Sophisticated Life Science Research Instrumentation

RotaRod Advanced

Modular RotaRod for Mice & Rats

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TSE RotaRod Advanced

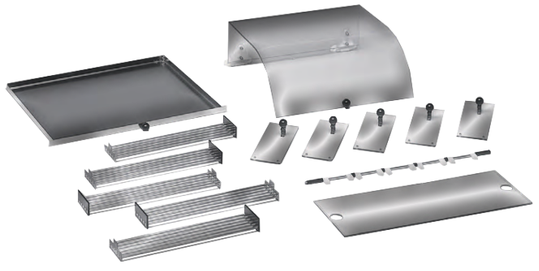
For investigating effects on motor coordination or fatigue resistance of small laboratory animals (mice and rats). The RotaRod apparatus consists of a rotating drum which provides optimal grip for the animal. Panels divide the drum into separate lanes each suited for an individual animal.

Models – Flexibility regarding animal size, number and falling height

We provide two models for 3 or 4 rats model and a space-saving version for 5 mice model. Systems with increased falling distance are also available.

Features include:

- Forward or reverse rotation
- Each single animal can be measured independently
- Animal falls are detected by individual light barriers
- User-defined speed profiles executable via software
- High speed version 1 - 100 rpm (mice models only); standard version 1 - 60 rpm
- Connection to PC or notebook via USB
- 2 RotaRods can be operated simultaneously on a single computer



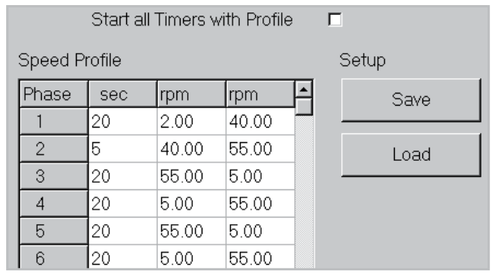
Options

The standard PVC floor plate can be replaced by individual floor grids for each lane. The floor grids are used in combination with a droppings collector made from stainless steel. The system can be equipped with a shocker module in order to apply an electric stimulus to the floor grids (see technical data).

The standard rat model can be upgraded with a drum suited for mice so that it can run with up to 4 mice.

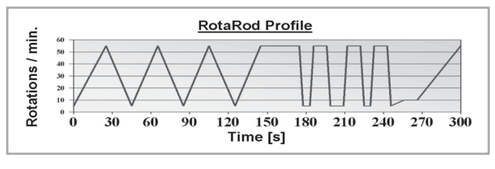
A cover set can be mounted on the RotaRod to prevent the animals from escaping.

We provide drawers for easy removal of animals which fell off the rod so that no animal handling is required.



RotaRod Software

The RotaRod runs according to a user-defined exercise protocol created with the help of the flexible RotaRod software. Key feature is the flexible speed profile editor. This editor allows programming of up to 100 steps, each characterized by initial speed, acceleration/deceleration time and final speed. Speed profiles can be stored and reloaded for further use.

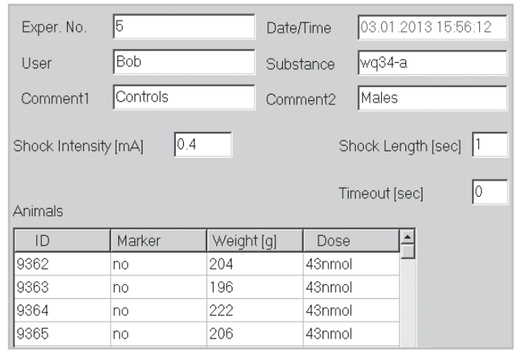


Preparing Experiment

The software allows to include a number of experimental identifiers in the protocol:

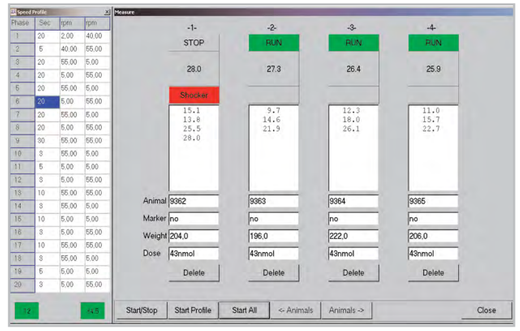
- Experiment number
- User name
- Substance
- Comments
- Shock intensity & shock length

In addition, either the continuous running mode can be selected or a timeout interval can be defined instead. The animal table stores the identifiers of up to 200 animals. It can be saved and reloaded for further use.



Data Acquisition

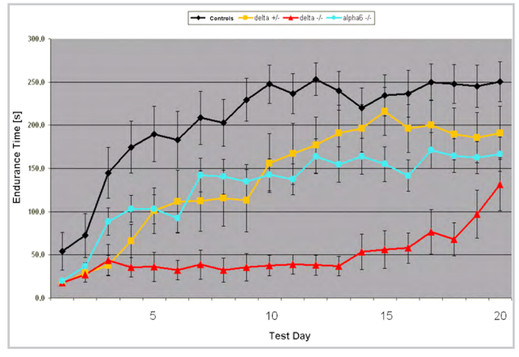
Data acquisition can be started either individually for each animal or simultaneously for all animals. During the experiment the data will be acquired individually for each animal. The current speed, the elapsed time and the current phase number are displayed continuously. The times the animals spend on the rod are displayed. The rod can be stopped manually at any time.



Data Output

The experimental identifiers and the measuring data are stored into files. The results can be displayed or exported to txt or CSV files for import into statistical or spread sheet packages (e.g. Excel).

Data output includes, among others: Time the animal spent on the rod (or timeout), rod speed at the time the animal fell off the rod, distance covered during the time interval, phase number in which the light barrier interruption occurred, time from start of phase up to light barrier interruption and time from start of timer up to start of profile.



Animal	Marker	Weight	Dose	Date	Time	Rod	sec	rpm	m	Ph	Phs	Tps
9362	ohne		delta+	29.01.07	16:41	1	6.2	7.5	0.05	1	6.8	-0.5
9362	ohne		delta+	29.01.07	16:43	1	2.5	4.0	0.01	1	3.1	-0.5
9362	ohne		delta+	29.01.07	16:44	1	9.3	10.3	0.09	1	9.8	-0.4
9362	ohne		delta+	29.01.07	16:45	1	0.0	1.0	0.00	1	0.0	0.1
9362	ohne		delta+	29.01.07	16:45	1	0.0	6.2	0.00	1	5.4	-5.4
9362	ohne		delta+	29.01.07	16:45	1	0.1	1.2	0.00	1	0.2	-0.2
9362	ohne		delta+	29.01.07	16:47	1	6.3	7.8	0.05	1	7.1	-0.8
9362	ohne		delta+	29.01.07	16:48	1	0.1	1.8	0.00	1	0.8	-0.8
9368	links		delta--	29.01.07	16:51	1	52.6	12.3	1.08	4	7.8	-0.4
9368	links		delta--	29.01.07	16:53	1	66.3	25.4	1.54	5	1.7	-0.6

DRUM DIMENSIONS	
RotaRod Advanced for 3 Rats	Diameter: 100 mm, width per lane: 114 mm
RotaRod Advanced for 4 Rats	Diameter: 60 mm, width per lane: 85 mm
RotaRod Advanced for 4 Rats (Equipped with a drum for 4 mice)	Diameter: 30 mm, width per lane: 85 mm
RotaRod Advanced for 5 Mice	Diameter: 30 mm, width per lane: 60 mm

FALLING DISTANCES Mouse RotaRod	
Top edge drum – top edge floor grid	147 mm
Top edge drum – top edge PVC trip plate	158 mm

FALLING DISTANCES Rat RotaRod (optional for mouse)	
Top edge rat drum – top edge floor grid	295 mm
Top edge rat drum – top edge PVC trip plate	295 mm
Top edge mouse drum – top edge floor grid mouse	272 mm
Top edge mouse drum – top edge PVC trip plate mouse	280 mm

Other Distances on request.

SETUP	
Speed range	1... 60 rpm; 1 ... 100 rpm (high speed version) (mouse models only); constant & accelerating mode
Shock intensity*	0.1 - 3.1 mA
Shock length*	0.1…10.0 sec
Timeout	0 … 600 sec or continuous

* if shocker is present

TSE Systems 24h Service

TSE Systems offers an outstanding, global 24/7 premium customer service. Our experienced experts are dedicated to complete customer satisfaction and will solve your problem by e-mail, phone or an on-site visit.