PRODUCT BROCHURE

Professionally in research and development of life science instruments

Company Profile

BioMed Easy Technologies is the subsidiary of SANS Biotechnology, a leading supplier in Animal Neuroscience Research, Motor Coordination & Behavior Research equipment. With customer success as value, persist in Integrity, Professional and Quality, BioMed Easy is dedicating in offering more superior quality equipment and good service, to help researchers improve and simplify the research and surgery.


质量管理体系认证证书

证书号：27824Q10506R0S

兹 证 明

江苏赛昂斯生物科技有限公司

质量管理体系符合

GB/T 19001-2016/ISO 9001:2015

认证/注册范围：

实验宣仪器（触屏斯金纳、行为测试箱、能量代谢监控系统）销售；电子仪器（动物实验设备）的研发；计算机应用软件开发


企业资信等级

兹证明

江苏赛昂斯生物科技有限公司

AAA


Verification of Compliance


Verification of Compliance


Verification of Compliance


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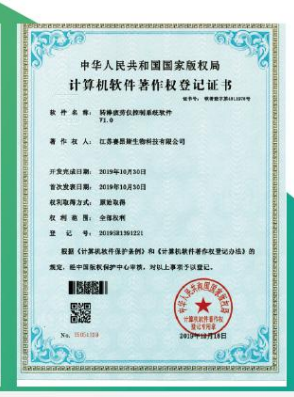
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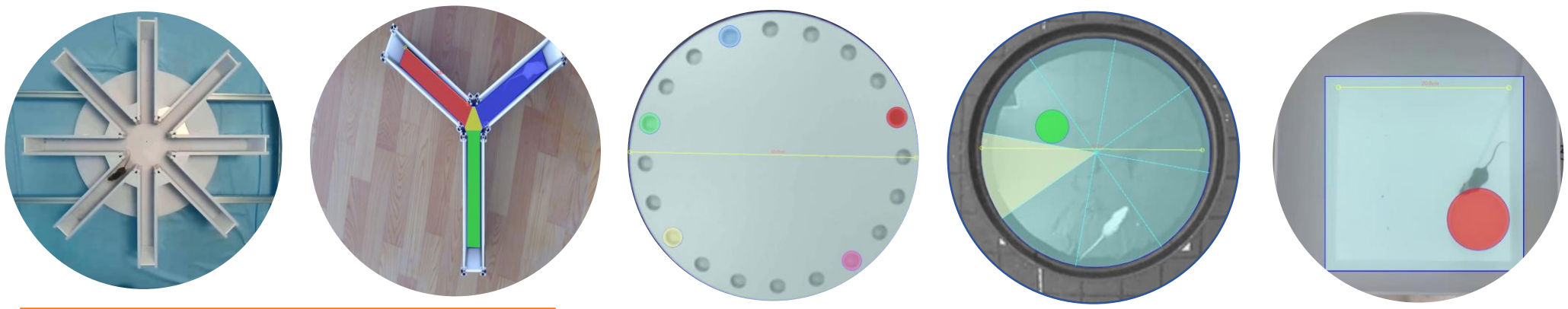
Contents

Video Tracking Software

Small Animal Video Tracking Software (Item No. SANS-AI)

SANS-AI Video Tracking Software is widely used in Animal behavior trajectory tracking; it can objectively and accurately obtain the motion mode, activity range, behavioral characteristics etc., which can reveal the activity level, behavioral habits, cognitive ability, learning and memory, anxiety and other characteristics of experimental animals.

Based on our self-developed algorithm system, together with the advanced key point recognition with deep learning technology, SANS-AI can not only accurately identify the full contour of the animals, but also identify the nose, body center and tail base, which result in automatically analyzing the fine behavior and complex behavior of experimental animals in different experiment, help researchers to record the activity, trajectories, events, social interactions, and global activity.



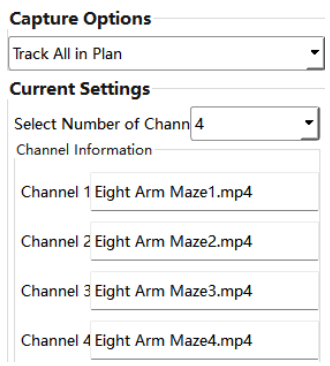
Suitable for any mazes

Features

- No modules or add-ons, for just a single price you get everything you could need.
- Ideal for any mazes like Morris water maze, Barnes maze, Eight-arm maze, T maze, Y maze, Open Field, Social Interaction Chamber, Tail Suspension Chamber etc.
- Be suitable for Rats, Guinea pigs, Zebrafish, Drosophila, Bees and Ants.
- Online detection + offline detection, multi-scene detection.
- Three-point identification technology, accurately figure out the head, center, tail base three key points.
- Automatic detection: According to the conditions (behavior, time, etc.), the experimental process is set up without manual participation, and the system is fully automatic.
- Multiple algorithm identification: Grayscale gradient method, Static silhouette method, Dynamic silhouette method, Difference detection method and auto setting method can be selected freely.
- A variety of parameters can be detected. Dwell time/Number/Latency/Frequency, Moving distance, Speed, Acceleration, Winding degree, Activity detection, etc.
- More Intelligent: independent grouping/adding/deleting variables/design procedures.
- Results can be viewed in various ways. Text, chart, track to background map, animation track, heat map etc.

Advantages

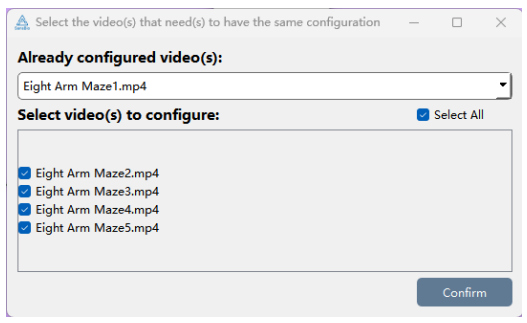
Fully Automated: Once configured, the software runs without manual input and displays real-time tracking status



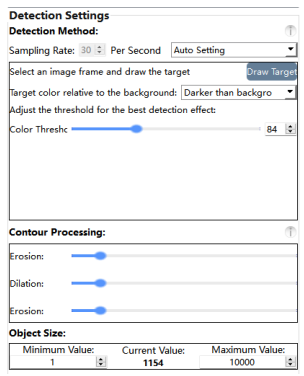
Robust Under Varying Light Conditions: Paired with industrial cameras and compatible lighting (LED/IR), it performs well even in low-contrast scenes.

Automatic Region Mapping: Experimental zones are auto-divided, saving time..

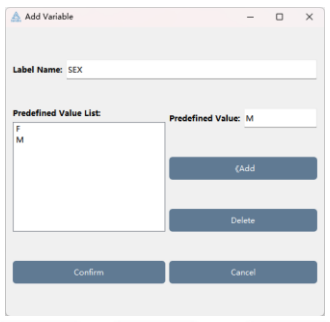
Configuration Cloning: One setup can be copied to multiple experiments for efficiency.

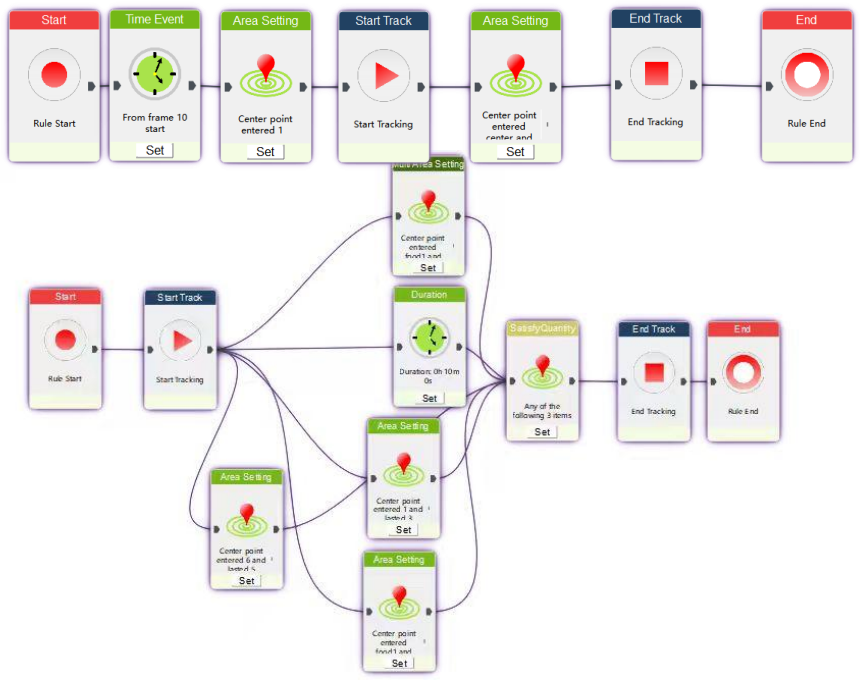


Clear, Adjustable Imaging: Thresholds and color levels can be set to eliminate artifacts or holes in the image.



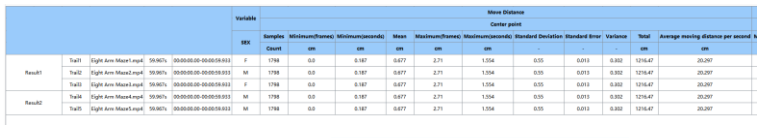
Custom Experiment Design: Researchers can group experiments, add/remove variables, and customize workflows according to their logic and research goals.

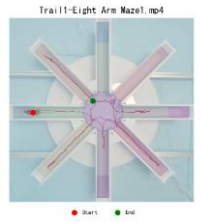


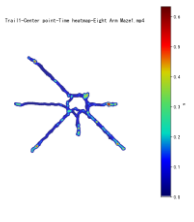


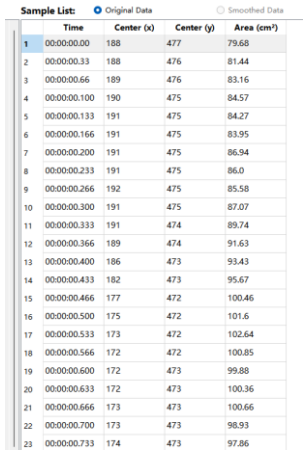
Three-Point Recognition: Detects head, center, and tail base for posture and orientation analysis (e.g., standing, rotating, curling, head direction).

Data Visualization: Provides raw data, graphical results, heatmaps, and trajectory maps.









	Time	Center (x)	Center (y)	Area (cm²)
1	00:00:00.00	188	477	79.68
2	00:00:00.33	188	476	81.44
3	00:00:00.66	189	476	83.16
4	00:00:00.100	190	475	84.57
5	00:00:00.133	191	475	84.27
6	00:00:00.166	191	475	83.95
7	00:00:00.200	191	475	86.94
8	00:00:00.233	191	475	86.0
9	00:00:00.266	192	475	85.58
10	00:00:00.300	191	475	87.07
11	00:00:00.333	191	474	89.74
12	00:00:00.366	189	474	91.63
13	00:00:00.400	186	473	93.43
14	00:00:00.433	182	473	95.67
15	00:00:00.466	177	472	100.46
16	00:00:00.500	175	472	101.6
17	00:00:00.533	173	472	102.64
18	00:00:00.566	172	472	100.85
19	00:00:00.600	172	473	99.88
20	00:00:00.633	172	473	100.36
21	00:00:00.666	173	473	100.66
22	00:00:00.700	173	473	98.93
23	00:00:00.733	174	473	97.86

Rodent Treadmill

The Rodent Treadmill is widely used in the research of physical fitness, endurance, motor injury, motor nutraceuticals, motor physiology, pharmacology, metabolic and cardiovascular research etc. It consists of the main unit, incorporating the drive, the shocker, the control unit with 7 Inch touch screen, the running belt enclosed within a chamber constructed of acrylic and aluminum. The chamber contains a shock grid, which serves as an aversive stimulus to motivate exercise. Two sizes are available in our company, smaller size for mice and a larger size for rat.

Stimulus: Electric, Sound, Light
Separated/Combined are available

8 protocols can be set and each protocol can be set 20 sections.

Item No.: SA101 Pro

Advantages

Current can be adjusted.

- Single or multiple lanes for rats and mice, with individual lane design.
- Variable speed mode setting, different speeds can be set in sections.
- Equips with precision sensor detection and individual lane programming.
- Stimulus mode: pulse electric/sound stimulation/light stimulation. Can be separated or linked together.
- Effective electric shock, pulse electric shock circuit design to avoid blind area.
- Electric current can be adjusted.
- Adjustable frequency of audio stimulation, 1000~10KHz frequency adjustable.
- Five kinds of exhaustion mode, single electrical stimulation duration, total electrical stimulation duration, number of electrical stimulations, running distance, running time.
- Air puff stimulation is optional, non-invasive and gentle.

Technical Parameters

Control Unit with software

- Suitable for Rat and Mouse (Rabbit, Primates can be customized).
- 7-inch IPS 1024*768 HD display, visible Angle 178°.
- Compact and user-friendly touch screen control unit to fit both Rats and Mice.
- It measures endurance, distance (absolute and relative), speed and number of shocks.
- Based on multi-process control programming, a variety of motion modes can be achieved, uniform speed, uniform acceleration, uniform deceleration, acceleration and deceleration mixed mode, etc.
- 8 protocols can be set and each protocol can be set 20 sections.
- 5 kinds of exhaustion mode are available in our treadmill

  Single electrical stimulation duration

  Total electrical stimulation duration

  Number of electrical stimulations

  Running time

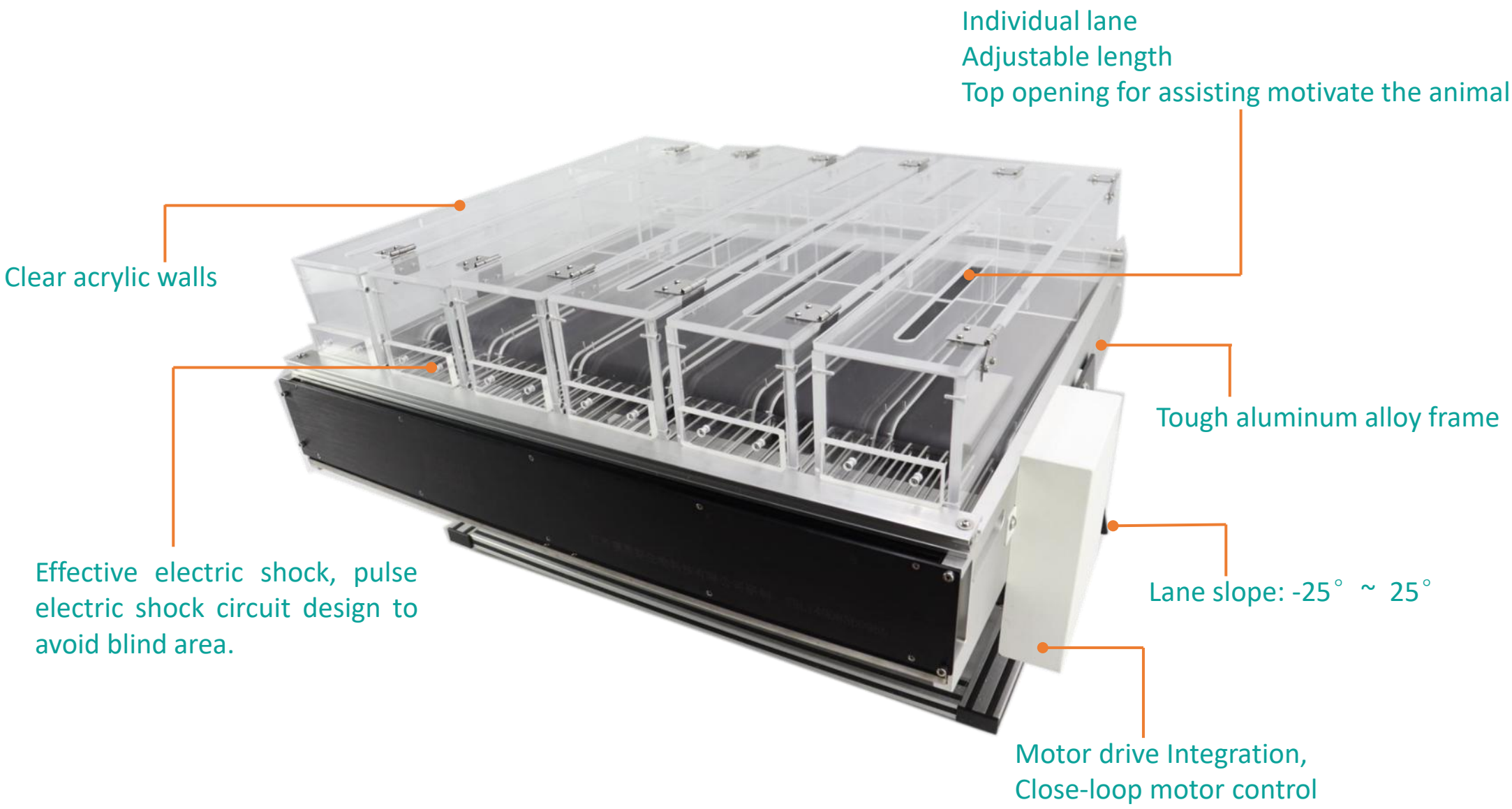
  Shock times

- Stimulus mode: pulse electrical stimulation, sound stimulation, light stimulation.
- Can be separated or linked together.
- Electrical stimulation: Pulse electric shock circuit design to avoid blind area. Electric current can be adjusted. 160~200V, 0.1mA~10mA adjustable, detecting without dead Angle with accuracy 0.1ms.
- Sound stimulation: 1000~10KHz frequency adjustable, 20~100 magnitude intensity adjustable.
- Light stimulation: 1~5000Hz frequency adjustable, 20~100 magnitude intensity adjustable.
- Speed: 0.1-100 meter /minute, resolution 0.01m/min.
- Acceleration: 0.1~100m/min², Adjustable acceleration in 1 meter/minute increments.
- Lane slope degree -25° ~25°.
- Closed-loop motor control is adopted, ensure high precision and real-time feedback.
- Automatically removes the motion data when it is shocked to ensure the accuracy.
- Self-protection mechanism: according to the stimulation of the animal, automatically identify and record the exhaustion time to stop the stimulation, effectively protect the experimental animal.
- 1000 groups of experimental data save in our control unit.
- Experiment data can be reviewed directly.
- Data can be exported by USB disk and saved in EXCEL format.
- Data display: running distance, running time, number of shocks, shock time, current, exhaustion state.

Rodent Treadmill

Technical Parameters

Mouse	Rat
5 lanes	5 lanes
Overall size: 69.5x69.5x42.5cm (27.3x27.3x16.7 inch)	Overall size: 69.5x69.5x44cm (27.3x27.3x17.3 inch)
Running belt size: 69.5x69.5x34.5cm (31.3x27.3x13.5 inch)	Running belt size: 69.5x69.5x34.5cm (31.3x27.3x13.5 inch)
Lane size: 61x8.5x15cm (LengthxWidthxHeight)	Lane size:61x11.5x16.5cm (LengthxWidthxHeight)
Independent Lane Control	Independent Lane Control
Shock grid size: 12x6cm	Shock grid size: 12x12cm
Speed: 1-100 meter/minute	
Lane slope degree -25° ~25°	
Acceleration: Adjustable acceleration in 0.1 meter/minute increments	
Adjustable current stimulus 0.1 – 10 mA	
Treadmill controller: 32x34x12cm (length x width x height), weight: 7.5kg	
Clear, removable acrylic maze walls and an aluminum frame	



Different lanes can be customized according to experiment requirements.

Ordering Information

Item No.	Product Description
SA101 Pro	Treadmill for 5 Rats or 5 Mice (Sound, Light, Electric Stimulation, Adjustable acceleration , different time section, separate lane, adjustable lane length, independent electric stimulation, independent timing for each lane, current can be set.)
SA101 Pro-R	Treadmill for 5 Rats (Sound, Light, Electric Stimulation, Adjustable acceleration , different time section, separate lane, adjustable lane length, independent electric stimulation, independent timing for each lane, current can be set.)
SA101 Pro-M	Treadmill for 5 Mice (Sound, Light, Electric Stimulation, Adjustable acceleration , different time section, separate lane, adjustable lane length, independent electric stimulation, independent timing for each lane, current can be set.)
SA101D	Treadmill for 5 Rats and 5 Mice (Sound, Light, Electric stimulation, adjustable acceleration, different time section, individual lane, adjustable lane length, independent electric stimulation, independent timing for each lane, air puff stimulation)
SA101DR	Treadmill for 5 Rats (Sound, Light, Electric stimulation, adjustable acceleration, different time section, individual lane, adjustable lane length, independent electric stimulation, independent timing for each lane, air puff stimulation)
SA101DM	Treadmill for 5 Mice (Sound, Light, Electric stimulation, adjustable acceleration, different time section, individual lane, adjustable lane length, independent electric stimulation, independent timing for each lane, air puff stimulation)

Rodent Treadmill

The Rodent Treadmill is widely used in the research of physical fitness, endurance, motor injury, motor nutraceuticals, motor physiology, pharmacology, metabolic and cardiovascular research etc. It consists of the main unit, incorporating the drive, the shocker, the control unit with 7 Inch touch screen, the running belt enclosed within a chamber constructed of acrylic and aluminum. The chamber contains a shock grid, which serves as an aversive stimulus to motivate exercise. Two sizes are available in our company, smaller size for mice and a larger size for rat.

Advantages

- Single or multiple lanes for rats and mice, with individual lane design.
- Variable speed mode setting, different speeds can be set in sections.
- Equips with precision sensor detection and individual lane programming.
- Adjustable frequency of audio stimulation.
- Two kinds of exhaustion mode, time and frequency.
- Air puff stimulation, non-invasive and gentle.

Item No.: SA101B

Size

Mouse	Rat
5 lanes	5 lanes
Overall size: 69.5x69.5x42.5cm (27.3x27.3x16.7 inch)	Overall size: 69.5x69.5x44cm (27.3x27.3x17.3 inch)
Running belt size: 69.5x69.5x34.5cm (31.3x27.3x13.5 inch)	Running belt size: 69.5x69.5x34.5cm (31.3x27.3x13.5 inch)
Lane size: 61x8.5x15cm (LengthxWidthxHeight)	Lane size:61x11.5x16.5cm (LengthxWidthxHeight)
Independent Lane Control	Independent Lane Control
Shock grid size: 12x6cm	Shock grid size: 12x12cm
Speed: 1-100 meter/minute	
Lane slope degree -25° ~25°	
Acceleration: Adjustable acceleration in 0.1 meter/minute increments	
Adjustable current stimulus 0.005 – 5 mA	
Treadmill controller: 22x22x32.5cm (length x width x height), weight: 7kg	
Clear, removable acrylic maze walls and an aluminum frame	

Technical Parameters

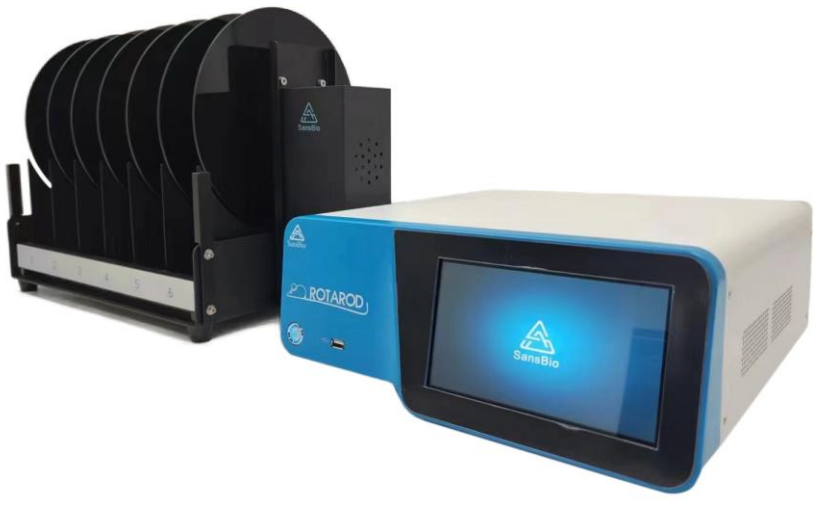
- Suitable for Rat and Mouse (Rabbit, Primates can be customized).
- 7 Inch capacitive touch screen: clear display and intuitive interface for experiment setting and display, resolution: 800x480.
- Lanes: Rats: 5 lanes, Mice: 5 lanes, lanes length can be customized 20~80cm.
- Lane slope: -25° ~25°.
- Closed-loop motor control is adopted, ensure high precision and real-time feedback.
- Speed: 1-100 meter /minute, resolution 0.01m/min.
- Acceleration: Adjustable acceleration in 0.1 meter/minute increments.
- Based on multi-process control programming, a variety of motion modes can be achieved, uniform speed, uniform acceleration, uniform deceleration, acceleration and deceleration mixed mode, etc.
- Acceleration can be set freely in motion mode in any time, and the Protocol setting is included in the software and the sectional acceleration can be set.
- Exhaustion mode: time and frequency are available and can be set in the same time.
- Self-protection mechanism: Treadmill can automatically judge and record the exhaustion time and stop the animal stimulation automatically, effectively protect the experimental animals.
- Sound Level: <120db, Light stimulus: 10000Lux, individual control.
- Power: 110-240V.
- Adjustable current stimulus between 0 – 5 mA, resolution 0.05mA; Stimulus sound frequency adjustable (Optional).
- Power-off protection function, 200 data store.
- Real-time display.
- Data processing: Upload by the self-design software and save in EXCEL; Print directly.

Ordering Information

Item No.	Product Description
SA101B	Treadmill for 5 Rats or 5 Mice (Sound, Light, Electric stimulation, adjustable acceleration, different time section, separate lane, adjustable lane length)
SA101BR	Treadmill for 5 Rats (Sound, Light, Electric stimulation, adjustable acceleration, different time section, separate lane, adjustable lane length)
SA101BM	Treadmill for 5 Mice (Sound, Light, Electric stimulation, adjustable acceleration, different time section, individual lane, adjustable lane length)

RotaRod

RotaRod is mainly used for motor coordination, balance testing, anti-fatigue drug screening and identification testing, acted as the effective tool to assess motor performance in rodents using the natural fear of falling as motivation. When the rodent falls off its cylinder section on to the plate below, the rotating time and the speed of falling will be recorded.



RotaRod for Mice

RotaRod for Rats

Key Features

- Precision IR Sensor for accurate detection of true fall.
- 4rpm is initiated in start on to avoid the reverse and help the animal well get in the experiment.
- Programmable speed, acceleration, and deceleration.
- 8 protocol configurations can be set in the experiment.
- 20 stages mode can be set in a single test, with a variety of motion modes.
- Lane independent tracking, auto start/stop.

Ordering Information

Item No.	Product Description
SA102	RotaRod for both Rats and Mice
SA102M	RotaRod for Mice (6 lanes)
SA102R	RotaRod for Rats (4 lanes)

Features

Basic Specification:

- Applicable for 6 mice or 4 rats at the same time.
- 7 " capacitive IPS LCD touch screen for simple operation.
- Regular Speed: 0.05-100 rpm, change in increments: 0.1 rpm.
- Constant acceleration, which is adjustable, range: 0-100r/min ².
- Acceleration time range: 0-100 mins.
- Experiment time range: 1-9999 mins.

Efficient:

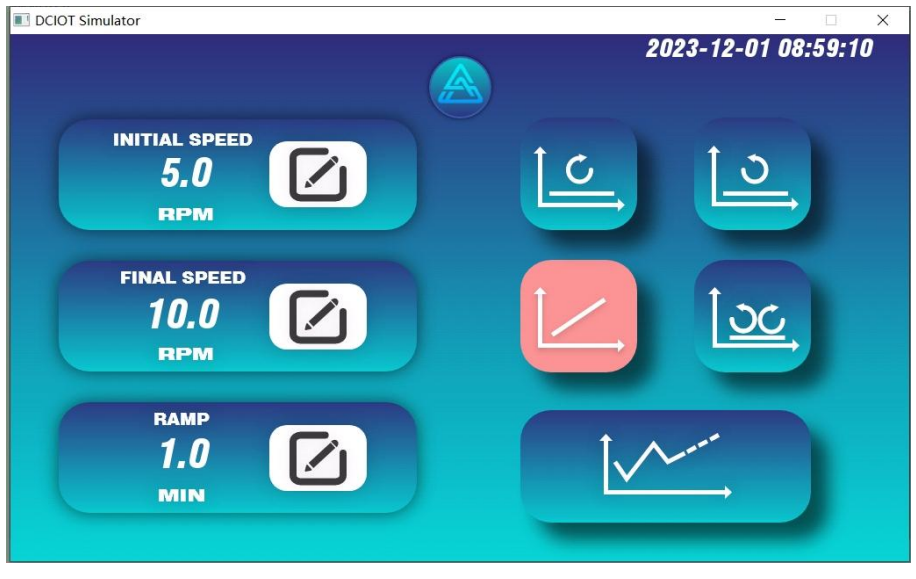
- Each lane can start timing independently, reducing the time difference caused by different lanes.
- Real-time display: Latency (S), Revolutions (R), Drop Speed (RPM), Acceleration, Distance, Initial Speed, Final Speed, Motion curve.
- Data recording: Lane independent Tracking, Auto Start/Stop, Data Storage.

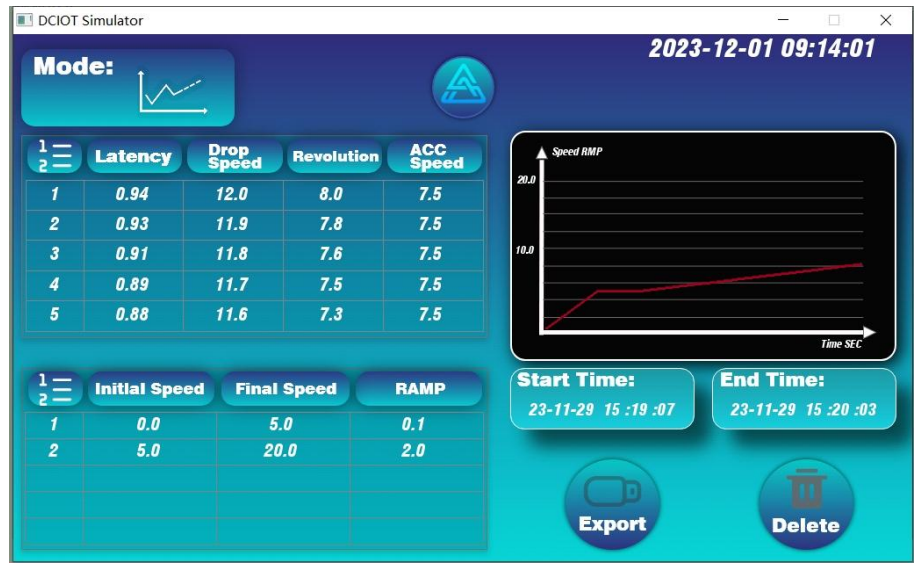
Intelligent:

- Multi-process control function, a variety of motion modes are available (uniform speed, uniform acceleration, uniform deceleration, acceleration and deceleration mixed mode, etc.), can set the motion mode at any time.
- 4rpm is initiated in start on to avoid the reverse and help the animal well get in the experiment.
- Unique alone mode function to ensure the consistency of experimental data in each lane.
- 8 protocol configurations can be set in the experiment and can be called directly.
- Automatic conversion of data into CSV files, exportable with U disk.
- >2000 data can be saved in the Rotarod.

Size:

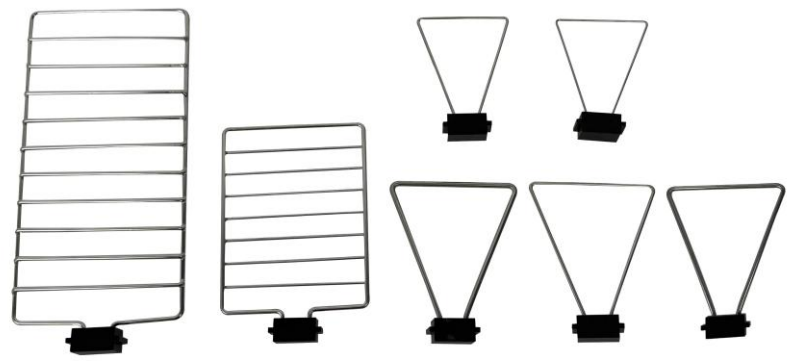
- Diameter of the Rod for rats 60mm, for mice 30mm.
- Controller size: 270×300×130mm (length x width x height), weight: 6.0kg, power: 60W.
- Size (Mice): 510×280×350mm (length x width x height).
- Size (Rat): 510×280×570mm (length x width x height).





Grip Strength Meter (Item No.: SA415)

The Grip Strength Meter is widely used to evaluate the motor function in rodents such as rats or mice. By determining the maximum force displayed by the rodent, it acts as a good tool in studying neuromuscular functions in rodents. Our Grip Strength Meter comes with the analysis software which can calculate the data automatically, makes it very convenient for biological statistics.

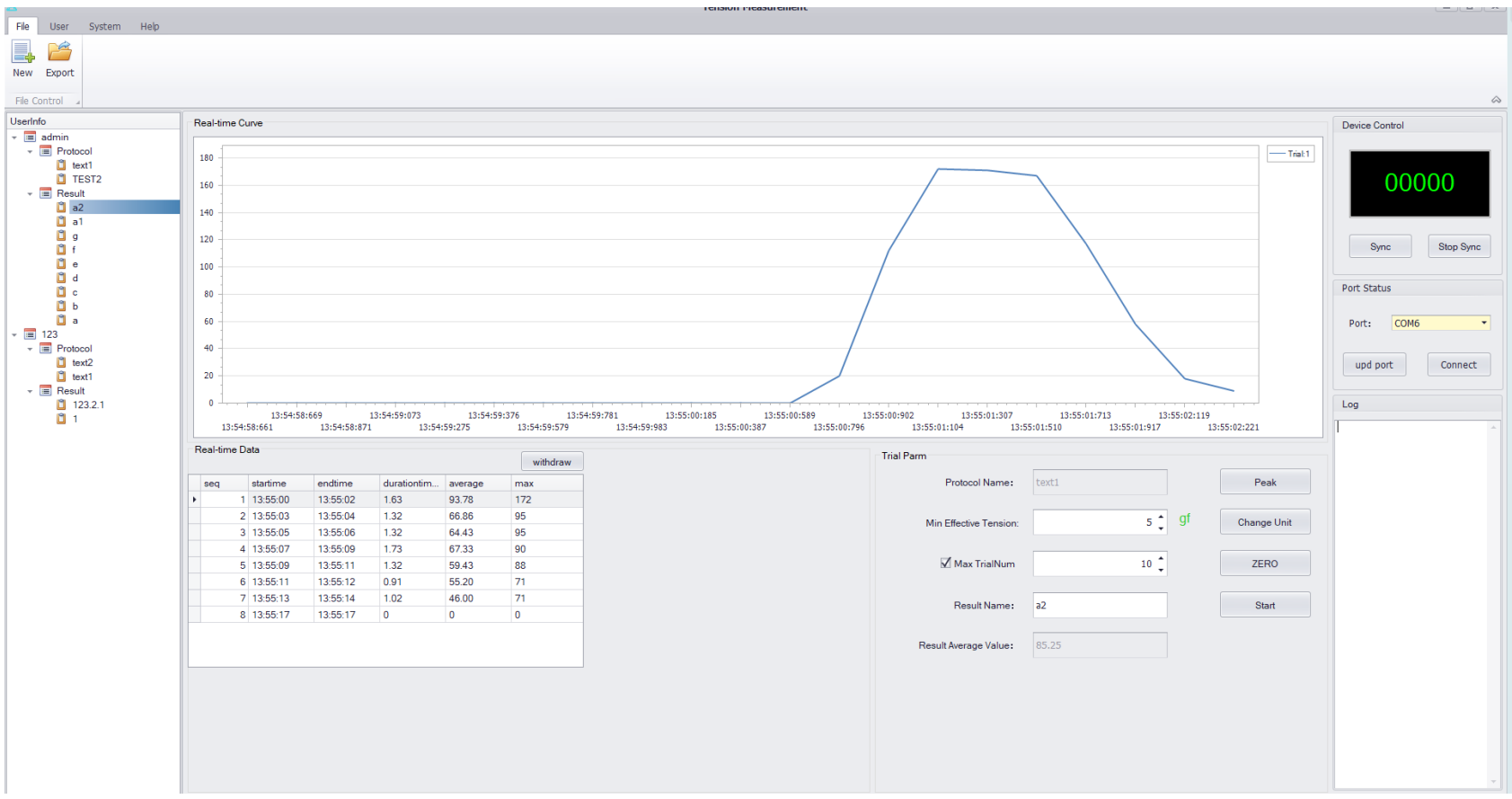


Features and Benefits

- A Single grip strength meter for both Rats and Mice, which can be used as a stand-alone tool or connected to PC via the USB port to monitor the experiment and record the data.
- Equips with 2 grip mesh grid and 5 grip bars, to be suitable for forelimb grip strength test or hind limb grip strength test for Rat and Mouse.
- Battery powered compact control unit with intuitive setting and result view, last for using 20 hours.
- Sturdy base with attached and 360-degree rotation, be adjusted according to the angle of animal activity, to ensure more accurate force measurement.
- Highly reliable sensors, to achieve fine resolution 0.01N.
- Multi-units available: N, gf, LBs to meet various demand of force measurement.
- Easy to hold the animal by the tail or the neck's skin.
- Easy to Move the animal down until it grasps the grid/bar.
- Easy to Pull the animal along the sensor axis until grip is released.

Technical Parameters

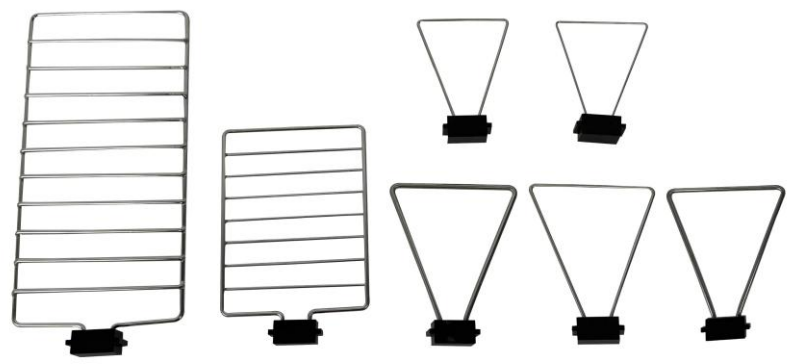
- It includes 2 Grip plates and 5 Grip bars suitable for forelimb grip strength test or hind limb grip strength test for Rat and Mouse.
- Maximum tensile force Range: 0 – 50 N (5kgf).
- High resolution: 0.01N.
- Peak force remains until manual zeroing.
- Multi-units are recorded and displayed: N, gf, LBs Newton to meet various demand.
- Inductive backlight, turn on/off can be set easily.
- Built-in USB port allowing transfer of data to a PC.
- Data can be visualized on the control unit display or exported to a PC, then achieve the detailed analysis.
- Easy data transfer into TXT, Excel-compatible files.
- Multifunction curve graphic display in JPG format, easily for paper publication
- Power adaptor (100-240 V) or battery included for use 20 hours
- Overall dimension: 280X120X100mm
- Grip mesh size: 90x90mm
- Net weight: 4kg
- Power Input: 110~220V 50hz
- Power Output: 9V 400mA



Grip Strength Meter Pro Version (Item No.: SA415 Pro)

The Grip Strength Meter is widely used to evaluate the motor function, neuromuscular function in rodents such as rats or mice. By determining the peak force exerted by the rodent, it provides essential data for assessing strength and recovery.

Our Pro Grip Strength Meter is a stand-alone device with touch screen display to achieve real-time display of Max. tension, Duration, Average tension, Tension SD, Real-time grip force curve, Animal information, Number of trials etc.



Features and Benefits

- A Single grip strength meter for both Rats and Mice, which can be used as a stand-alone tool, no need to connect to PC.
- Equips with 2 grip mesh grid and 5 grip bars, to be suitable for forelimb grip strength test or hind limb grip strength test for Rat and Mouse.
- Wide force range: 0–5000g (50N).
- Equipped with a high-precision, high-resolution sensor, with a force resolution of 0.1gf.
- Equipped with a 6.8-inch high-definition capacitive touchscreen (1280×480 IPS) with 178° viewing angle.
- Force calibration integrated in GSM to ensure the accuracy.
- Large memory storage, save up to 2,000 data.
- Animal information stored includes: ID, age, weight, sex, grouping to well management test.
- A single experiment can be continuously executed for up to 20 trials, Reduce human intervention.
- Real-time display of grip force curves.
- Supports remote upgrade.

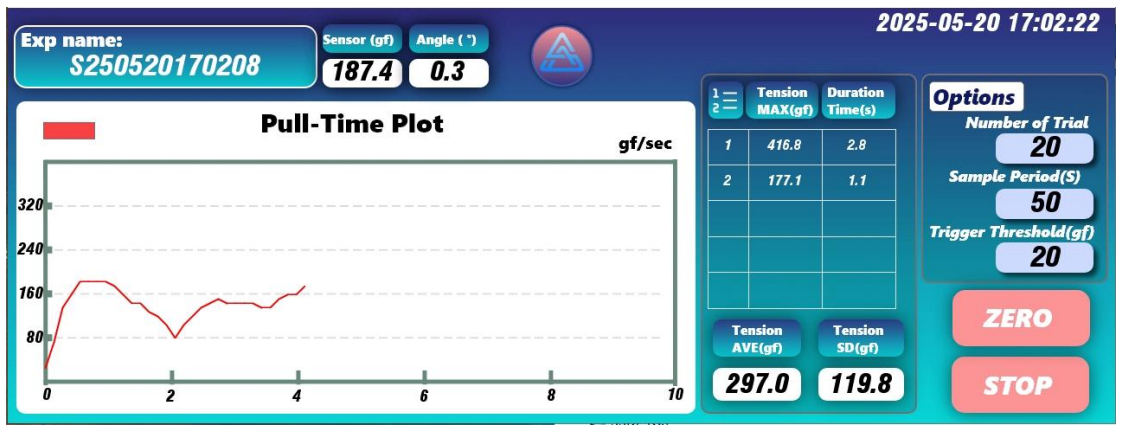
Technical Parameters

Basic Information

- Force ranges: 0–5000g (50N) for rats and 0–1000g (10N) for mice, meeting the needs of both species.
- Commands can be executed via touchscreen or foot switch.
- Equipped with a 6.8-inch high-definition capacitive touchscreen (1280×480 IPS) with 178° viewing angle.
- Includes 7 interchangeable grip bars: 2 mesh grid and 5 triangular bars to suit various testing needs.
- Angle adjustment ranges from –30° to 60°, with a sensor resolution of 0.1°, supporting flexible testing at various angles.
- Force calibration integrated in GSM to ensure the accuracy.

Software Operation

- Equipped with a high-precision, high-resolution sensor, with a force resolution of 0.1gf;
- Supports data history viewing and data exportable via USB flash in .CSV format, allowing Excel-based curve analysis.
- Accuracy: ±0.1% Full Scale (FS).
- Delay time adjustable in 0.1s increments.
- Large memory storage, save up to 2,000 data
- Sampling rate: 1000 Hz.
- Animal information stored includes: ID, age, weight, sex, grouping, and remarks.
- Real-time display of grip force curves, with customizable sampling durations of up to 100 seconds and support for up to 20 trials per session.
- Each trial's curve, peak force, and duration are automatically recorded.
- Supports threshold-based auto-recording.
- Supports remote upgrade.



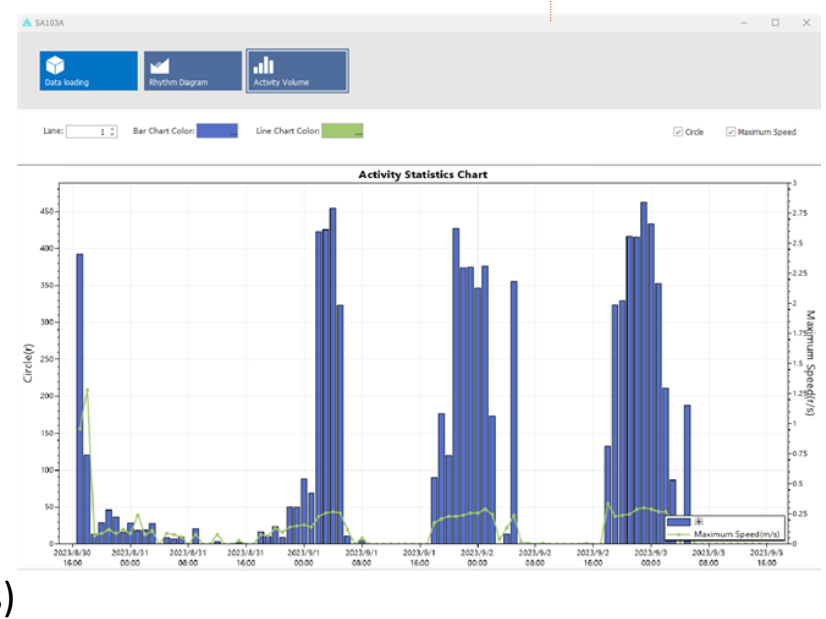
Physical

- Main Unit: 252 × 264 × 204 mm (L × W × H)
- Grip Bar Dimensions:
- Grid for Rats: 10 × 20 cm, bar diameter 0.30 cm
- Grid for Mice: 9 × 12 cm, bar diameter 0.20 cm
- Triangular Bar for Rats: 8 × 9 cm, bar diameter 0.35 cm
- Triangular Bar for Rats: 8 × 9 cm, bar diameter 0.30 cm
- Triangular Bar for Rats: 8 × 9 cm, bar diameter 0.25 cm
- Triangular Bar for Mice: 6 × 7 cm, bar diameter 0.20 cm
- Triangular Bar for Mice: 6 × 7 cm, bar diameter 0.15 cm
- Total Weight: 4.90 kg
- Power supply: 12V, 2A external power adapter.
- Operating temperature: –5°C to 60°C.

Running Wheels (Item No.: SA103)

Running wheels, or Activity Wheels, are designed to provide an easy convenient method for measuring laboratory mice or rats' motor activity over long periods of time, data acquisition system is included. Especially useful for research on circadian rhythms, motor function, aging, energy balance, recovering and pain related exercise.

The running-wheel is made of stainless steel, provided with low friction Teflon bushing, for quite smooth action. The wheel is housed in a standard clear polycarbonate cage and a stainless steel wire lid with exclusive locks fasten securely to the cage body. Our running wheel can record both the forward and reverse running data, including the number of turns, distance, running time, and the corresponding average speed in two directions respectively. The data can be collected by connecting to the software and mini-printer to record the activity of the rodents real time. Up to 24 wheels can be connected to the same counter or PC at the same time.



Features

- Wheels: 1-16
- Test time: 1~9999min
- Scheduled start: 0~23h
- 7-inch touch screen display, resolution 1280*800
- Operating mode: circle counting or meter counting
- Speed: 0.1 – 99.9 r / min with step 0.1 r / min
- Test data: Distance (m) forward/reverse, Running Time (s), Speed (m/s)
- Stores up to 5000 data
- Data browse and save: Data can be browsed at any time, and exported to the PC through USB disk

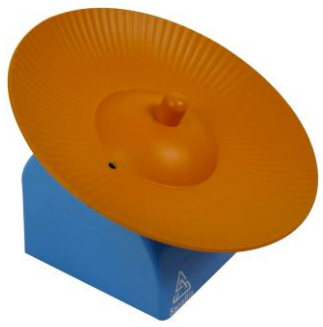
Specification

	Rat	Mouse
Wheel Diameter	30cm	20cm
Cage Dimension	54*40*38cm	38*25*17cm
Turn plate Size	Φ35*9.5cm	Φ20×6cm
Controller Size	35*30*15cm	35*30*15cm
Controller Weight	4kg	4kg

Top-wheel Wireless Running Wheel (Item No.: SA103AP)

This intelligent low-profile wireless running wheel is to study the circadian rhythm of experimental animals, which is applicable for the activity monitoring on Mice. Being adapt to most individually ventilated cages (IVCs), it provides quantitative measurement of mouse running levels, with 1 minute to 24 hours activity quantification.

Equipped with wireless USB Bluetooth hub, each hub supports 32 running wheels, and each PC supports 4 hubs. Based on the wireless transmitter, the running wheel system seamlessly sends activity data from the cages to the PC, not wires or cables needed.



Features

- Applicable on circadian rhythm measurement in mouse standard ventilated cage.
- Efficient Bluetooth management: A single Bluetooth hub can manage up to 32 running wheels, and 4 hubs per computer.
- Accurate data recording: Supports quantification of running levels to determine how they correlate with behavioral changes, and users can customize the statistical period, ranging from 1 minute to 24 hours.
- Detachable battery: Support up to 7×24 hours of uninterrupted monitoring for long-term experiments.
- Wireless design: Device can be flexibly placed in different positions of IVCs, improve the flexibility of the experiment.
- Data record: wheel counts (forward and reverse), total running time, fastest speed, remaining battery etc.
- Offline data analysis is available.
- Excel format exportable, make it more convenient to analyze the animal's circadian rhythm and the effects on physiology and behavior.
- Easy to clean: Separated design of running wheel and support base which can be washed easily. Wipe wheel transmitter with sanitation cloths.
- Energy efficient: powered by three AAA batteries included.
- Size:
- Running wheel diameter: 15.24cm (6 inches)
- Support base: 9cm x 9cm x 7cm
- Overall size: 15cm x 15cm x 10cm
- Affordable and economical.

Gait Fine Analysis System (Item No. SA114)

Voluntarily and unforced moving
Natural walking behavior

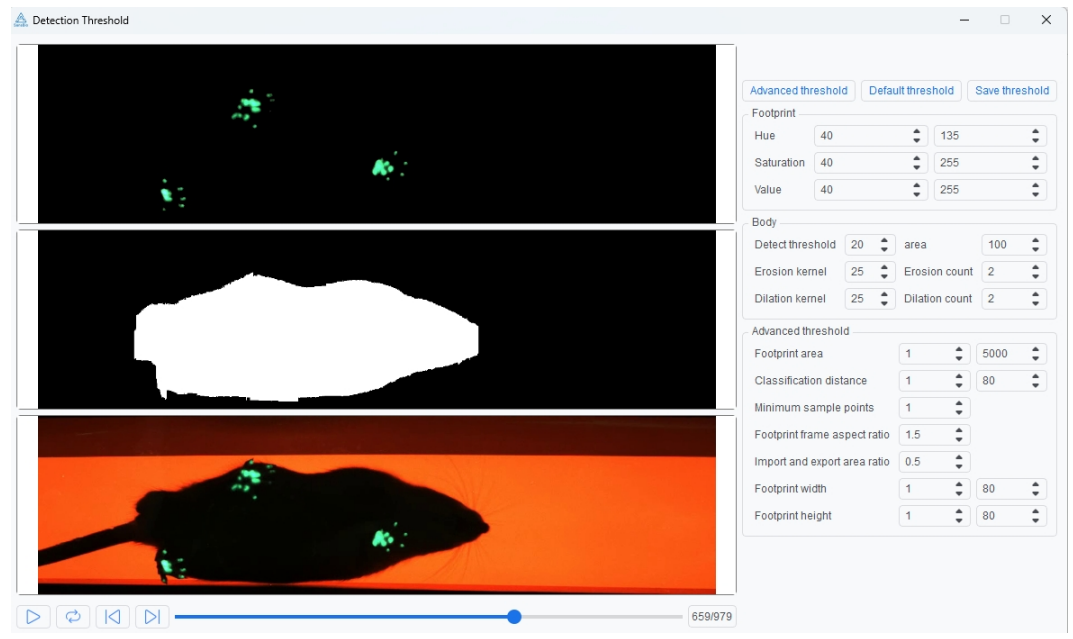
Rodent Gait Analysis System is a high-precision platform for studying rodent gait and animal walking patterns. Designed for researchers investigating neuromuscular dysfunction, spinal cord injuries, arthritis, and neurodegenerative diseases, our system combines AI-driven software, infrared tracking, and intelligent video capture to detect subtle changes in gait and posture.

The Gait Fine Analysis System of Rats and Mice developed by our company is a complete system which composed of Lighting system, HD Camera, Walkway, Computer workstation and Software. Over 64 parameters are calculated for qualitative and quantitative analysis of individual footstep and movement of Rat and Mice.

Features

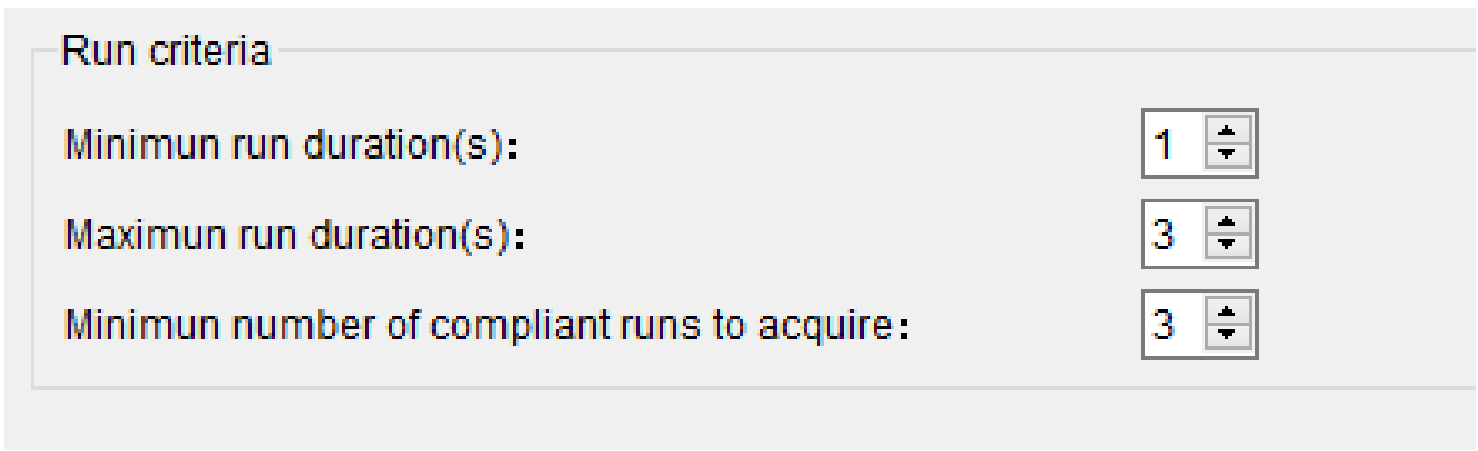
- **Adjustable high speed color camera**

The software integrates the camera parameter adjustment function, which can flexibly adjust the camera gain (range 0-16), exposure time (range 5000-15000) and frame rate (maximum 165). Video frame quality can be easily improved through the camera adjustment.



- **Intelligent & Automatic Recording:**

1. Video recording will start only when the mice enter the ROI area, and automatically stop recording and video save after the mice leave the ROI.
2. Maximum and minimum run duration, minimum number of compliant runs to acquire and maximum rate of change of speed are set before the start of detection to avoid failure of acquisition and ensure consistency of video recording.

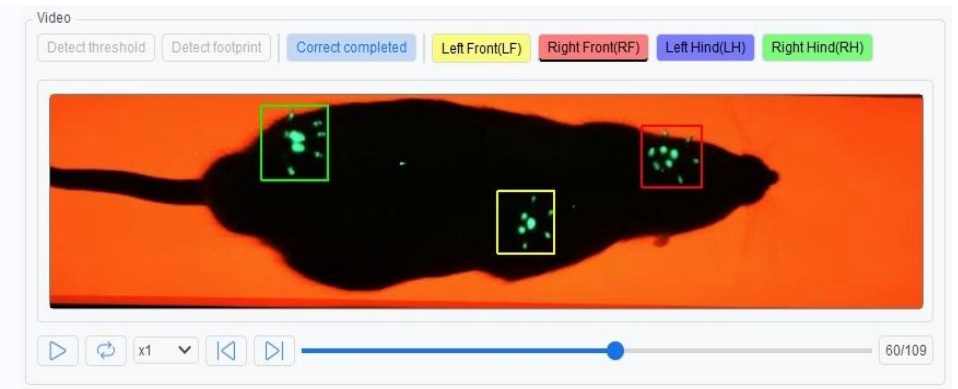


Automatic Footprint Classification

The built-in algorithm recognize and classify the various footprints in a very short time, and ensure the high accuracy, which takes the manual labor of classifying each footprint out of your hands to save your experiment time in half.

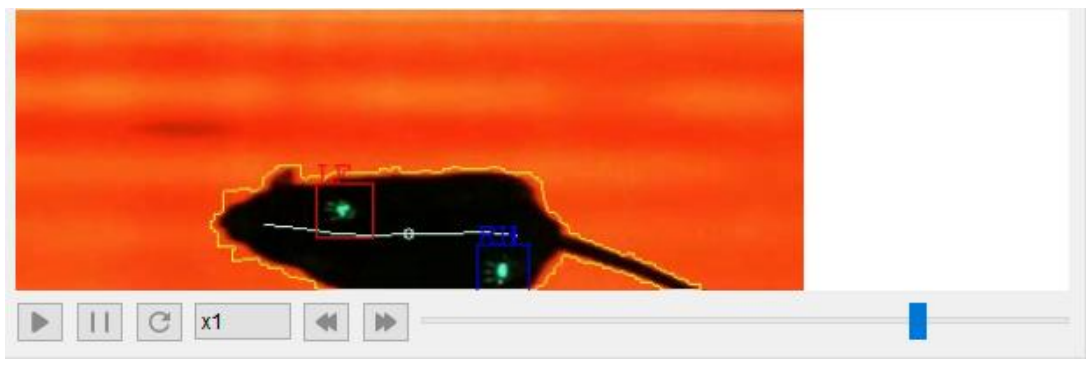
Interactive Footprints Measurements & Correction

The Interactive Footprints Correction module allows you to detect the error by pressing the frame-by-frame button and moving the progress bar etc. After the correction, detection can be restarted which can greatly improve the accuracy of the Gait Analysis.



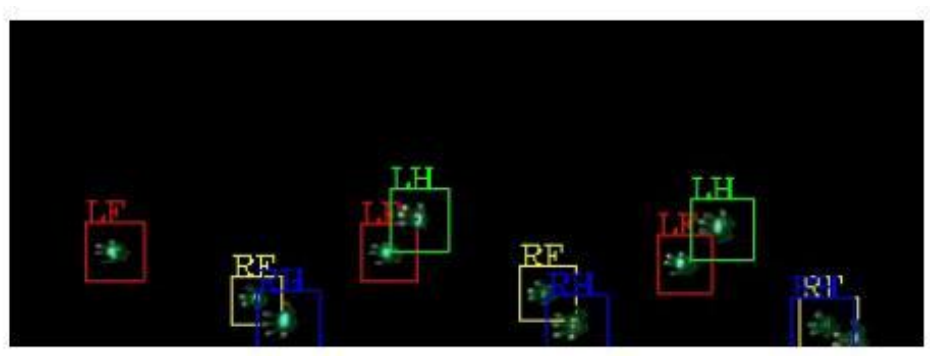
Visualization

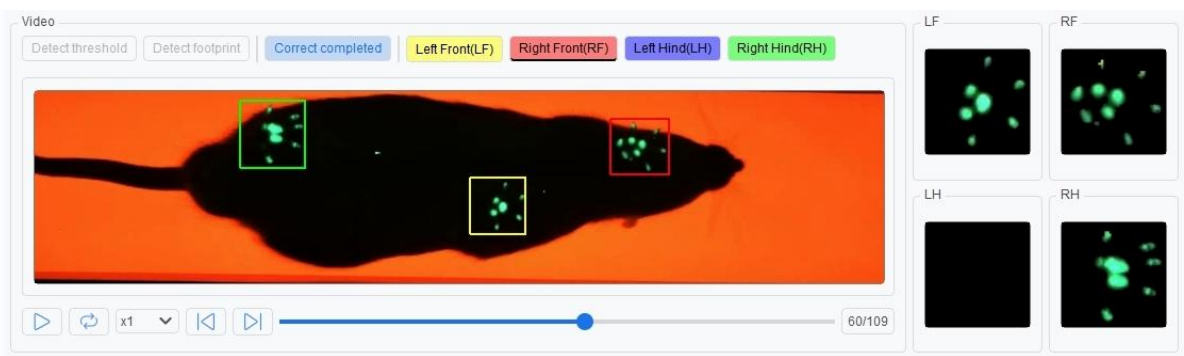
After the footprint classification, rectangular box in different color will be used to in the footprint and a white curve will be drawn on the body of the mouse to show the body shape.



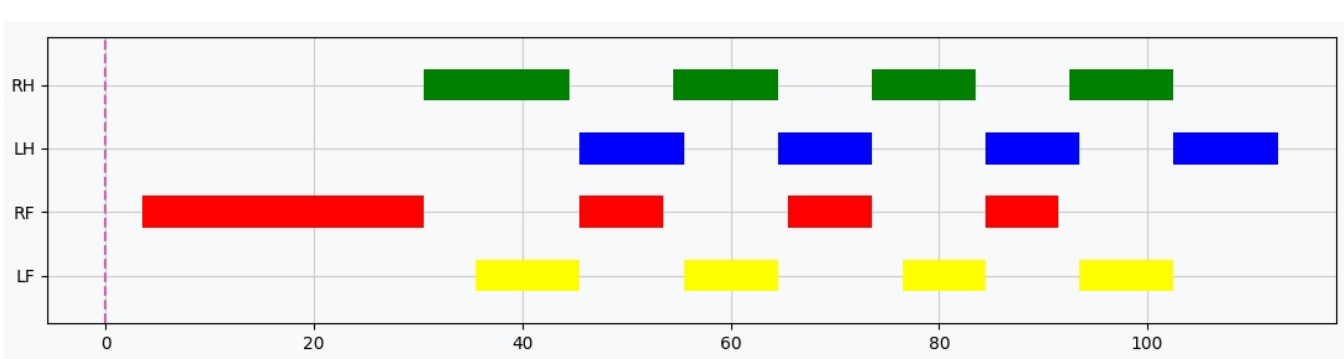
All footprints of the animal will be shown on the walkway.

The existing footprints can be enlarged to show each detail of the footprints.

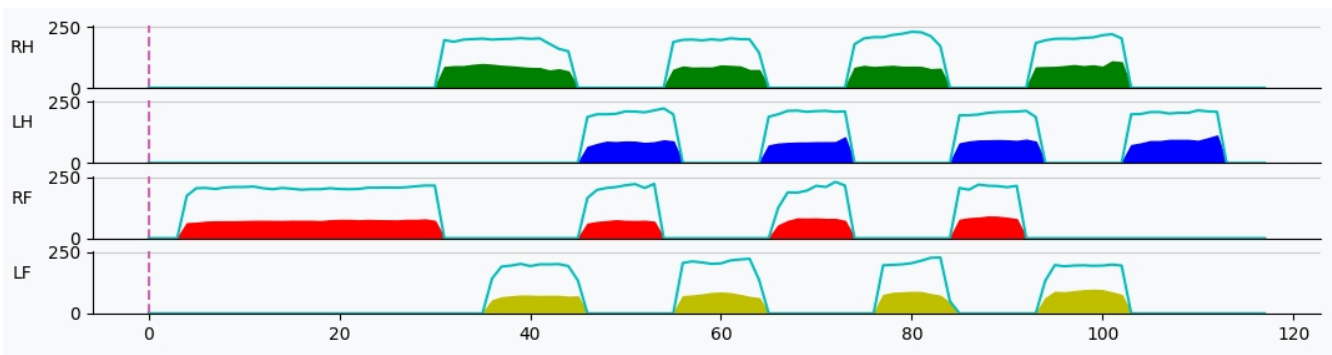




Paw landing situation at various moments, that is, the time sequence diagram.



2D diagram of Intensity reflects the maximum and average intensity when the paws touch the ground.
3D diagram of Intensity displays the intensity in each position of the paws in real time.



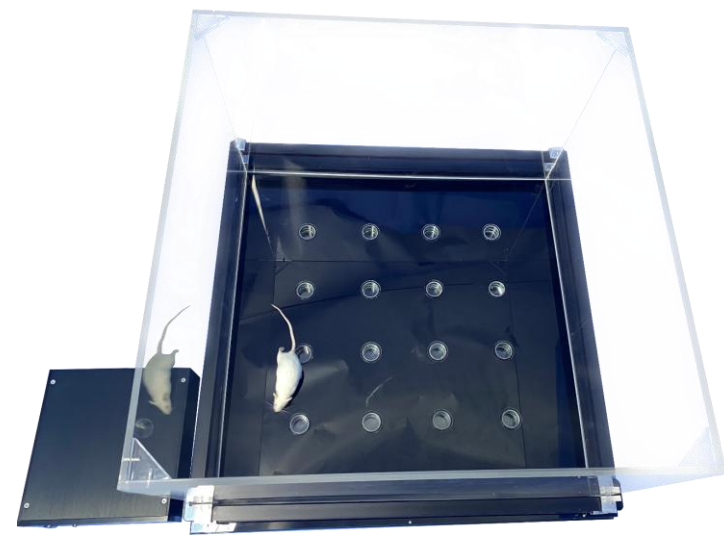
IR Hole Board Test (Item No.: SA216)

The Activity Hole Board Test is used to study the behavior of rodent when facing a new environment (protruding into the hole). By detecting the spontaneous activity of mice/rats, it can be used for new drug screening, pharmacology, nervous system research and Central nervous excitation and inhibition etc.

Our IR Activity Hole Board Test consist of analysis software, video monitoring system and IR detection system. Rodent movement trajectory, distance, speed and time can be achieved and analyzed by our software. IR detection system is used to record the number of protruding, initial time, duration and total time of protruding.

Features

- Open Field Dimensions: 40cm x 40cm x 35cm
- 16 Holes – diameter 2cm for mice
- Adjustable height of the sensors
- Data: movement distance, speed, time, numbers of protruding



Beam Balance Test or Beam Walking (Item No. SA112)

The beam balance or beam walking is a test of motor coordination and balance in rodents, which evaluates sensorimotor function after motor cortex injury, traumatic brain injury, gamma-aminobutyric acid infusion to the frontal cortex, and stroke rodent models. In addition, the test can be used to assess the effects of aging and characterize transgenic animals.

The goal of this test is for the subject to stay upright and walk across an elevated narrow beam to a safe box/platform which is on one side of the balance beam. The time the rodent takes to cross the beam and the number of paw slips that occur in the process are to be recorded as the quantitative performance on the beam. This test usually takes several consecutive days of test: some days of training and 1 day of testing.

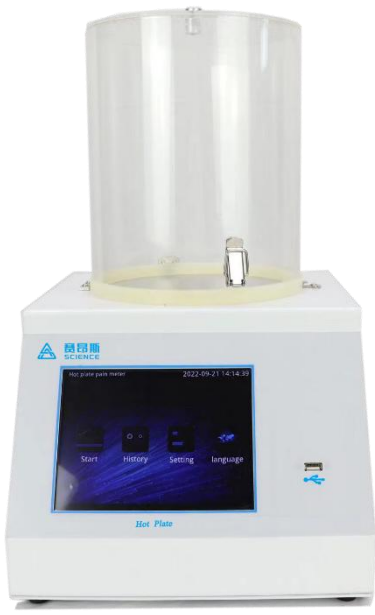
Features

- Balance beam
- Material: Aluminum alloy, plexiglass.
- Length: 1.25 m.
- Height from the ground: 40-100 cm adjustable.
- Width 2cm and 4cm each.
- Goal box 20×20×30cm (width * depth * height)
- The goal box and beams are easy to remove/assemble using manual screws below the beam.

Hot Plate (Item No.: SA702)

The hot cold plate test has been the gold standard test for thermal pain tests in rodents and acts as an effective screening tool interventions of analgesia.

Features



- Suitable for rats, mice, guinea pigs.
- Experiment mode: constant temperature mode, variable temperature mode.
- Adopts high-performance 32-bit microcomputer control chip to ensure the accurate temperature.

Temperature

- Temperature display mode: Capacitive eight-inch LCD display, resolution: 800×600
- Temperature Range: 20°C-65°C, adjustment step 0.01°C
- Temperature control standard deviation: <± 0.2 °C
- Heating time: 1 minutes (from 20°C to 65°C when the ambient temperature is 20°C)

Time Display

- Time display: 0.01~600.00s, Precision: 0.01 seconds
- Time Display standard deviation: <0.02 ‰

Experimental Data

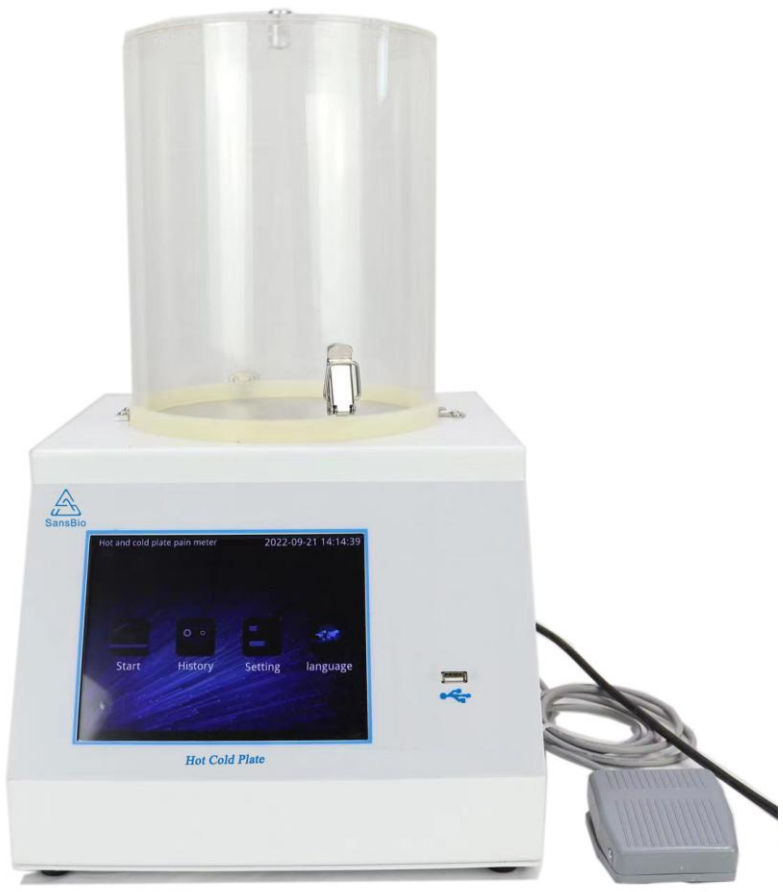
- Experimental data: previous experimental curves and data can be viewed on the menu, and each set of experimental data is displayed in real time: time, temperature, mean, maximum value, minimum value.
- 200 group data can be stored, and each group can record 10 time data and instantaneous temperature data.
- Data extraction from the Hot Plate test is straightforward by using a USB drive, in CSV format.

Size

- Apparatus size: (L) 35 cm × (W) 30 cm × (H) 48.5 cm
- Cylindrical restrainer dimensions: (D) 21cm x (H) 25 cm
- Weight: 11.8 KG
- Power requirement: 300W, 110 / 220V, 50-60HZ

Hot Cold Plate (Item No.: SA705)

The hot cold plate test has been the gold standard test for thermal pain tests in rodents and acts as an effective screening tool interventions of analgesia. SANS Hot Cold Plate adopt precise PID control algorithm, which is different from the temperature breakpoint method adopted by ordinary temperature controllers. The PID algorithm will continuously collect temperature feedback to control heating/cooling, thus being able to control the current temperature more accurately. The Hot Cold Plate contains a metal temperature plate with a digital display and a lidded transparent glass cylindrical restrainer.



Key Advantages

The experimental temperature of placement of the subject on the plate and the first sign of nocifensive response such as paw licking or jumping can be recorded in real time.

Features

- Suitable for rats, mice, guinea pigs.
- Experiment mode: constant temperature mode, variable temperature mode.
- Adopts high-performance 32-bit microcomputer control chip to ensure the accurate temperature.

Temperature

- Temperature display mode: Capacitive eight-inch LCD display, resolution: 800×600
- Temperature Range: -5°C-65°C, adjustment step 0.01°C
- Temperature control standard deviation: <± 0.2 °C
- Heating time: 2 minutes (from 0°C to 65°C when the ambient temperature is 20°C)
- Cooling time: 5 minutes (from 0°C to -5°C when the ambient temperature is 20°C)

Time Display

- Time display: 0.01~600.00s
- Time display precision: 0.01 seconds
- Time Display standard deviation: <0.02 ‰

Experimental Data

- Experimental data: previous experimental curves and data can be viewed on the menu, and each set of experimental data is displayed in real time: time, temperature, mean, maximum value, minimum value.
- 200 group data can be stored, and each group can record 10-time data and instantaneous temperature data.
- Data extraction from the Hot Plate test is straightforward by using a USB drive, in CSV format.

Size

- Apparatus size: (L) 35 cm × (W) 30 cm × (H) 48.5 cm
- Cylindrical restrainer dimensions: (D) 21cm x (H) 25 cm
- Weight: 11.8 KG
- Power requirement: 300W, 110 / 220V, 50-60HZ

Thermal Place Preference (Item No.: SA707)

As advised by A. MOQRICH, and published in Moqrich et al (Science 2005, 307: 1468-72), the thermal place preference test (TPPT) was designed to finely assess thermal sensitivity in rodents. The Thermal Place Preference Test, based on two Hot Cold Plate (Temperature range from -5°C to 65 °C), allows researchers to work on free moving animals (Rats and Mice) to choose their preferred place between 2 compartments set a different temperature. Our TPPT adopts dynamic infrared scanning tracking technology to record the location of the rodents and automatically analyze the staying time and times in each compartment.

TPPT enables a fine-grained assessment of thermal sensitivity that is relevant to the pathophysiological exploration of animal pain models and to the pharmacological assessment of analgesic drugs.

dynamic infrared scanning tracking technology to record the location of the rodents

Key Advantages

- Adopts dynamic infrared scanning tracking technology, location of the rodents, staying time and times in each compartment automatically recorded.
- Experimental temperature of placement on the plate and the first sign of nocifensive response such as paw licking or jumping can be recorded in real time.

Features

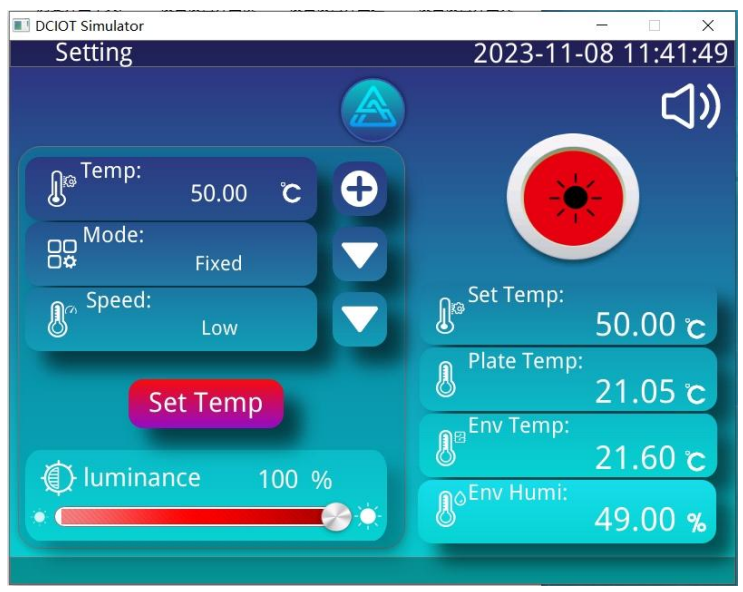
- Suitable for rats, mice, guinea pigs.
- Experiment mode: constant temperature mode, variable temperature mode.
- Adopts high-performance 32-bit microcomputer control chip to ensure the accurate temperature.

Temperature

- Temperature display mode: Capacitive eight-inch LCD display, resolution: 800×600
- Temperature Range: -5°C-65°C, adjustment step 0.01°C
- Temperature control standard deviation: <± 0.2 °C
- Heating time: 2 minutes (from 0°C to 65°C when the ambient temperature is 20°C)
- Cooling time: 5 minutes (from 0°C to -5°C when the ambient temperature is 20°C)

Time Display

- Dwell time/ Cross Times/Times of Left/Right compartment display
- Time display: 0.01~600.00s
- Time display precision: 0.01 seconds
- Time Display standard deviation: <0.02 ‰



Position Display

- Current staying location/time display

Experimental Data

- A built-in timer activated by an external foot padel to record the reaction time easily and accurately.
- Experimental data: previous experimental curves and data can be viewed on the menu, and each set of experimental data is displayed in real time: time, temperature, average, maximum time, minimum time.
- 100 group data can be stored, and each group can record 10-time data and instantaneous temperature data.
- Data extraction from the Hot Cold Plate test is straightforward by using a USB drive, in CSV format

Size

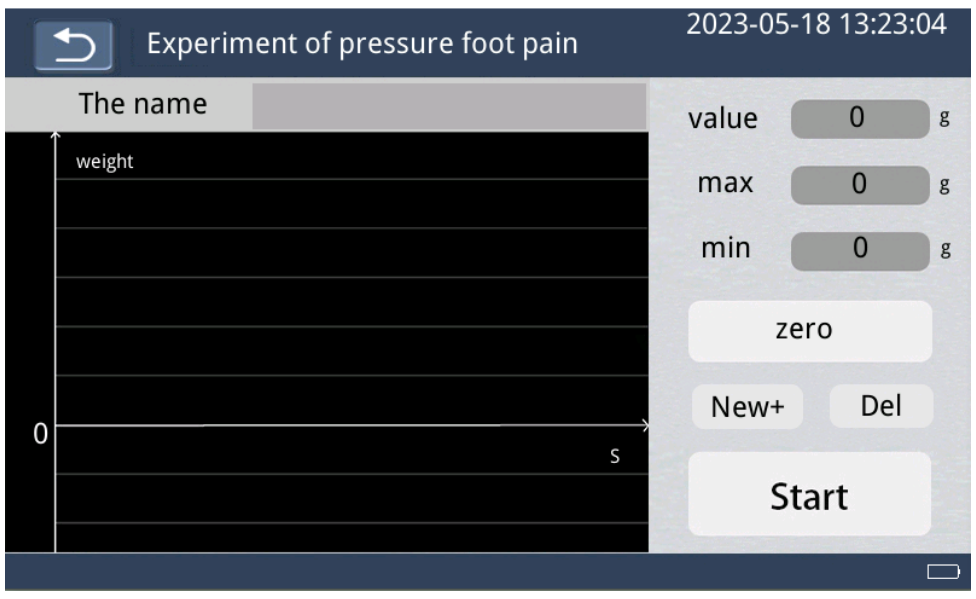
- Container size: (L) 53 cm × (W) 23 cm × (H) 26 cm
- Middle door thickness: 15mm
- Power requirement: 300W, 110 / 220V, 50-60HZ
- Weight: 25 KG

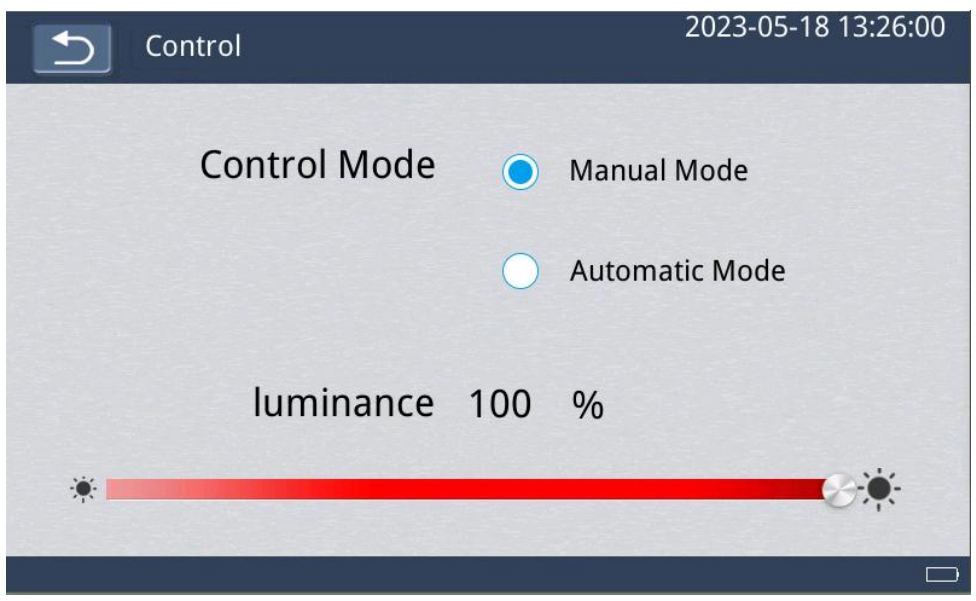
Electronic Von Frey (Item No.: SA708)

Rodent Electronic Von Frey/Plantar Analgesia Meter, it allows researchers to determine the mechanical pain sensitivity threshold in a simple and accurate method, through the sensitive filament stimulation. It is commonly used in screening and testing analgesic drugs, and used to determine the mechanism of central and peripheral nerve analgesia.

Configuration

- Software control unit
- Isometric force transducer
- Foot Pedal
- Calibration weight
- Filaments





Features

- Backlighted LCD, clear display with high contrast and easy operation.
- Display: PEAK, Minimum value and CURRENT value on the same time.
- Real time curves and tables display.
- Measurement range: 0~300g, resolution 0.01g.
- 4 kinds of reusable stainless-steel filaments, diameter in 0.4mm, 0.6mm, 0.8mm, 1.0mm.
- 24-bit AD sampling chip ensure high precision.
- Internal memory: up to 200 values.
- Mode: Automatic & Manual are available.
- Automatic Mode: Experiment start automatically under the pressure, data recorded.
- Manual Mode: Foot pedal.
- Different filaments are available for different experiment and animals.
- Battery power supply: standby time>40 hours, continuous working time>10 hours, charging time<3hours.

Table Chamber specifications:

- Mesh frame size: 74 x 33 x 38 cm (L x W x H)
- Material: Acrylic clear
- Chamber interior size: 22 x 22 x 14 cm (L x W x H)
- Each chamber comes with two dividers. The chamber can hold 6 rats and 12 mice.
- The chamber has a lid with air holes and the top is easy to open and close.
- A flat mirror is integrated to well observe the plantar image.
- No base in the chamber
- Chamber table is included

Item No.: SA708-001

Hargreaves Plantar Test (Item No.: SA709)

Hargreaves Plantar test is widely used to test the thermal stimuli responses in the study of analgesic drugs in pharmacological experiments. Experiments are easy to perform as a rodent's hind paw is exposed to a beam of radiant heat through a transparent glass surface using plantar analgesia meter. The latency to withdraw to the heat stimulus is recorded as the time for paw withdrawal in both injured and uninjured hind paws.

Our Plantar test adopts microcomputer control method to obtain the pain threshold time automatically. The device contains an emitter/detector vessel, software controller, glass panel and animal enclosures. It can be used on 12 mice, 6 rats and other animals (cats, rabbits) unrestrained.

Features

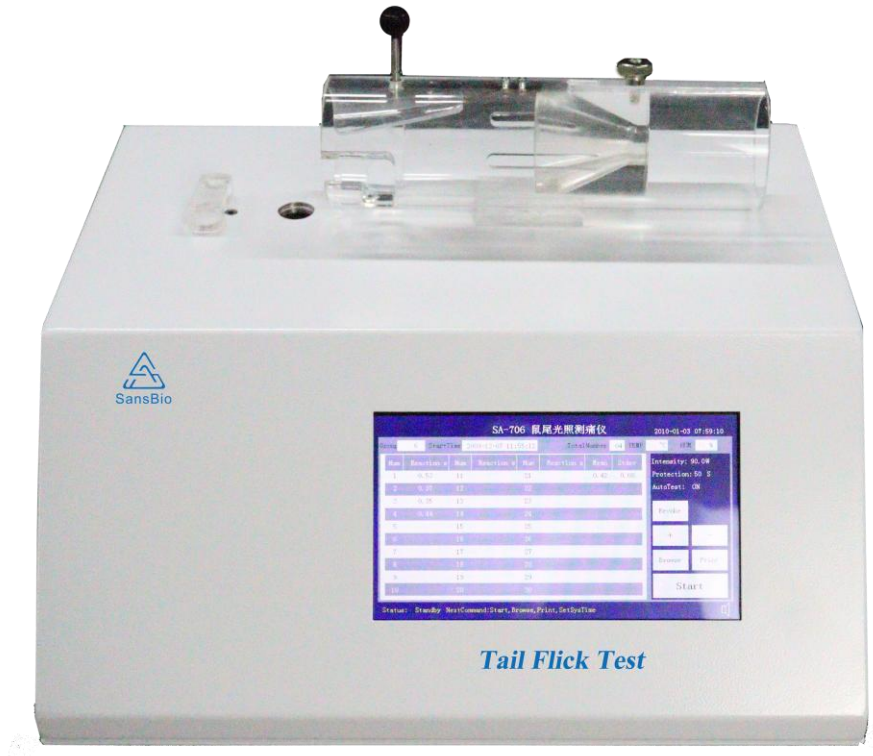
- Animal modular enclosures for up to 12 mice and 6 rats' simultaneous simulation.
- 7" LCD touch screen to set parameters (light intensity, thresholds, etc.), real time data display.
- Infrared light as stimulus.
- Power: 0W-150W, adjustment 1.5W stepwise.
- 5-100% heat intensity adjustment.
- Maximum Illumination time adjustable to the second (0.01-16s).
- Measurement mode: Manual
- Cut-off timing: from 5 to 100 seconds.
- Timing accuracy: 0.01s.
- Camera included to be directly connected to iPad or Mobile phone, assisting in observing the animal planta clearly.
- Calibration with I.R. Radiometer is optional.
- TTL I/O: Support external 3.3V-5V high level signal trigger, Input/Output TTL signal.
- Power: AC 110-220 VAC, 50-60Hz, 150W
- Sound level: <40dB
- Exportable data through USB disk into.CSV file for easy analysis.
- External thermal printer is supplied optional to provide real-time data printing.

Tail Flick Test (Item No.: SA706)

The Tail flick test is used to measure the nociceptive threshold and variation to infrared heat stimulus on the rat or mouse tail.

Basically, a thermal stimulus is applied on the tail of the rodent; when the animal feels discomfort, it reacts by a sudden tail movement. The tail flick reaction time is then measured and used as an index of animal pain sensitivity.

Science adopts the IR technology in the thermal stimulus.



Features

- Suitable for Rat and Mouse.
- 7-inch touch screen display, resolution 800*480.
- Thermal stimulus: infrared strip spot with 0-100W intensity.
- CNC frequency modulation ensure the stable thermal intensity.
- Thermal stimulus duration: max 16s (avoid tail burns).
- Timing: manual or automatic photoelectric are available.
- 200 data store. Data can be visualized on the control unit display, print out or exported to a PC, then achieve the detailed analysis.
- Overall dimension: 35x30x15cm, weight 6.2kg
- Power: 110V~220V, 50/60HZ; voltage: 50W

Incapacitance Meter (Item No.: SA714)

Incapacitance Meter, also called Static Weight Bearing, is specially designed to quantify pain in rodents by measuring the static weight borne by each hind paw. It provides an objective index of discomfort by comparing left vs. right paw load, making it ideal for spontaneous pain assessment in small animals. Animals (mice or rats) are placed in a custom holder so that each hind paw rests on a precision force plate. As the animal shifts its posture, the Incapacitance Meter continuously records the force on each hind limb, calculating a symmetry index and average load over time. This noninvasive, automated minimizes stress on the animal and eliminate reproducible data for pain and behavior studies.

Features

- Suitable for both Rats and Mice
- Recording data: Hind Paw Symmetry Index.
- Suitable for measuring the weight distribution of the hind paw in both mice and rats, ideal for evaluating spontaneous pain.
- Unrestrained animal is free to adopt a normal stance, avoiding stress-induced fluctuations.
- Unique dual-sensor design for independent measurement of left and right hind paw forces, accuracy up to 0.3g.
- Easy and convenient calibration to ensure its accuracy.
- LCD touchscreen provides real-time dynamic display of left/right paw weight distribution.
- Automatically calculates the maximum, minimum, and average force for both paws.
- Large volume with 2,000 data.
- Data be exportable through USB port.
- High-precision weighing, allowing for repeatable, consistent testing..

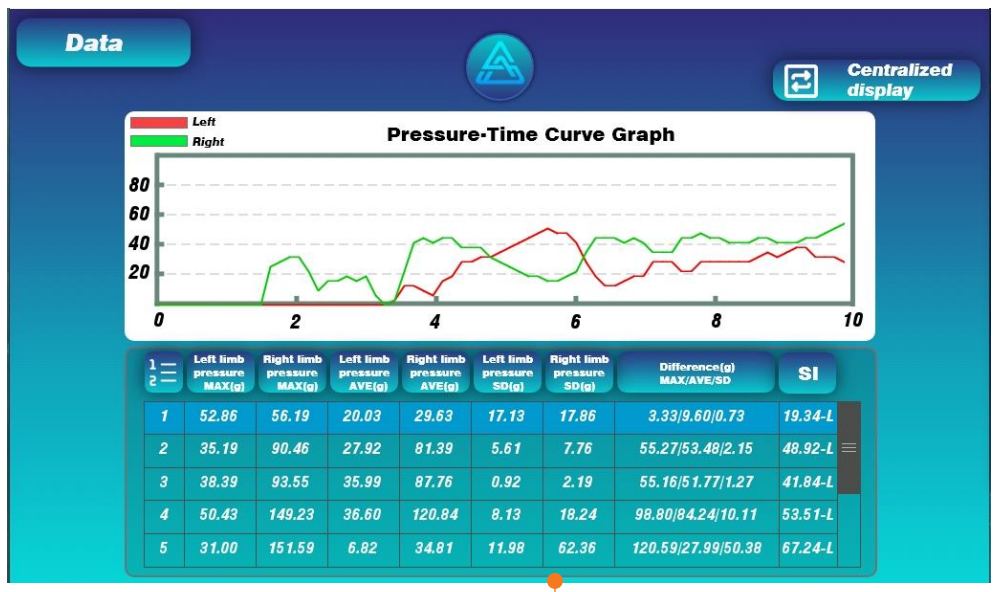
Specification

General

- Display: 7-inch capacitive LCD touchscreen, Resolution: 1024 × 600 dpi
- Power requirement: Universal input 100-240 VAC, 50-60Hz
- Operating Environment: 10°C to 40°C; 5% to 95% RH (non-condensing)

Operation

- Animal weight (per paw): 0-2000g
- Resolution: 0.01 g
- Accuracy: 0.1 g
- Measure time: 1–100 s
- Measure starting mode: Manual and Automatic
- Data Collections per Test: 1–20 times
- Internal Space Range: 0–100 mm adjustable
- Space Adjustment Track: Linear guide rail
- Angle Adjustment Range: 55–75 degrees
- Data exportable via USB



	Left limb pressure MAX(g)	Right limb pressure MAX(g)	Left limb pressure AVE(g)	Right limb pressure AVE(g)	Left limb pressure SD(g)	Right limb pressure SD(g)	Difference(g) MAX/AVE/SD	SI
1	52.86	56.19	20.03	29.63	17.13	17.86	3.33/9.60/0.73	19.34-L
2	35.19	90.46	27.92	81.39	5.61	7.76	55.27/53.48/2.15	48.92-L
3	38.39	93.55	35.99	87.76	0.92	2.19	55.16/51.77/1.27	41.84-L
4	50.43	149.23	36.60	120.84	8.13	18.24	98.80/84.24/10.11	53.51-L
5	31.00	151.59	6.82	34.81	11.98	62.36	120.59/27.99/50.38	67.24-L

Data result

- Left limb pressure MAX
- Left limb pressure AVE
- Left limb pressure standard deviation
- Difference between limbs
- Right limb pressure MAX
- Right limb pressure AVE
- Right limb pressure standard deviation
- Symmetry Index

Physical

- Restrainer Material: 10 mm transparent acrylic
- Restrainer size: 280x220x210mm
- Whole unit size: 250x350x400mm
- Weight: 12.4kg

Plethysmometer (Item No.: SA701)

The Plethysmometer is an useful instruments designed to measure small change in volume, it is typically used to measure the inflammation of the paws in rodents which is experimentally induced. This test provides effective evaluation on screening potential antipyretic, anti-inflammatory, anti-oedema properties of pharmacological substances.

Features

Display	7-inch touch screen display, resolution 800*480
Volume	0-70ml
Measurement accuracy	1μl
Measuring cup inner diameter	40mm
Integrated battery	Deviation < 0.083 seconds/hour
Starting	Automatic or pedal switch
Mini printer	Instant print & memory print
Memory	200 data
Data statistics	Automatically calculates the average value and standard deviation in real time
Data store	USB interface, data can be stored in the PC
Control Unit Dimensions	350×300×145mm
Power Supply	110V/ 220V, 50/60Hz

Orofacial Pain Assessment Device (OPAD) (Item No.: SA710)

The Orofacial Pain Assessment Device (OPAD) is used to automatically measure and evaluate temperature (hot or cold) or mechanical orofacial pain assessment in the trigeminal nerve of rats and mice. The rodent is placed in the operant chamber and can only obtain liquid reward when it contacts the thermal and mechanical stimuli. The animal withdraws the liquid as the temperature (hot or cold) becomes aversive. Our OPAD software will automatically track the number of licks, duration of each lick, latency to the first lick, longest and shortest lick etc.

Specification

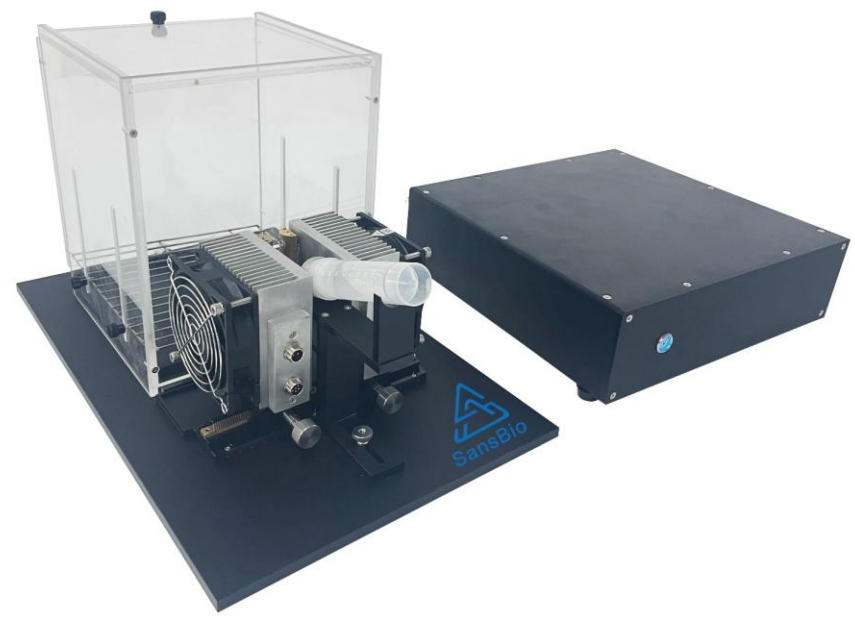
OPAD Chamber

- Composed of a clear acrylic cage with a metal base.
- Dimension:

  Mouse 10 x 10 x 20 cm (L x W x H),

  Rat 20 x 20 x 20 cm (L x W x H).

  Custom dimension is available.
- Removable feces and urine tray.
- Drinking bottle with metal nozzle and lick detection.



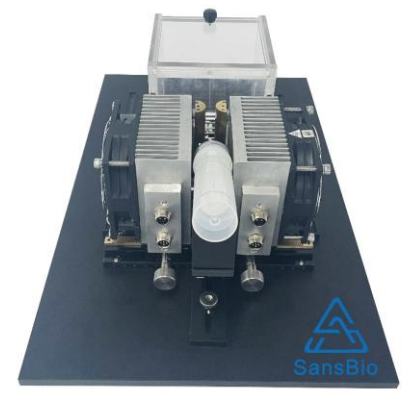
Rat

Thermal Stimulus

- Dual Peltier-controlled temperature or mechanical protrusions.
- Temperature ranges from 4°C to 75°C, accuracy in 0.5 °C.
- Distance between the thermodes can be varied to accommodate the size of the animal.

Data Analysis

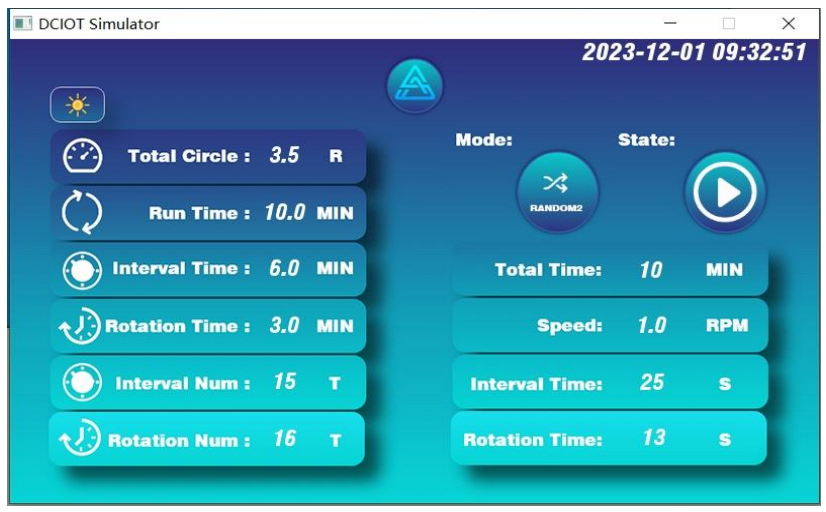
- Number of licks (successful attempts)
- Duration of each lick
- Latency to the first lick
- Longest lick
- Shortest lick
- Face contact numbers
- Face contact duration
- Latency to the first face contact
- Time spent in contact with thermode/wire



Mouse

Sleep Deprivation System (Item No.: SA109)

Sleep deprivation (SD) impairs spatial, emotional, and working memories, and augments anxiety-like behaviors. The sleep deprivation apparatus from Science is an automated device that provides movement at programmed intervals to prevent REM sleep. The apparatus consists of a clear acrylic chamber atop a motor and screen to set time and rotations of a bar inside the chamber to prevent the rodent from sleeping in a safe way. Food and water apparatuses are available to allow long-term experimentation. Our device equips with a circadian rhythm light control system, and it can be used for optogenetic experiments and calcium ion imaging experiments.



Features

- Circadian rhythm light control system.
- Speed custom programming.
- Interval custom programming.
- Scheduled automatic Start/Stop.
- Synchronous video integration.

Operation

- Customized schedule: total running time, scheduled start, rotation period, custom periodic breaks of 0-99999 seconds.
- Experiment duration: 1-999999min.
- Easy to operate capacitive 5-inch HD LCD screen with high response speed
- Period range (rotation-stop): 0~99999s.
- Time display precision: 1 second.
- Motor control: Clockwise, counterclockwise, alternate, and random.
- Quiet motor at <30dB noise level

Data Analysis

- LCD screen & computer software control.
- Configurations are saved on the device and up to 5000 data can be exported to the PC using a USB port.
- No software or PC is required.

Size

- Chamber dimensions: (D) 30 cm X (H) 25 cm
- Controller apparatus (L) 30 X (H) 32 X (W) 9cm
- Weight: 9kg

Training Protocol

Clean the cage and change the bedding after every trial. Usually, 1cm for the bedding. Refill the food and water containers when they are emptied.

Place the rodents in the Sleep Deprivation Chamber, pairs would be better as it can help to eliminate social isolation stress. Our chamber can be suitable for 4~6 Rats, 8~12 Mice. Subject the rats to sleep deprivation for 6 hours a day for seven days. Increase the sleep deprivation duration to 8 hours per day after the seven days. Conduct trials for seven days with the sleep deprivation increment. Set the speed and interval per the experiment. The circadian rhythm light control system can be set to simulate the work-and-rest time.

Ordering Information

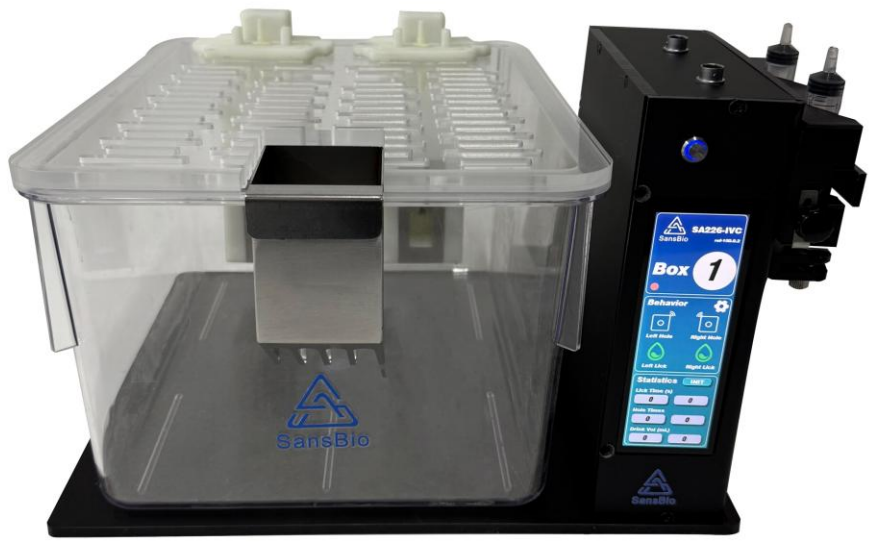
Item No.	Product Description
SA109	Sleep Deprivation Device
SA109 Pro	Sleep Deprivation Device (Intelligence Version)

Sucrose Preference Test (Item No.: SA226)

The Sucrose Preference Test (SPT) is a simple behavioral test widely used to assess motivation, depression (and anhedonia) and related emotional states in rodents. In SPT test, rodents typically exhibit a natural preference for palatable sweet solutions, and it is therefore assumed that such preference is correlated with the pleasure an animal experience when it consumes sucrose.

This SPT system features real-time statistics, automation and high accuracy, which greatly improves the efficiency of drug research and reduces the data bias and error caused by manual operation.

Our SPT system record the total drinking time and times, liquid weight and other indicators in real time in free moving animals, and multi-channels can be conducted at the same time.



Features

Software

- One channel can record 2 drinking water status at the same time.
- Our software can support a maximum 200 channels SPT.
- Adopts Micro Syringe Pump for precise filling sucrose water/water, accuracy 0.01ml.
- Software supports "one-click bottle change".
- Software can automatically filter the interference of liquid volatilization on the test data.
- Drinking water events can be synchronized to third-party devices through TTL signals.
- Drinking time accuracy 0.01s, drinking volume accuracy 0.001ml.
- Animal information: Name, Group, Age, Sex, Notes.

SPT device

- Modular design on drinking water detection, which is convenient for position exchange.
- Adopts Micro Syringe Pump for precise filling sucrose water/water, accuracy 0.01ml.
- Injection speed 0.1-5ml/min, syringe volume 20-50ml.
- Support long-term test, water change during the test is available.
- Natural housing cage to reduce animal stress reaction.
- Separate channel operation to ensure stability of other channels.

Data Record

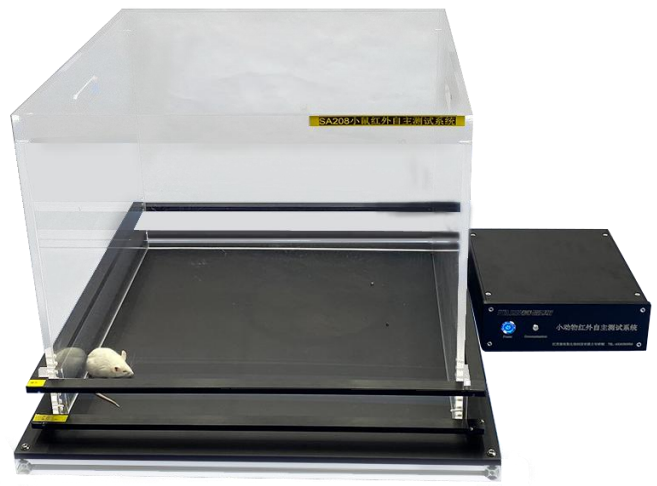
Total drinking times channel 1	Total drinking times channel 2
Total drinking time channel 1	Total drinking time channel 2
Liquid volume channel 1	Liquid volume channel 2

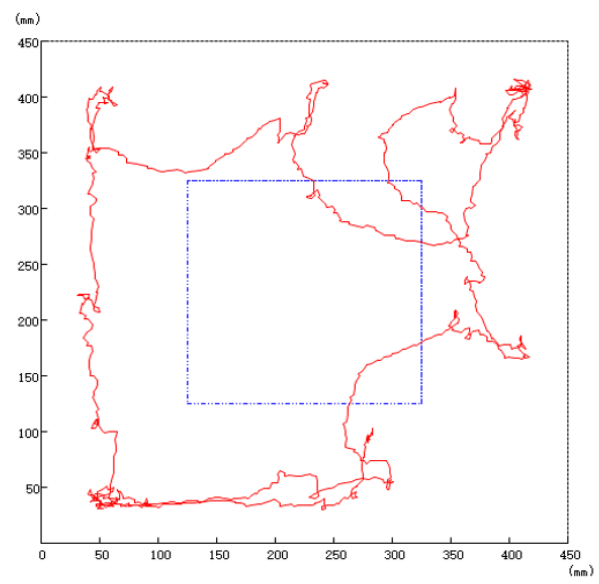
IR Open Field Test/Motor Activity Test (Item No.: SA215S)

The open field test is a popular protocol used to assess exploratory behavior and anxiety in rodents. Thigmotaxis in the open field is used to evaluate anxiolytic, anxiogenic and non-pharmacological treatments as well as genetic manipulations.

Ambulation is the most common behavior studied with the open field, but others such as latency or rearing can also be measured.

Our IR open field-testing system adopts dynamic scanning infrared detection technology, detection accuracy is less than 5mm; Compared to video tracking, our system is not affected by the color of the animal, channels numbers, and ambient light to ensure stable tracking.



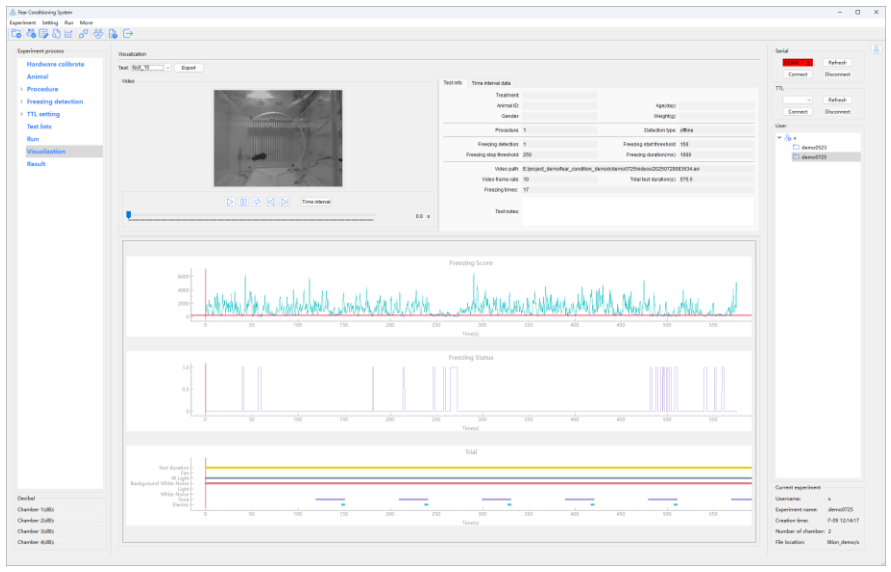


Features

Sensor Detection	• Dynamic scanning infrared detection technology
	• Accuracy: < 5mm
	• Height adjustable
Chamber	• 1 chamber, multiple chambers are available
Data achieved	• Activity area: Total distance, total number of stand, numbers of single stand, total stand time
	• Central area: distance, average speed, number of stand, total number of stand, numbers of single stand
Data display	• Real-time curve for animal movement trajectory
	• Real-time data, including position coordinates, running distance accumulation, average speed, standing times, etc.
	• Real-time data conclude like running distance in current area, average speed, times of entering the area etc.
Data export	All data or data of a certain period can be processing and exported, save in .xls format and .jpg format of trajectory.
Material	•Transparent superb acrylic, black or white base plate, aluminum alloy base
Dimension	• Controller: 21cm x 21cm x 8cm
	• Interior chamber: 45cm x 45cm x 40cm
	• Exterior chamber: 50cm x 50cm x48cm

Fear Conditioning System (Item No.: SA218)

Fear Conditioning is used to study environment-related conditioned fear in rodents, to access associative learning. Our Fear Conditioning System comes with an animal behavior tracking software, controller, secondary controller, HD camera, isolation chamber with speakers, light and fan, dB detector, dual IR/visible light generation, Contextual cage with easy to replace acrylic plates, and smooth shock delivery.



Advantages

- The stimulus sound volume and frequency can be calibrated before each experiment by given a target decibel level.
- Accurate software analysis, real-time warning of animal freezing.
- Software can evaluate the freezing status in real time.
- White noise stimulus is available.
- Video, animal status, score and stimulus status can be display in the same time, accurate and direct-viewing.

Software

- Support 4 channels simultaneously and max. 16 channels.
- Video tracking principle, IR video camera, with max. resolution 1920*1080 and max. frame number 30 frames/second. The Freezing state of animals was analyzed by software.
- Real-time data analysis and preview, automatic data and video saved. Raw data support secondary analysis.
- Data can be exported to .csv or.doc format for further analysis.
- TTL synchronization interface, compatible with third-party equipment synchronization signals, such as calcium ion imaging, optogenetics, EEG equipment, etc.
- Independent signal detection control in each chamber to precise detect the signal in the experiment.
- Independent software operated to be not affected by other channels.

Features

Sound

- Speaker: Raise and lower volume based on intrachamber volume (from the detector).
- AI detection, real time sound intensity (in dB) display in PC.
- White Noise Generator included in default Software, include WhiteNoise and NWhiteNoise.
- White Noise: 1-130dB, Step 1dB, duration 0-180s.
- Pure sound stimulus: frequency 100Hz-18KHz, 1-130dB, Step 1dB, duration 0-180s.

Light Cues

- Visible and IR light dual bulb.
- Range 0-100Lux, Duration 0-180s.

Shock Grid

- 0.1-4.0mA in 0.01mA steps, during 0-9000min.
- AC Current.
- Removable Grid.
- Start and stop is controlled by software or manually.

Contextual Plates

- Easy to replace acrylic plates with multiple contexts allow for contextual learning experiments.
- Default Patterns

  Grey, White, Black, Chessboard, Vertical Stripes.

Fear Conditioning Chamber

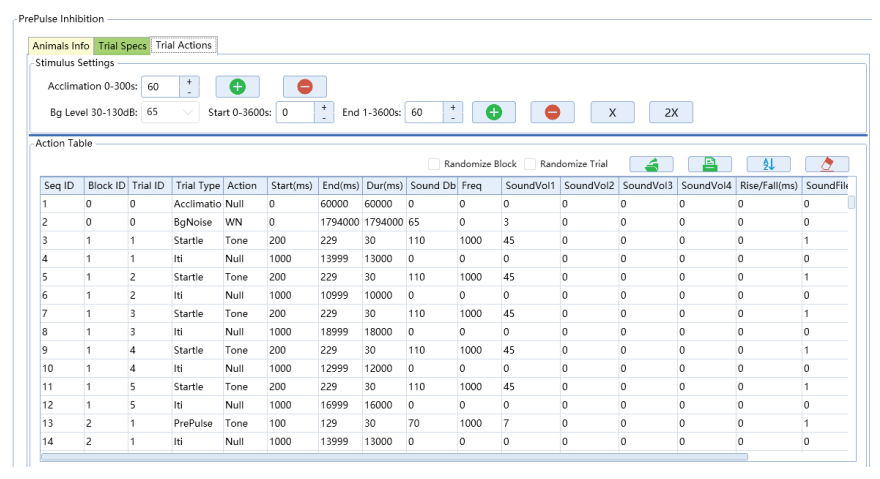
- Main Controller: 22 x 23 x 66cm (width x depth x height).
- Secondary Controller: 22 x 23 x 66cm (width x depth x height).
- Dimension: mouse 20 x 20 x 27cm, rat 27 x 27 x 32 cm (width x depth x height).
- Acrylic cage – four walls, no top, no base.
- Sound attenuation cubicle: 51 x 48 x 63 cm (width x depth x height).
- Sound attenuation cubicle is equipped with fan which can be start and stopped by software.
- Removable feces and urine tray for easy cleaning.

Startle Reflex/PPI System (Item No.: SA217)

Prepulse inhibition (PPI) is the phenomenon in which a weak prepulse stimulus attenuates the response to a subsequent startling stimulus. The stimuli are usually acoustic, light and tactile stimuli. Patients with schizophrenia and some other neuropsychiatric disorders have impaired PPI.

Science's Rodent Startle Reflex System allows for Pre-pulse inhibition and fear-potentiated startle protocols efficiently and economically. Animal models are widely used to test hopotheses linking genetic components of various diseases.

Trial Specification



Trial Actions

Features

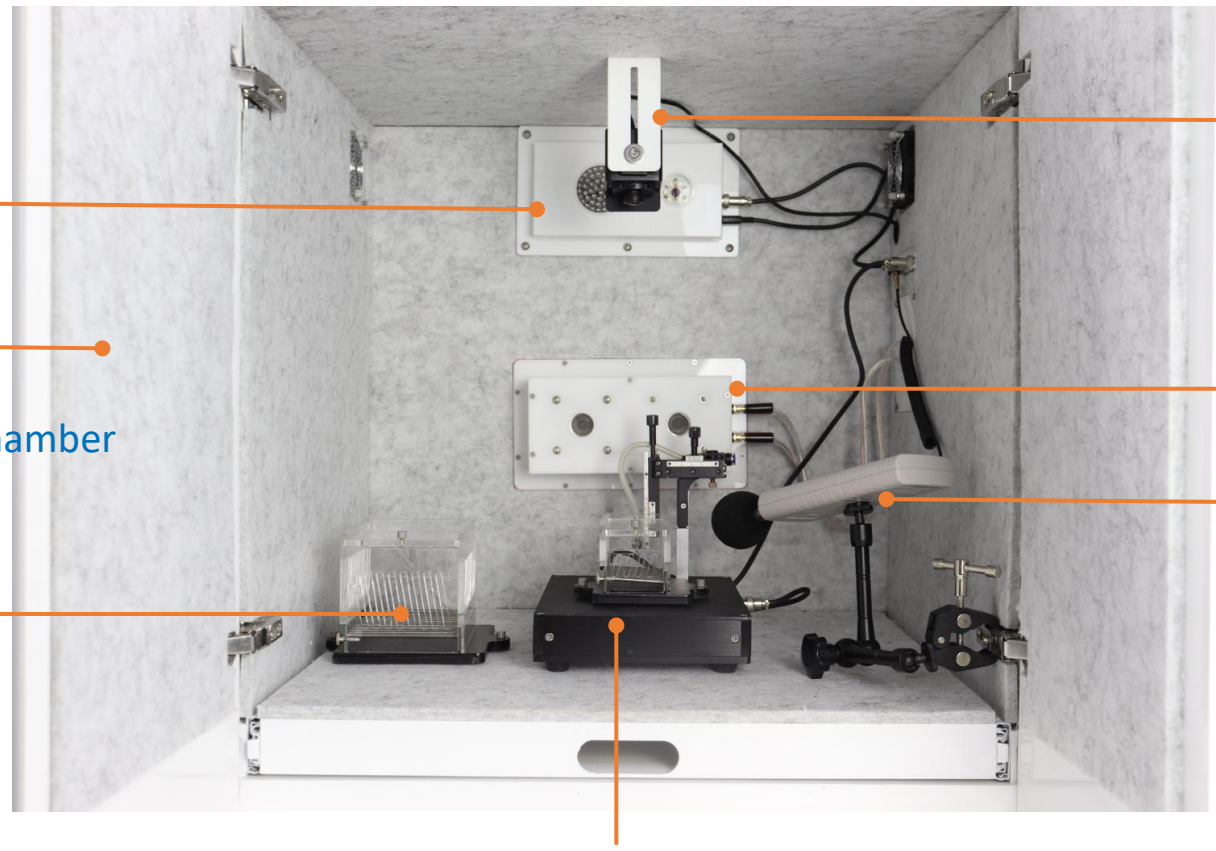
- Applicable for Rats and Mice, maximum 16 chambers.
- Adopts user-friendly graphical interface settings, experiment building and modification can be achieved by clicking the icon or picture directly.
- Sound, light, electricity and tactile stimuli occur simultaneously or in serial, and can be freely combined. Available for Habituation, Pre-pulse Inhibition(PPI), Potentiated Startle or user-defined experiments.

Sound

- Speaker: Raise and lower volume based on intrachamber volume (from the detector), AI detection, real time sound intensity display.
- White Noise Generator included in default Software, include WhiteNoise and NWhiteNoise.
- Specify the duration of time and Hz of white noise, duration 1 ~ 10000ms, Max 130db.
- Pure sound stimulus: duration time 1~ 10000ms, frequency range 31~18000Hz, Max 130db. intensity can be set by software.

Light module:
Light and infrared light for circadian rhythm experiments (light and electrical stimulation can be used to enhance shock experiments)

HD camera, real-time monitoring and observation of animal status



Sound attenuating chamber
less than 40dB

Audio module:
High frequency and high decibel audio module, meet various needs.

Decibel meter for sound calibration and real-time sound uploading.

Restrainer
Rat & Mouse restrainer are available.

Three-axis digital sensor with high precision, no electromagnetic interference

Shock Grid

- 0.1-4.0mA in 0.1mA steps
- AC Current.
- Removable Grid
- Frequency: 1000Hz, 1ms per time.
- Full digital control, scramble-frequency constant electrical stimulator makes it no rule in animal side.

Tactile stimulation

- The intensity of stimulation can be adjusted by adjusting the pressure of the compressed gas cylinder.

Software

- Independent signal detection control in each box to precise detect the signal in the experiment.
- Independent software operated for separated channel.
- Data transmission by 100M Ethernet through experiment chamber to PC, which ensure high reliability.
- Data can be exported to .csv/.doc format for further analysis.

Auto Shuttle Avoidance Test (Item No.: SA223)

Shuttle Avoidance Test, also call Active Avoidance/Passive Avoidance Test, is commonly used in neuroscience to assess different forms of fear-based conditioned avoidance learning in rodents.

Active Avoidance Test (also called shuttle box test or automatic reflex conditioner), i.e. learning to predict the occurrence of an aversive event, based on the presentation of a specific stimulus, like sound, light and electricity.

Passive Avoidance Test requires performing a specific behavior in order to escape or avoid the aversive stimulus, represented by mild foot shock.

SANS Shuttle Avoidance Box is a flexible system for both active and passive avoidance experiments. It comes with two independent grid floors that allow for flexible adverse stimuli. A top-loading door allows easy access inside the box. The chamber contains a sound generator and a visual stimulus (light) that functions separately for each compartment.

Features

- Applicable for Rats and Mice, maximum 16 chambers.
- Conforms to GLP standard requirements, and provides 3Q certification service.
- Stimuli: Sound, Light, Shock Scheduled start: 0~23h

Sound

- 2 Independent channels, each with Range 100-40,000Hz; 1-95dB.
- White Noise Generator included in default Software.
- Sound attenuating cubicle is optional, less than 40dB.

Light

- 2 Independent light controls.
- Range: 0-400LUX, resolution 1%
- Visible and IR light dual bulb to detect the position

Electricity Shock

- 0.1-4.0mA in 0.1mA steps in AC Current
- Removable Grid
- 2 Independent Shock grid control

Shuttle Avoidance Test

Software

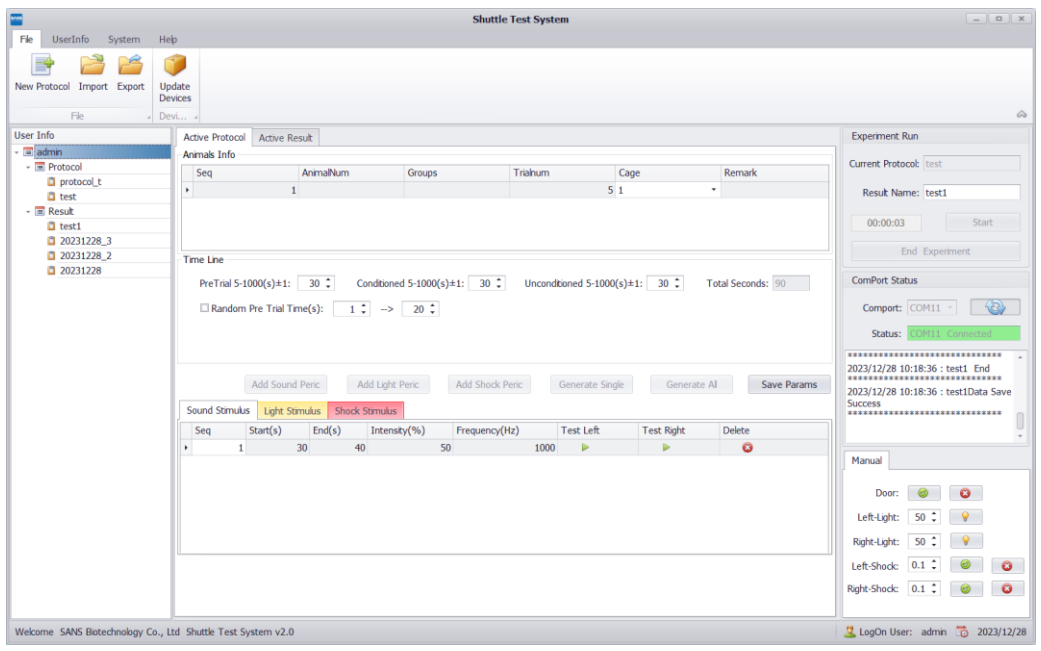
- Independent signal detection control in each box to precise detect the signal in the experiment.
- Independent software operated for separated channel.
- Shuttle passive, learning helplessness are integrated in this software for different experiment.
- Data can be exported to .csv format for further analysis.

Chamber operation

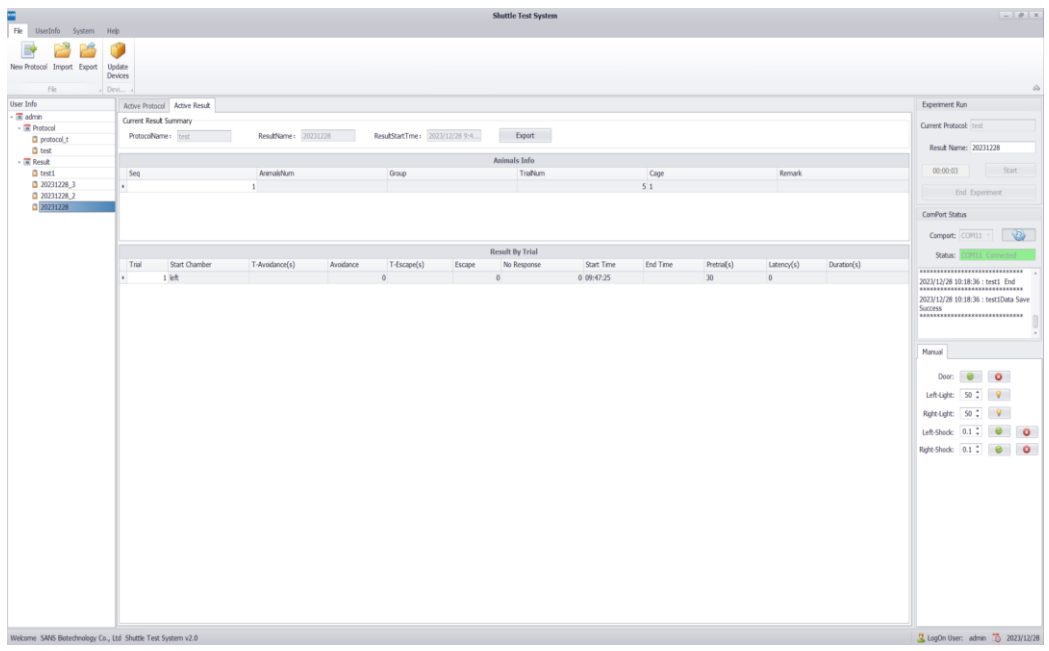
- Automatic door opening and closing to reduce the influence of human interaction during the experiment.
- Chamber opening and closing speed: 2-8cm/s.
- Closing distance: 1-10cm.
- Opening and closing noise: less than 65dB.

Size

- Main Controller: 22cm*23cm*7cm
- Secondary controller: 22cm*23cm*7cm
- Shuttle Box (Exterior): 53cm*35cm*42cm (Rat) 43cm*30cm*32cm (Mouse)
- Shuttle Box (Interior): 25cm*25cm*30cm (Rat) 20cm*20cm*20cm(Mouse)
- Sound attenuating cubicle (optional): 85cm*60cm*77cm



Shuttle Protocol



Shuttle Result

Shuttle Avoidance Test (Item No.: SA222)

Unlike SA223, SA222 Shuttle Avoidance Test is a stand-alone system which does not need to use with PC. All the shuttle and avoidance data can be reviewed directly from the control unit.

Features

- Applicable for Rats and Mice in Shuttle and Passive Avoidance Test.
- Stimuli: Sound, Light, Shock at any combination.
- Automated detection with highly density infrared scanning technology, well solve slow response, blind area, poor anti-interference ability and ensure signal accuracy.

Software

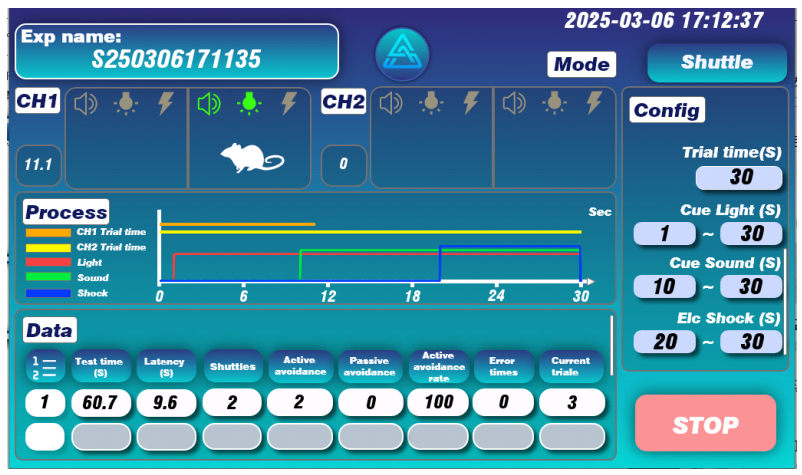
- Independent signal detection control in each box to precise detect the signal in the experiment.
- Separate controller for operating the software, no need for PC operation.
- Suitable for Shuttle, Passive Avoidance test.
- Data can be exported to .csv format in PC for further analysis.
- Automatically saves 3000 sets of experimental data. Exportable for csv. format.
- Real-time display of processing timing diagram.
- Control unit in 1024*600 IPS capacitive touch screen.

Physical Info

- Mouse chamber: 40*25*17cm
- Rat chamber 62*36*27cm
- Control unit: 35*35*16cm
- Weight: 5.8kg
- Power: AC100V~240V 50/60HZ 100W

Shuttle Test

- Electricity Shock: 0.05 ~5mA, using pulse current, deviation 0.01MA
- Test times: 1~9999Min
- Interval: 1~9999s
- Cycle times: 1~100 times
- Trial time: 1~9999s
- Electric shock/sound/light time: 0~9999s



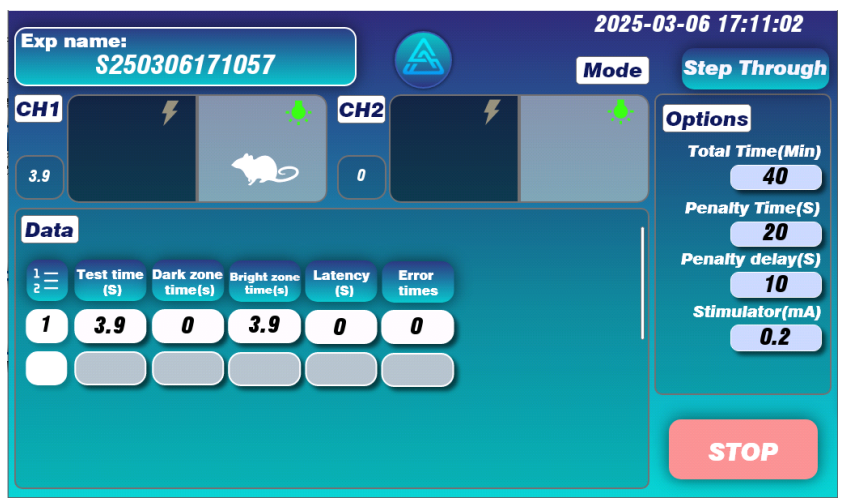
Shuttle

Data Record

- Test time(s)
- Latency(s)
- Shuttle times
- Active avoidance times
- Passive avoidance times
- Current trial
- Active avoidance rate
- Error times

Avoidance Test

- Electricity Shock: 0.05 ~5mA, using pulse current, deviation 0.01MA
- Test times: 1~9999Min
- Penalty time 0~999s
- Penalty delay 0~999s



Avoidance

Data Record

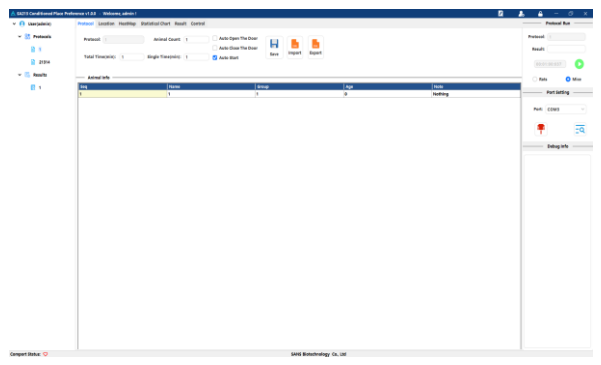
- Test time(s)
- Latency(s)
- Bright zone time(s)
- Dark zone time(s)
- Error times

Options

- Total time(min)
- Penalty delay(s)
- Penalty time(s)
- Stimulator(mA)

Conditioned Place Preference (Item No.: SA213S)

Conditioned Place Preference (CPP) experiment is widely used to evaluate psychotropic drug dependence, and it is also an effective tool widely used in drug-seeking behaviors. In CPP, animals (rats and mice) were placed in the white observation area of the conditioned place preference box and given psychodependent drugs (such as morphine), and then observed to move in the black and white areas of the CPP box. Each time an animal is in the drug administration zone, it will have a positional preference for black and white areas under the drug's rewarding effect, and the situation is close related to the drug's psychiatric dependence.



Protocol Setting

Trajectory

Features

- Applicable for Rats and Mice, maximum 16 chambers.
- Tracking module: IR thermal imaging sensor with core recognition algorithm,ensure accurate and reliable multi chamber tracking.
- Anti-clip automatic door open and close, effectively reduce man-made interference.

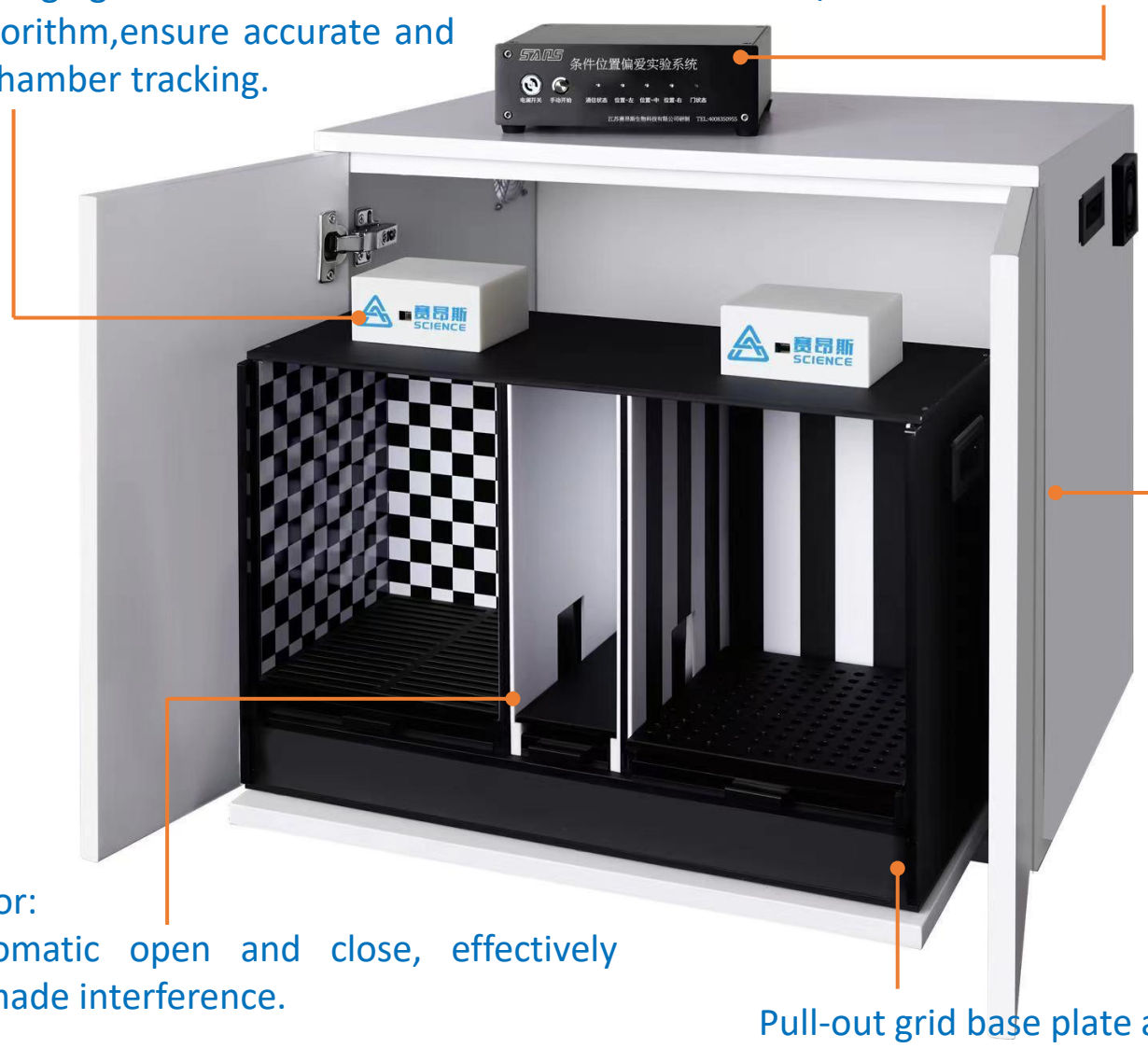
  Chamber opening and closing speed: 4-15cm/s

  Closing distance: 1-10cm

  Opening and closing noise: less than 65dB
- Bottom tactile mode: square grid, round grid, bar grid.

Tracking module:
IR thermal imaging sensor with core recognition algorithm,ensure accurate and reliable multi chamber tracking.

Controller:
Independent software operated for separated channel;
Operation indicator for tracking the experiment in time .



Sound attenuating cubicle

Automatic door:
Anti-clip automatic open and close, effectively reduce man-made interference.

Pull-out grid base plate and stool tray, easy to clean.

Software:

- Independent signal detection control in each box to precise detect the signal in the experiment.
- Independent software operated for separated channel.
- Shuttle passive, learning helplessness are integrated in this software for different experiment.
- Data can be exported to .csv format for further analysis or .pdf format.
- Trajectory charts and bar charts are saved in .jpg format.

Test Parameters:

- Total distance(mm)
- Running time in left chamber(s)
- Time percentage in left chamber (%)
- Distance in left chamber(mm)
- Distance percentage in left chamber (%)
- Average speed (mm/s)
- Running time in right chamber(s)
- Time percentage in right chamber (%)
- Distance in right chamber(mm)
- Distance percentage in right chamber (%)
- Number of times for total shuttle/left chamber /right chamber

Self Administration (Item No.: SA214)

Self-administration is a common method in behavioral pharmacological, reward-seeking and addiction behavior research. It provides perfect scientific research protocol for the qualitative and quantitative analysis and evaluation of drug psycho-dependence. Based on the positive reinforcement effect of some drugs and under the certain conditions, animals can obtain certain incentive operations after performing the specified actions and steps set by the experimental program, thus behavior and reward can be connected, which is to simulate human drug abuse situation.
Our chamber offers everything needed for operant lead self-administration assessments associated with food restriction and intravenous drug administration. It equips with analysis software, controller, a sound-attenuating cubicle with light/fan, a syringe pump system, drug delivery package, a cage with two portlights or retractable levers, a shock floor grid, and two pellet receptacles etc.

Pellet Dispenser
ensure perfect delivery of one standard pellet each time.

Features

- The software supports up to 128 channels simultaneous testing.
- Software support Self Administration and Drug Discrimination Test.
- Each chamber can be configured with a separate experimental process.
- The automatic pellet dispenser uses closed-loop technology ensure perfect delivery of one standard pellet each time.
- Equip with video system for convenient observe the animal testing in the chamber.
- Each self-administration cages is connected to the controller through latest technology like wireless connection and not affect to other cages.

Specification

Stainless Steel Grid Floor

- 4mm metal rods, Rat and Mouse have different space, support plantar electrical stimulation. Easy disassemble and clean.
- The grid current ranges from 0 to 4.0 mA, with step 0.01 mA.
- Electric shock duration 1ms-655s, shock interval and duration can be set according to the experiment.
- Transformer transverse current electrical stimulation. The voltage is automatically adjusted according to the dry and wet condition of the animal body surface. Maximum excitation voltage is 250V DC.

Pellet Dispenser

- Support 20mg or 45mg Bio-Serv pellet, 45 mg pellet dispenser is the default choice. 20mg pellet is available.
- Food detection function to ensure perfect delivery of one standard pellet.
- Support manual feeding training, and manual feeding stop.
- With food shortage feedback function, if no detect after three deliveries, missing food data will be uploaded to remind the researchers to add pellet.

Pellet Receptable Trough

- Modular design, easy disassemble.
- Equip with food drop detection, animals can explore Head Entry Detector.
- Super high food trough opening is optional, to use in the animals with probe.

Lever

- Fixed ultra-sensitive stainless lever.
- The weight for the mouse 3g, rat 25g.
- Friction shaft, with limit position protection function, non-contact sensor to detect the signal output of the lever.

Programmable Syringe Pump

- For precise administration of fluids and drugs through programmable control.
- Suitable for multiple flow rates continuous or when flow rates need to vary during experiments.
- Applicable on drug testing, catheters flushing, electrolyte therapy, and sucrose gradients etc.
- Injection time is calculated automatically by the speed and the dosage of a single dose.
- Configurable pump speeds 0.5 – 60 RPM.
- Syringe diameter range: 1-60mm.
- Single dose, range 0.001ml-1ml.

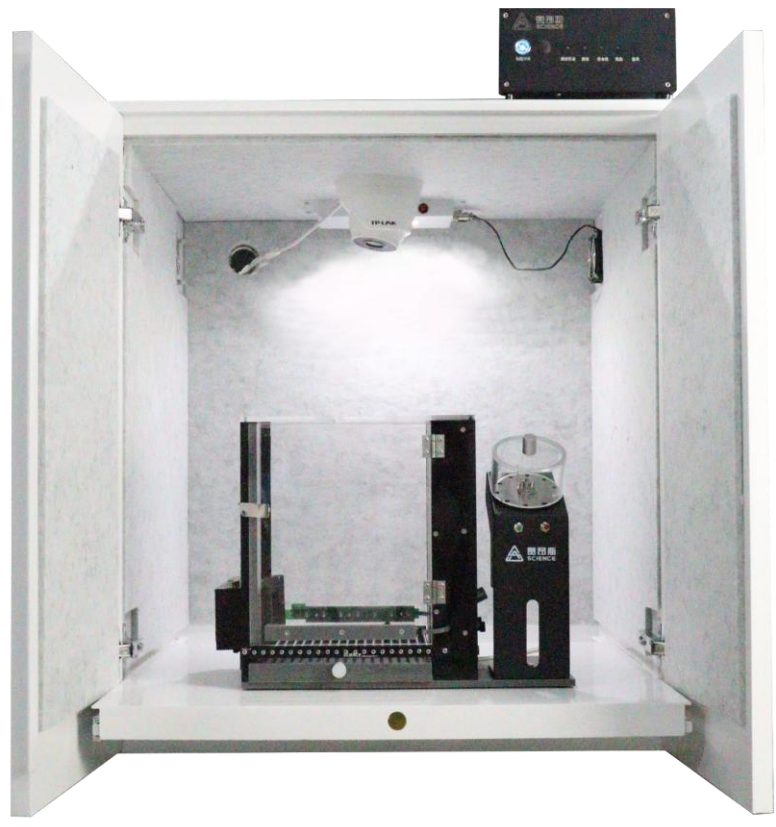
Operant Chamber

- Mouse chamber 20 x 17x 12 cm (width x depth x height)
- Rat chamber 29 x 24 x 23 cm (width x depth x height)
- Isolation Cubicle Dimensions 63 x54 x69 cm (width x depth x height)

The Five Choice Serial Reaction Time Task (5CSRTT)

(Item No.: SA235)

The Five Choice Serial Reaction Time Task (5CSRTT) is a visuospatial attention test that has been widely used to study the behavioral traits associated with attention deficit hyperactivity disorder (ADHD) such as attention and impulse control. It offers effective clinical instruction on Alzheimer's disease, Depression, Huntington's disease, Schizophrenia, ADHD and OCD.



Specification

Reward mode

- Liquid & Pellet
- The user configures what condition(s) a pellet is dispensed.
- Food magazine with precision sensors to detect food drop, animal exploration and eating etc.
- The software captures and reports nose poke events on pellets.

Specification

Shock Stimulus

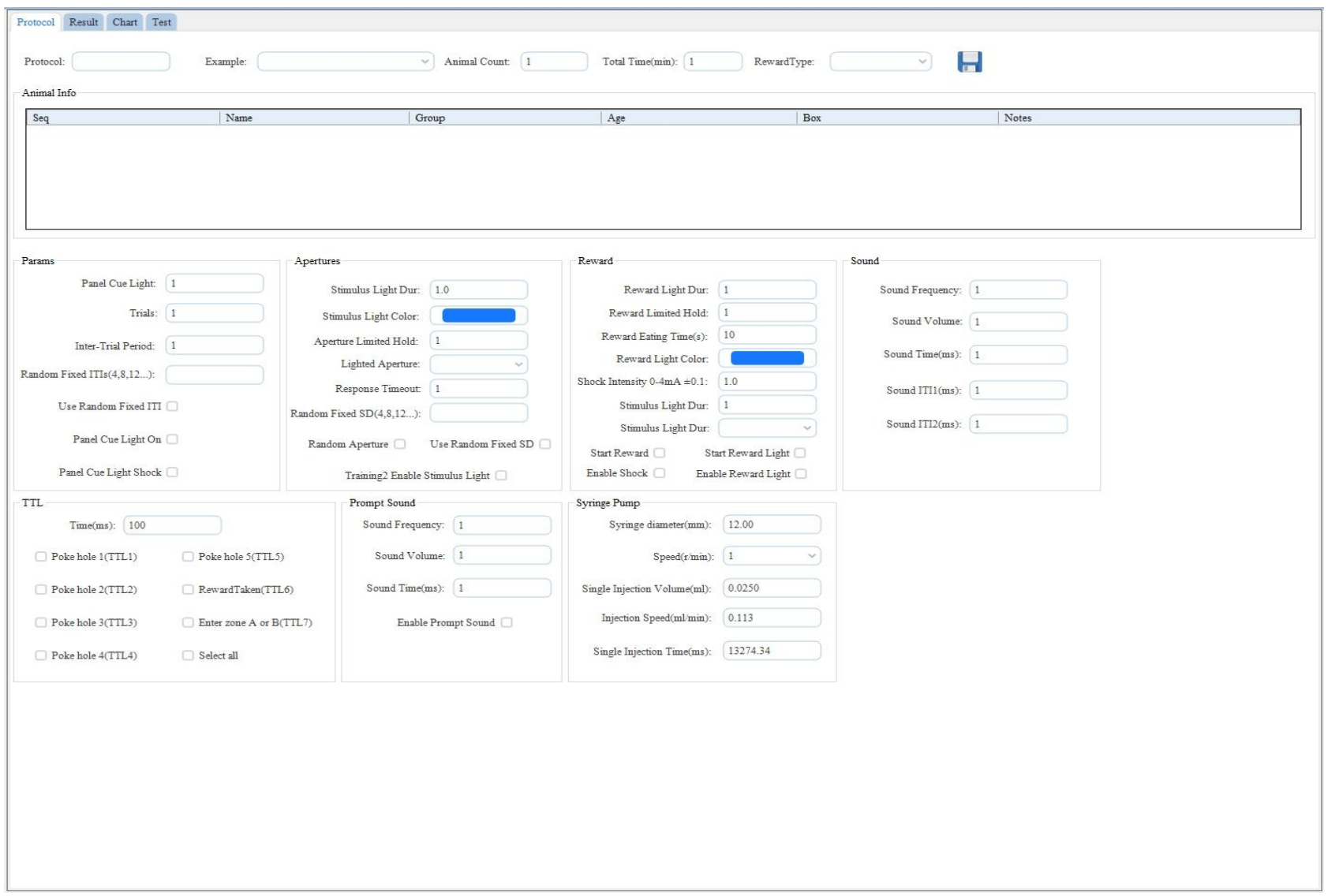
- Constant Current from 0.01 to 4.0 mA in 0.05mA step.
- Current control can be controlled programmatically or manually.

Light Stimulus

- Sound-proof insulation cubicle, >30dB.
- Sound frequency 500-16000HZ, sound intensity 0-100HZ.
- Air circulation: one fan on the back wall.

Software

- 16 channels are available.
- Multiple standard trials are included in 5CSRTT, contains Shaping, Initial Touch Training, Must Touch Stimuli, Training to baseline ,Training 1/2, easy operation as no programming parameter setting. Customized trials available.
- Animal information can be edited freely, containing group, gender, age, weight etc..
- Various behavior of animals in the experiment can be recorded in real time, events, synchronized time, easy to be used with other devices.
- Summary of results: statistics of trials for each cage including count and percentage of each response (Correct, Premature, Incorrect, and Omission)
- Experiment results are exportable as xls. file for easy data statistics.
- Area detection sensor is equipped in 5CSRTT, which can be applied to hole contact and reward area etc..
- Sequential activity: The detailed activities for each trial.



Step-Down Task

(Item No.: SA202)

The Rodent Step-Down Avoidance Task is widely used in observing the effects of drugs on memory and learning, which is especially suitable for the initial screening of drugs, such as brain enhancement, memory improvement, anti-aging and other nervous system care. The Step-Down device adopts microcomputer control and to be well distinguished the rodent step down. Researcher set the test time and the controller record the incorrect times and the step-down latency, the retention latency is to be measured as aversive learning and memory. The longer the retention latency, the better the memory.

Specification

- Applicable for both Rats and Mice.
- Step-down chamber: 6 animals can be tested at the same time (3 rats and 6 mice).
- Electric Stimulation: 0-5 mA adjustable.
- Software: Incorrect times and latency.
- 7-inch capacitive touch screen, friendly interface, clear display and simple operation.
- Micro-printer integrated, automatic printing results (more suitable for pharmaceutical company).
- Each channel independently timing, automatic start/finish.
- Data exportable for convenient statistical analysis.
- Controller size: 220×220×310mm (L*W*H), weight: 6kg.

Rat	Mouse
Chambers: 950x300x360mm (Outer Size)	Chambers: 900x200x360mm (Outer Size)
Activity inner box size: 300x300x300mm	Activity inner box size:150x150x300mm
Platform: diameter: 90mm, height: 50mm	Platform: diameter: 40mm, height: 50mm.
Power input: AC220V 50/60HZ, power: 24W	

Rodent Metabolic Cage

(Item No.: SA105)

Specification

- The unique funnel and cone design of our metabolic cage ensure urine not be contaminated or enter the feces tube, thus achieves well separation and collection of feces and urine. Separation is immediate and complete.
- Feeder Chamber is locating outside the cage. Size discourages rodent nesting or sleeping inside.
- The food chamber drawer slides out for easy filling without disturbing the animal, and easy to disassemble and clean.
- The collection funnel and separation cone adopt a unique design to ensure direct and complete separation of feces and urine.
- The urine and feces collection tubes are made of PSU material and can be changed at any time during the experiment. Be applicable of 134℃ 20mins steam sterilization.
- Urine freezing storage device and automatic time-sharing collection device are available.
- Size:

  Rat: 290*290*550mm

  Mouse: 220*220*550mm
- Cage Rack: 310*310*550mm
- **Components:**

Rat/Mouse cage	Feeder chamber	Feeder chamber drawer	Cone transfer counter
Cone separation device	Metabolic cage	Collection funnel	Kettle & kettle support
Rodent support grid	Water funnel	Urine container	

Rodent Metabolism Monitoring System

(Item No.: SA104)

The small animal metabolism monitoring system has the advantages of real-time statistics, automation, and high accuracy, which greatly improves the efficiency of drug research and development and basic life science research, and fundamentally reduces the data bias and error caused by manual operation.

The Metabolic Cage is used to collect and separate rodents' urine and feces and allows measurement of their food and water intake for qualitative and quantitative studies. Short term and long-term monitoring are available. It is common use in pharmacology, pharmacodynamics, toxicology, nutrition, obesity metabolism, diabetes, cardiovascular, transgenic, geriatric disease and other research.

Parameter record

- Number of standing
- Time of standing (accuracy 0.1s)
- Frequency of drinking/eating
- Activity
- Number of drinking/eating
- Time of drinking/eating (accuracy 0.1s)
- Volume of drinking/eating
- Animal information can be edited freely, containing group, gender, age and weight.

Specification

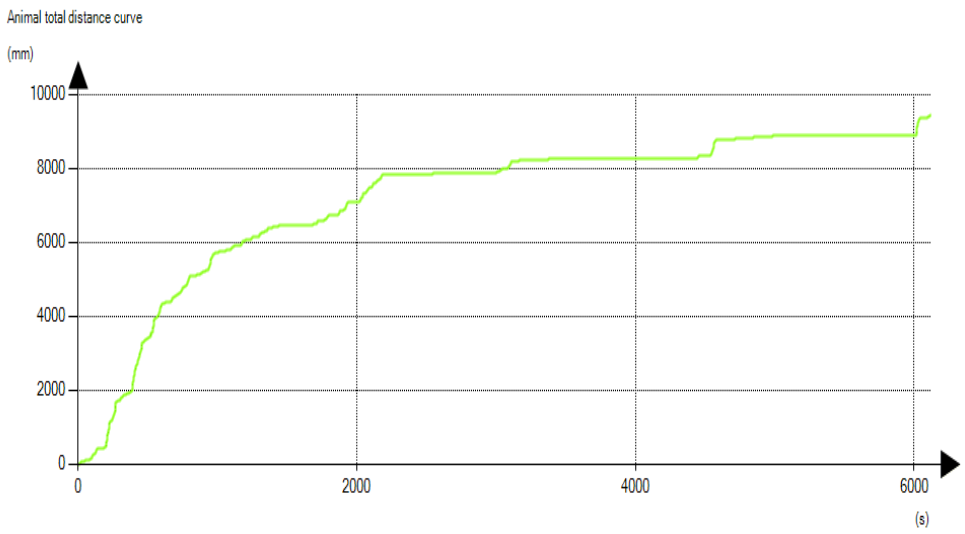
Hardware

- Metabolite separation: PVC material separator, separate urine and feces accurately, convenient for urine and feces biochemical analysis.
- Gas metabolism module: Gas metabolism module is optional, for analyzing animal oxygen consumption and carbon dioxide production.
- Monitoring of Drinking/Eating: High-precision sensors, accurate to 0.01g, real-time detection of animal drinking and eating in different periods.
- Specially food trough, food net, barrier bar design to prevent food spilling and excrement mixed.
- Food and water can be added at any time without interrupting the experiment, and easy to disassemble and clean.
- Precise sensor with accuracy 5mm; and can conduct multiple channels of metabolism monitoring.
- Metabolism device equips with ultra-quiet cryogenic module for storage of metabolite, preventing urine volatilization, biochemical reactions and the decomposition of compounds.

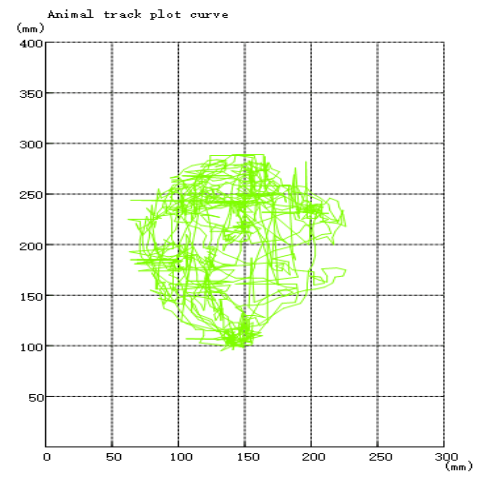
Software

- Software can support up to 12 metabolism cages. 96 can be customized.
- Automatically calculates the activity based on the animal's movement trajectory.
- Position tracking adopts depth classification model and position sensitive model algorithm, which achieves high-speed and accurate tracking effect, with detection accuracy 5mm. The activity of the rodent can be counted separately in X, Y, Z axis, total activity and separate activity of each axis can be counted and the number/time of standing can be recorded.
- Automatically records and displays the data in real time, users can review freely.
- Data analysis, screening, user-defined time section analysis, one-click data result export can be achieved by our software controller
- Animal information can be edited freely, containing group, gender, age and weight.

Distance



Trajectory chart



Aerosol Nebulizer

(Item No.: SA703)

The Animal Chamber Aerosol Nebulizer allows you to easily administer aerosol to one or more conscious animals. It contains the animal chamber which allows animals to move freely while providing consistent aerosol exposure.

Our Nebulizer equips with the efficient high-frequency micro-mesh atomizer, combined with speed control technology based on pulse width modulation, it is designed to produce a highly respirable aerosol of virtually any drug in liquid. It well achieves the modeling of small animals in inducing cough, panting, poisoning, anesthesia and accurate drug delivery.

Features

Operation

- 7inch Capacitive IPS LCD touch screen, resolution 1024*600。
- Produce atomized particles with a diameter 3-5μm (90%), which can enter the alveoli through the respiratory system of small animals to achieve nebulization.
- Mode:

  Atomization Inducing Cough
- Test time: 1~99999min
- Atomization speed: 1-10 levels range: 0.07-1.4ml/min
- Automatic/Manual operation

  Includes a handle button to manually record the cough time and times.
- Exhaust time

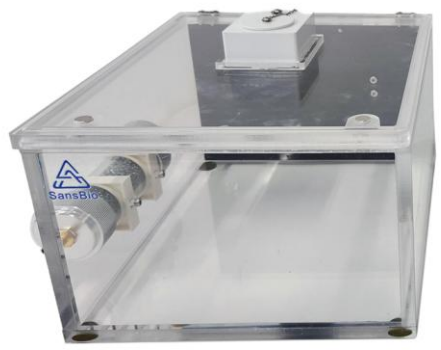
  Equipped with automatic exhaust function.

  The residual atomized drug will be purified and removed after the experiment.
- Exhaust time range: 1-99999s
- Administration time: 1-99999s
- Data

  Real-time display of spray time, test time, dosage, first cough time, cough times.

  The data can be saved automatically and exportable to PC via USB.
- Calibration

  Atomization calibration can be carried out in real time after using different liquids or changing the atomizer unit.
- The atomization speed can be calibrated before the experiment to ensure the accuracy of the experiment.



Small Animal Temperature Controller

During and after the surgery of small animals, it is necessary to keep the animals warm and monitor their temperature changes in real time to maintain their vital signs, thus to reduce the mortality of the animals. SANS temperature controller adopts high quality LCD touch screen, allows researchers to view the animal real-time body temperature. Easy operation by setting the target temperature directly, view the heating state. It equips with 1 main unit, 2 probes and 2 pads.

Features

- Support two rodents to conduct experiment at the same time, each channel can start the experiment independently.
- Heating range: 20~50℃. Temperature control accuracy: 0.1℃.
- Time setting: 0.1min-9999min.
- Rectal temperature probe: diameter 2mm, length 30mm, wire length 150cm.
- Controller size: 150×163×71mm.
- Heating pad

  Small: 7×10cm, wire length 150cm, power: 12W;

  Large: 12×20cm, wire length 150cm, power: 36W.

Ordering Information

Item No.	Product Description	Remarks
SA416	Small Animal Temperature Controller (including main unit, 2 probes, 1 pad for Rat and 1 Pad for Mouse)	Completed system, 2 probes and 2 pads
SA416-01	Temperature Probe	
SA416-02	Heating Pad 7×10cm	
SA416-03	Heating Pad 12×20cm	

Small Animal Activity Recorder

Our small animal activity recorder is suitable for mice, rats, guinea pigs and rabbits, achieving the real time monitoring without changing the original home cage or living environment of the animals, easy and convenient. This activity recorder adopts the latest pyroelectric technology in the counting of spontaneous activity, without dead angle, ensuring the accurate data.

Features

- 7-inch IPS touch screen, resolution: 1280×800.
- Adopts the latest pyroelectric technology in the counting of spontaneous activity, without dead angle, ensuring the accurate data.
- Real-time display: small animal Active Time Ratio, Activity Time, Silent Time, Cumulative Time of activities.
- Monitoring range: 50cm.
- Recording time: 0-1090 hours (45 days).
- Experiment can be carried out in stages, and the maximum can be divided into 8 stages.
- 200 experimental data can be saved.
- Channels: Max. 8.

- Real time printing through micro-printer, with microcomputer interface (RS232) connection.
- Pause function is available, used for animal treatment (feeding, drinking and cleaning).
- Power input: AC100V~240V 50/60HZ, power: 25W;
- Size: 350×300×145mm, weight: 4.9kg.

Ordering Information

Item No.	Product Description
SA704-1A	Small Animal Activity Recorder (chamber version)
SA704-1C	Small Animal Activity Recorder (stand version)

Micro Syringe Pump

(Model No.: SP20-0100)

Features

- Applicable for Rat, Mouse, Zebra Fish, Insect etc.
- High precision available with Pico liter, Nanoliter, Microliter.
- High stability, with unique piston secure to fit with various syringe, ensure no shift, no curve and no damage for piston.
- Easy operation: simple and clear injection parameter setting.
- Start, Stop and Pause are visible during the whole experiment.
- High safety: Safety distance is remaining in the syringe, together with alarm function to ensure no damage on the piston and syringe pump.
- Light weight of the remote pump head (0.25kg), well fit with Stereotaxic, Micromanipulator etc.

Technical Parameters

- Syringes ranging from 0.5ul-100ul
- Working Mode: Infuse, Withdraw, Infuse/Withdraw, Withdraw/Infuse, Continuous
- Flow Rate: 0.005nl/min (0.5ul) – 152.4ul/min (100ul)
- Linear speed 0.6096um/min-91.44mm/min
- Linear force >10N, force is adjustable
- No volatile memory: store all settings
- Built-in main standard syringe or define the syringe needed
- Small footprint 2.5kg
- Pump head dimension 173*24.4*52mm
- Flow range 0.005nl/min(10ul) – 152.456ul/min(100ul)
- Linear travel accuracy ±0.5% （When>30% full stroke）
- Advance per microsetp 0.1905um/step
- Display way 65565 color LCD
- Controller dimension 245*205*100mm

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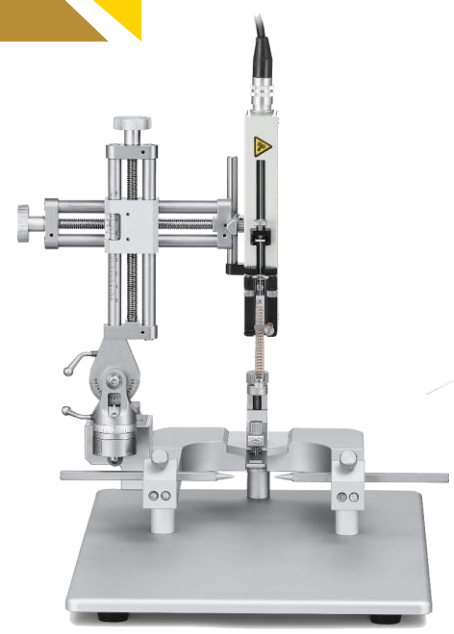
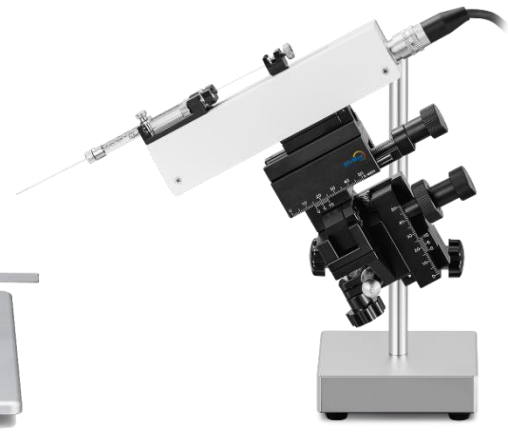
Application



With Stereotaxic Instrument

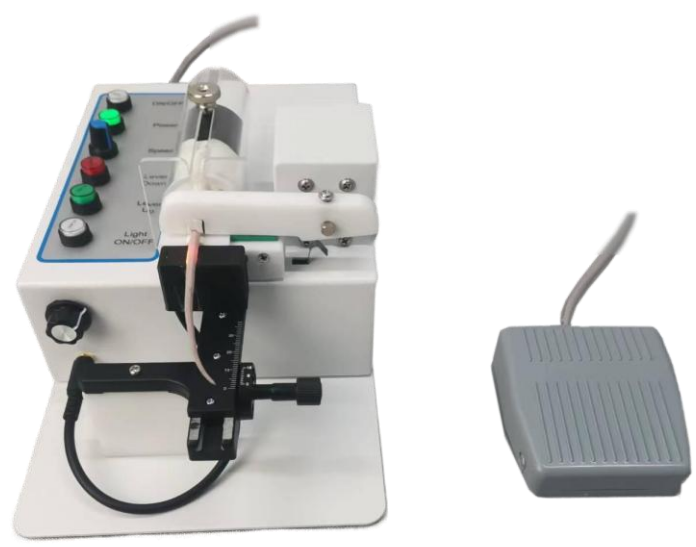


With Micro Manipulator

Mouse/Rat Tail Vein Injection Device

Our Tail Vein Injection Imaging Device is innovative design to help the researchers easily achieve the accurate vein puncture. It ensures accurate vein identification and minimizes the risk of bleeding, making it the ideal restraint for tail vein injection. This device easily solve the below problems:

1. The animal fixation in vein injection
2. Tail blood vessel filling and visible
3. Needle filling in blood vessel



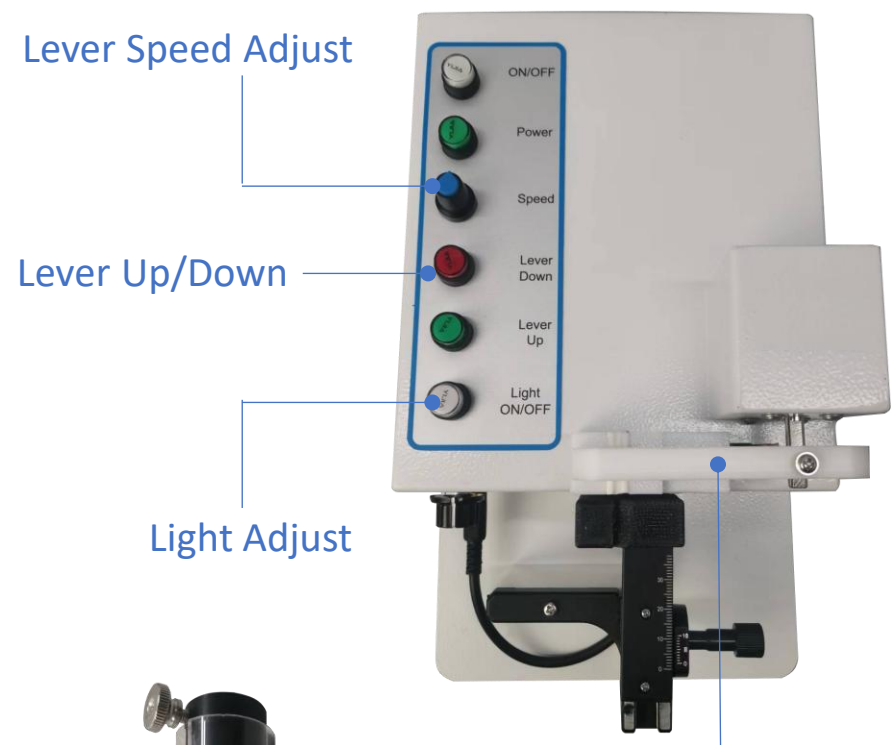
For Mouse

Process

Secure the Rodent in the restrainer, use the yellow light to illuminate the rodent tail and the tail blood vessel can be clearly visible, which make the Intravenous Tail Vein Injection easily.

Technical Parameters

Application	Mouse 17-40g, Rat 150-400g, Large Rat: 400-600g
Light source	Mouse: 1W LED Yellow light Rat: 3W
Control Mode	Manual/Foot Pedal
Power	AC100-220V, 50Hz
Output	DC 12V 2A
Size	30*16*11cm(Mouse), 30*22*20cm(Rat)
Weight	2KG(Mouse), 3KG(Rat)



Rodent Restrainer

Ordering Information

Item No.	Product Description
SA440	Mouse Tail Vein Injection Device
SA441	Rat Tail Vein Injection Device
SA443	Large Rat Tail Vein Injection Device

Operation Instruction

1. Easy Rodent Restrainer

With O shape design, the easy rodent restrainer adopts the tail back pulling method to place the rodent in the restrainer quickly and easily. Completely transparent design for a clear view of the animal. To avoid the rodent rolling inside, a well fit plug is designed. The plug is designed according to the physiological condition of the mouse's skull, which effectively secure the head of the mouse without interfering with normal breathing, also put the forelimb in a comfortable position. Note: The fixed position of the plug should be able to restrict the animal but bring normal breathing.

2. Light Adjustment

Fix the easy rodent restrainer with Mouse well, keep the tail in the groove. Turn on the device and the light, make sure the tail blood vessel is in right position. Adjust the yellow light according to the transmission of blood vessels to reach the clearest imaging of it. (Note: Blood vessels imaging varies according to the condition of the environment, so it is recommended to operate in a dark room and avoid direct glare.)

3. Vein Identification and Injection Position Adjustment

Press button to make the lever down, well fit the tail and achieve the tail blood vessel filling and visible. Once the vein is identified, a needle connected to a syringe containing the substance to be injected is carefully inserted into the vein. No matter how old the mouse is, the needle should be injected from the bottom third of the tail, and the needle should be carefully injected to avoid injury and ensure proper administration. The injection position should be adjusted according to different rodents.

The needle used for injection should be smaller than No.5 needle, 4.5 or 4 needle is appropriate. The oversize needle will damage the vascular and bring hemostasis after the injection. The best way to confirm the injection is in correct position is to move the needle from side to side to check whether the blood vessel is moving the same.

4. Monitoring

After injection, the researcher may monitor the animal for any adverse reactions or to ensure that the substance is properly administered.

Researchers undergo these vein injection experiment should follow the follow ethical guidelines and regulations for the humane treatment of animals in research.

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