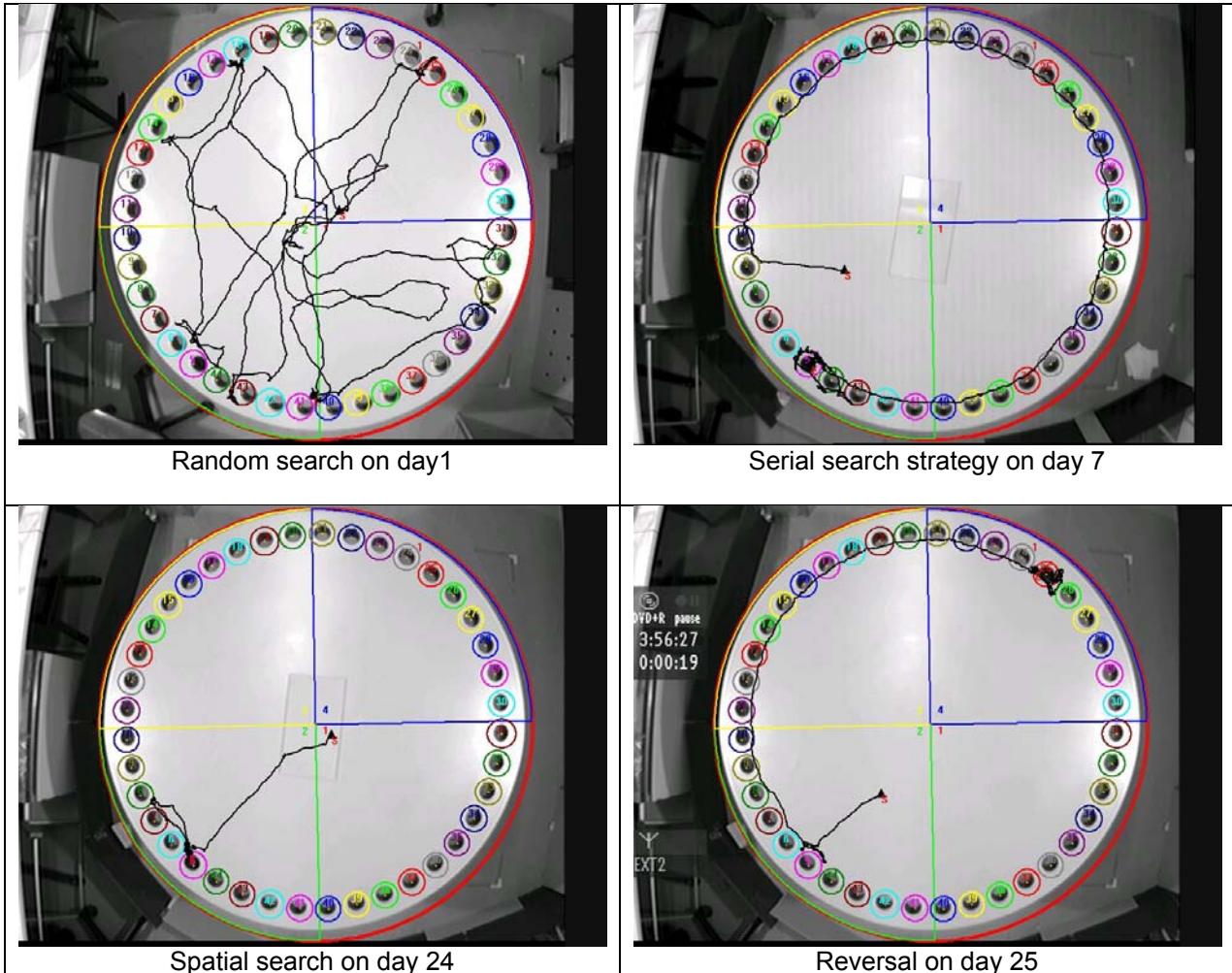
The BARNES Maze consists of a circular PVC disk 122cm in diameter and 10mm thick. The maze is available in different colors - the color has to be selected according to the contrast requirement of the videotracking system: white or light gray for dark animals, dark gray or black for light animals – please mention the required color in your order.

The platform is mounted on an 800mm high aluminum support frame that can be easily disassembled from the platform for transport or storage purposes. Other heights are available on request.

Diameter:	122cm
Hole Numbers:	40
Hole Diameter:	5cm
Height:	80cm

At the outer margin there are 40 evenly spaced round openings each 50mm in diameter and open at the bottom; the distance from the center of the opening to the edge of the disk is 75mm. Other sizes and numbers of holes are available on request.





Optional:

- ◆ Built-in or stand-alone holders for attaching extra-maze cues
- ◆ Shelves to be mounted onto the underframe for placing e.g. a homepage below the maze

When used together with the **TSE VideoMot2 videotracking system** the search strategy of the animal is clearly visible in the pattern of movement (see examples above). Random strategy at the beginning is quickly followed by a serial search strategy. Whether the animal is able to switch to a spatial search strategy depends on the mouse strain under study.

The trial is terminated after a predefined duration has elapsed or after the animal has disappeared into the escape tunnel – this event is entered by the user via the keyboard into the data file using the **Event Monitor** keys and this automatically stops data acquisition. The parameter generated is the so-called **escape latency**.

In addition to escape latency the total distance travelled as well as the average speed is calculated automatically from the movement data.

Zones can also be drawn around each individual hole to study the movement of the animal in detail. If the animal enters one of the defined regions, i.e. if its center of gravity is detected inside the region, this is counted as a visit and later output in the **Zone Monitor** protocol. Number of errors can also be counted manually by the user with the event keys.



◆ Ordering Information

Cat.No.	Description
302050-BM/M	<p>BARNES Maze for Mice*</p> <p>Manual** system without light barriers for studies of spatial learning & memory in the TSE VideoMot2 Videotracking System or other systems or for visual observation.</p> <p>The Barnes Maze consists of a round PVC disk 1220mm in diameter and 10mm thick. Available colors: white or light gray for dark animals, dark gray or black for light animals – please mention the required color in your order. At the outer margin there are 40 round openings each 50mm in diameter and open at the bottom; the distance from the center of the opening to the edge of the disk is 75mm. Other sizes and numbers of holes are available on request.</p> <p>Includes one dark gray PVC escape tunnel that can be fixed as required beneath any of the 40 openings. The design of the escape tunnel ensures that the user can easily remove the animal at the end of the experiment. Additional tunnels may be ordered separately. Custom-made manufacture is also possible.</p> <p>A starting tube with cover and base plate is included as part of the standard equipment (standard material gray PVC).</p> <p>The Barnes Maze is mounted on an 800mm high aluminum support frame. Other heights available on request.</p> <p><i>Optional:</i> Built-in or stand-alone holders for attaching extra-maze cues. Shelf to be mounted to the underframe.</p>
Options:	
302050-BM/M-C	<p>Cue Holder for BARNES Maze for Mice</p> <p>These stand-alone units allow to place extra-maze cues in close proximity to the maze.</p> <p>Holders integrated into the maze underframe are available on request.</p>
302050-BM/M-SH	<p>Shelf for BARNES Maze for Mice</p> <p>Can be used to place a homepage below the maze</p>

* *BARNES Mazes for rats are available on request. The rat platform is compatible with the mouse underframe so that both rat and mouse experiments can be performed by simply exchanging the platform.*

** *If you are interested in a BARNES Maze equipped with light-beam sensors please contact us*

TSE Systems is a leading supplier of sophisticated research instrumentation in the global life science market. Our focus is on providing the total customer solution, with modular designs of integrated hardware and software platforms for neuroscience, metabolic and behavioral phenotyping, drug screening and toxicology.

For further information please contact us.

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