

Wide range of systems for various tests assessing locomotor efficiency and motor coordination in laboratory mice and rats. In our portfolio you will find basic as well as fully automated systems enabling simultaneous testing of many paradigms.

### RUNNING WHEELS

Running wheel is widely used to assess voluntary physical activity in rodents. It is ideally suited to study circadian activity. Running wheels might also serve as environmental enrichment to improve animal welfare during long-term experiments, motor function, aging, energy balance, recovering and pain related exercise.



### FORCED RUNNING WHEELS

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### VOLUNTARY RUNNING WHEELS

TSE control access to wheel running by time and distance – or by taking any other parameter measured with TSE PhenoMaster system components such as bodyweight or food consumption into account. Coupling the wheels to Operant Walls providing reinforcement or as a prerequisite to earn food reward.

Both systems can be combined with indirect calorimetry module TSE CaloSys.

## MotoRater

### RODENT KINEMATIC GAIT ANALYSIS

System provides high sensitivity to evaluate 4 different motion modalities – overground walking, skilled ladder walking, wading in water and swimming. In contrast to conventional methods, MotoRater allows testing animals in the water, which offers the exceptional opportunity to evaluate severely impaired rodent models, which would not be able to support their body weight on solid ground.

#### Analysis of more than 100 kinematic gait parameters:

- General spatio-temporal patterns
- Inter-limb coordination
- Swing phase and paw trajectory
- Body posture and joint angles
- Gait variability, deviations



## ROTAROD FOR MICE AND RATS

### The gold standard for motor coordination studies

The “Rota-Rod” technique originated by a 1957 paper of N.W. Dunham and T.S. Miya has proved to be of great value in research involving screening of drugs which are potentially active on motor coordination and function.



## GRIP STRENGTH METER FOR MICE AND RATS

### Automatic peak strength detection

Automatically measures grip strength of forelimb, hind limb, or all four limbs, in rats and mice as they instinctively resist backwards movement. For assessing the effects of substances (drugs, toxins, muscle relaxants) and conditions (disease, ageing, neural damage) on muscle strength.



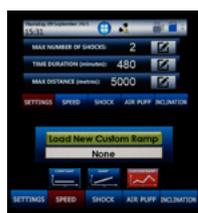
## Automated treadmills

Systems are computerized electronically-controlled devices designed for forced exercise experiments and testing of fatigue in rats and mice. Measure endurance, distance and speed. Dedicated for studying behavioral, physiological, biochemical, and molecular responses to both acute exercise stress and chronic exercise training as well as mechanisms that reverse disease progression.

## TREADMILLS FOR MICE AND RATS

### Smart configuration from UGO Basile

Original product by Ugo Basile is adaptable for use by rats or mice. Treadmill models are available with 3-lane partition assembly for rats or 6-lane partition assembly for mice. With easy set up, under control using touch screen and smart software. Treadmills allow automatic measurement of endurance, distance and speed in different setting modes like constant, accelerating, custom ramps. In optionally setup it is equipped in electric shock and air puff stimulus.



## CALOTREADMILL

### Exercise calorimetry

The TSE Treadmill Systems are computerized electronically-controlled devices designed for forced exercise experiments and testing of fatigue in rats and mice.

Oxygen consumption ( $VO_2$ ), carbon dioxide production ( $VCO_2$ ), respiratory exchange rate (RQ) and energy expenditure (EE) are determined at fixed temporal intervals while the test animal is moving according to an experimenter-defined activity profile. System is available in a calorimetric configuration with the TSE PhenoMaster CaloSys module.

