BioMed
Easy

Improve and Simplify

Bio & Med Health

Integrity

Professional

Efficient

Quality

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About us

BioMed Easy Technologies is a leading supplier in Animal Neuroscience Surgery, 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.

CONTENTS

Animal Behavior

Behavior, Conditioning, Reward

Metabolism

Animal Surgical Instruments

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.
- Effective electric shock, pulse electric shock circuit design to avoid blind area.
- Adjustable frequency of audio stimulation.
- Two kinds of exhaustion mode, time and frequency.
- Air puff stimulation, non-invasive and gentle.
- Upgrade of the detection of air-puff energy metabolism is available.
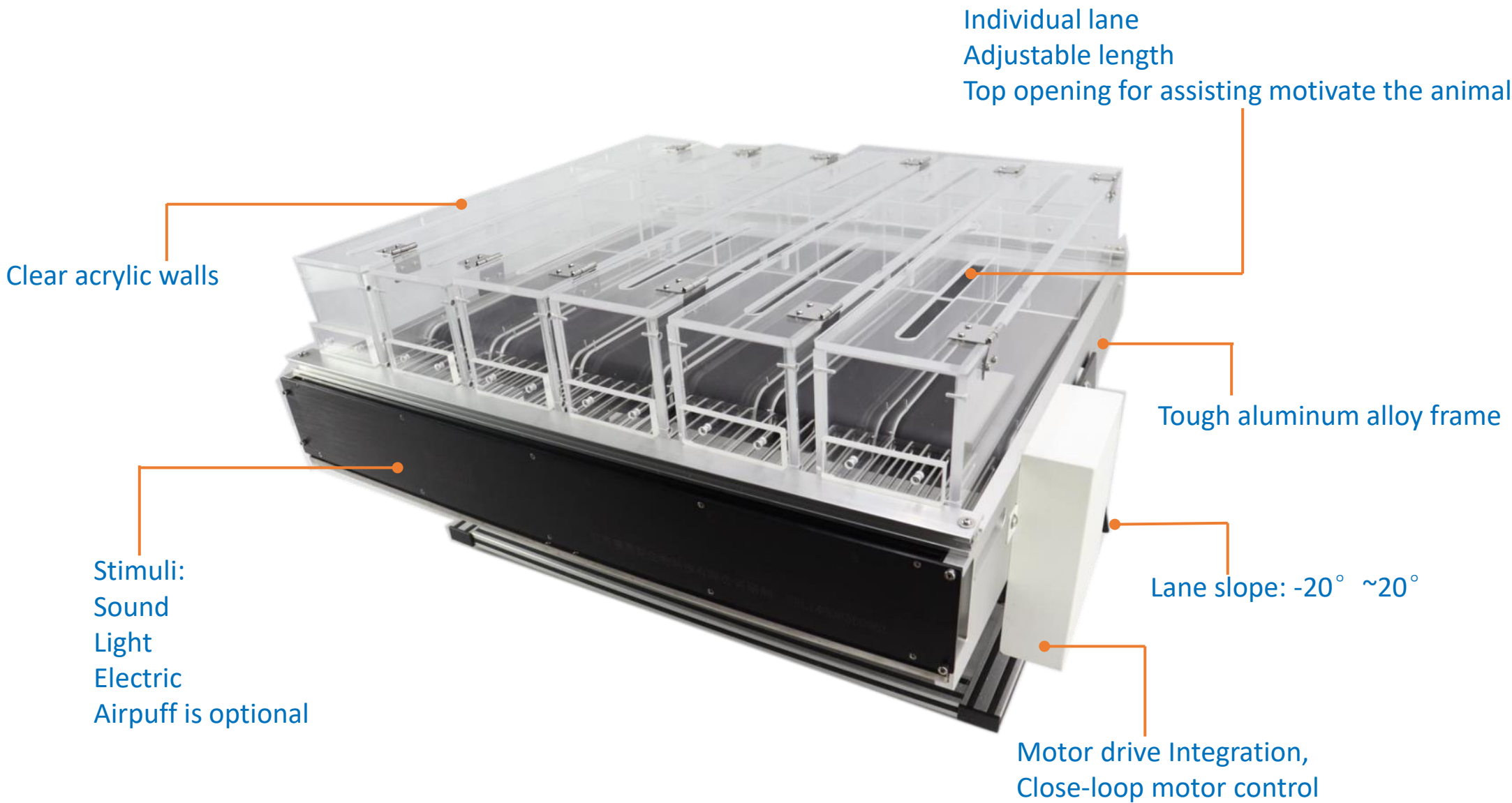
Technical Parameters

- 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: -20° ~20°.

- 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.

MOTORY COORDINATION

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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 -20°~20°	
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	

Individual lane
Adjustable length
Top opening for assisting motivate the animal

Clear acrylic walls

Tough aluminum alloy frame

Stimuli:
Sound
Light
Electric
Airpuff is optional

Lane slope: -20°~20°

Motor drive Integration,
Close-loop motor control

Different lanes can be customized according to experiment requirements.

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)
SA101C	Treadmill for 5 Rats or 5 Mice (Sound, Light, Electric stimulation, adjustable acceleration, different time section, individual lane, adjustable lane length, independent electric stimulation, independent timing for each lane)
SA101CR	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)
SA101CM	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)
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, airpuff 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, airpuff 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, airpuff stimulation)

MOTORY COORDINATION

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.
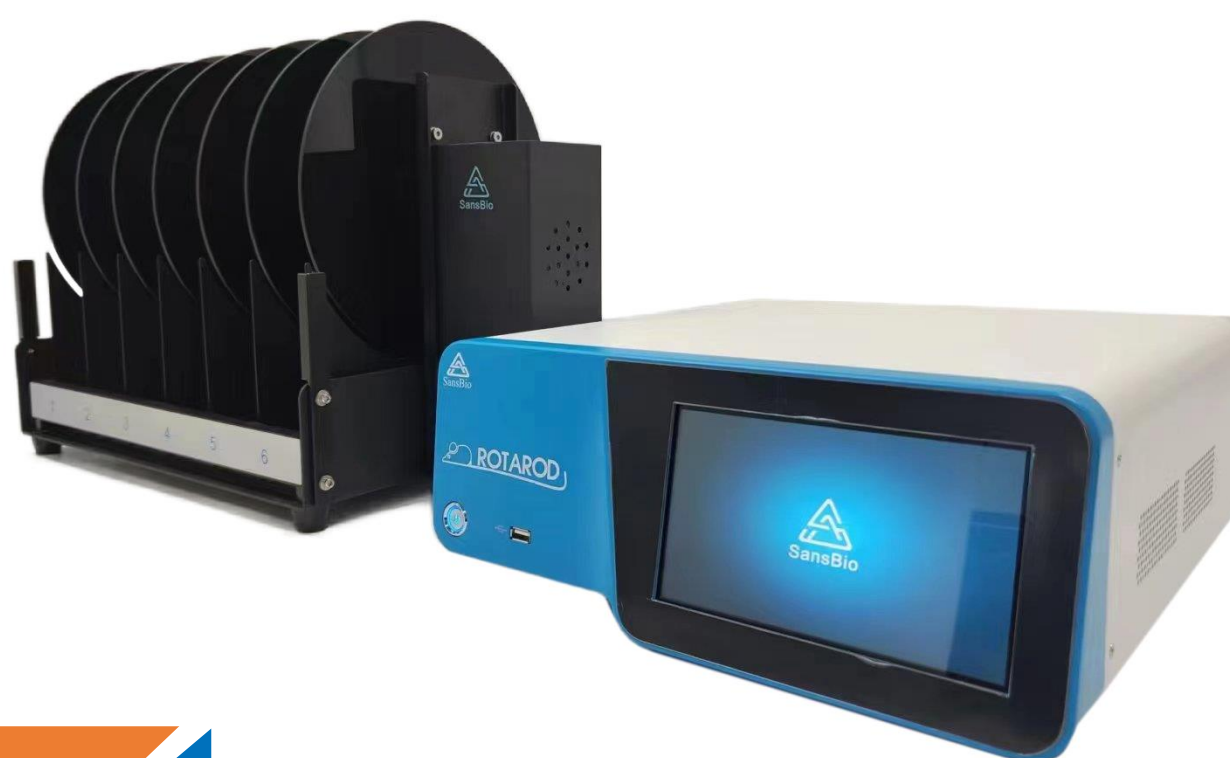
Key Features

- 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.
- Touch screen for simple operation.
- Regular Speed: 0.1-100 rpm, change in increments: 0.1 rpm.
- Constant acceleration, which is adjustable, range: 0-100r/min ^{2}.
- Acceleration time range: 1-4999 seconds.
- Experiment time range: 1-9999 minutes.

Efficient:

- Each lane can start timing independently, reducing the time difference caused by different lanes.
- Real-time display: Duration (S), Revolutions (R), Fall Speed (RPM), Acceleration, 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.
- Auto calculation of mean, standard deviation of rod duration, fall speed, distance.
- All data on laptop, exportable with U disk.

Size:

- Diameter of the Rod for rats 90mm, for mice 30mm.
- Controller size: 270×300×130mm, (length x width x height), weight: 3.5kg, power: 60W.
- Size (Mice): 510×280×350mm (length x width x height).
- Size (Rat): 510×280×570mm (length x width x height).

MOTORY COORDINATION

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.
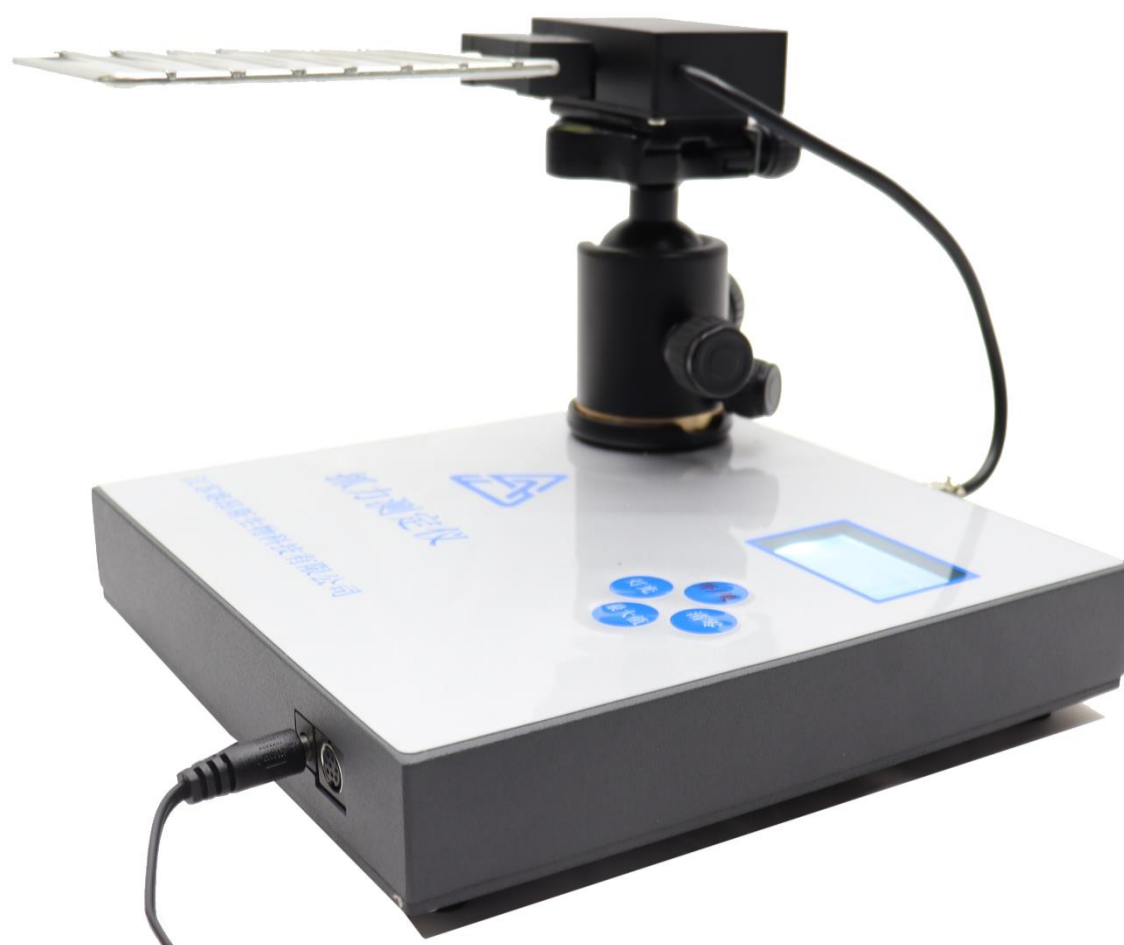
Technical Parameters

- It includes 2 grip plate and 4 grip rod 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

Technical Parameters

- Multi-units display: Kgs, grams, LBs Newton

- Inductive backlight, turn on/off can be set easily.

- Via USB cable to connect to 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.

- Net weight: 2kg

- Overall dimension: 280X120X100mm

- Grip mesh size: 90x90mm

- Power Input: 110~220V 50hz

- Power Output: 9V 400mA

MOTORY COORDINATION
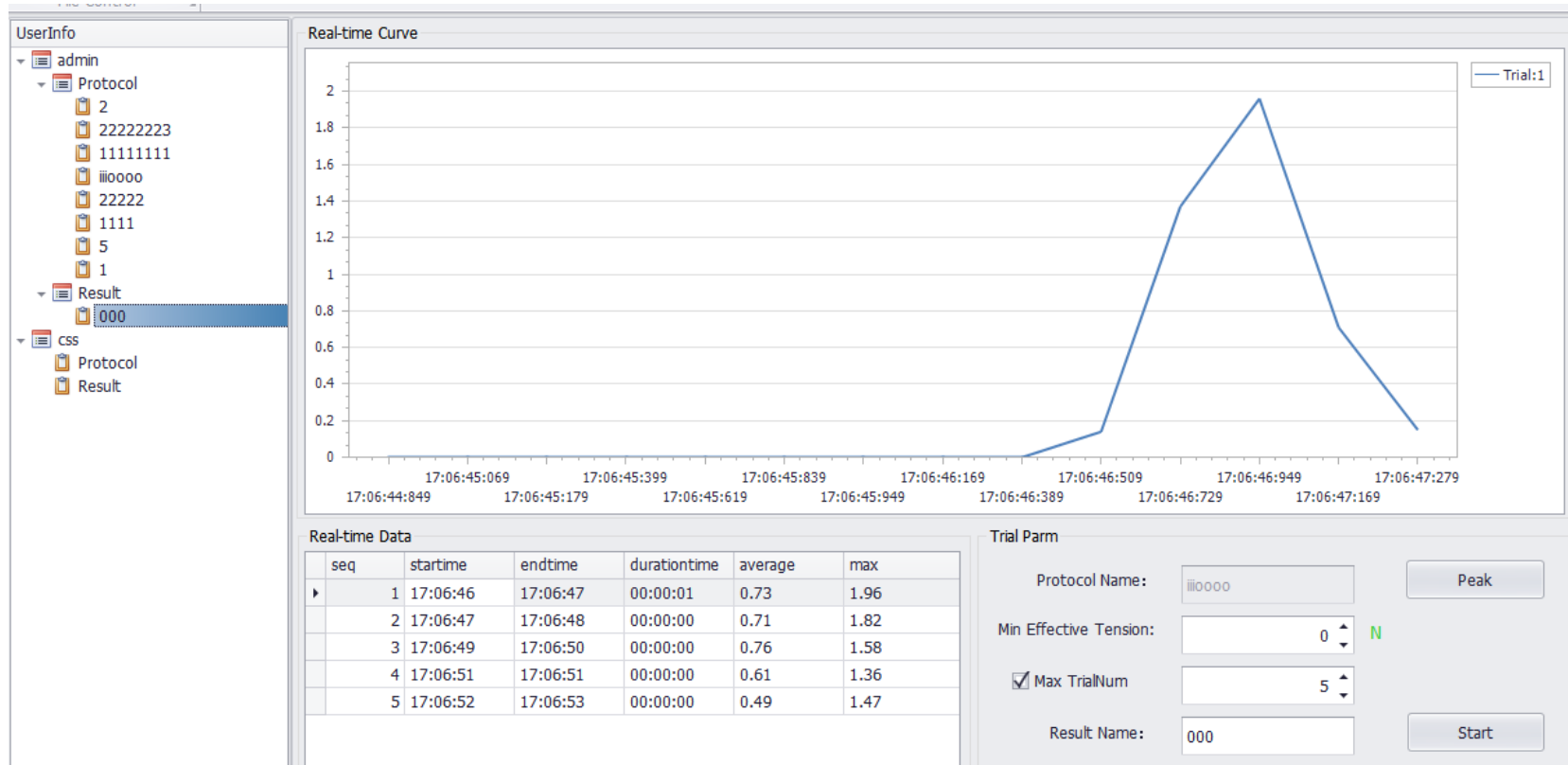
Running Wheels (Item No.: SA103)

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

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.
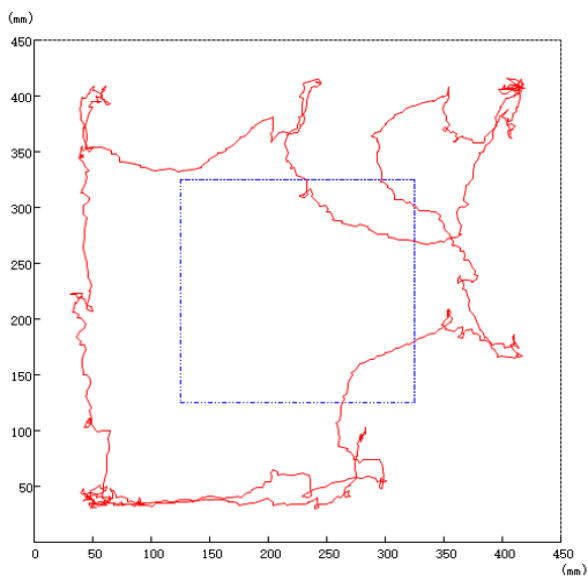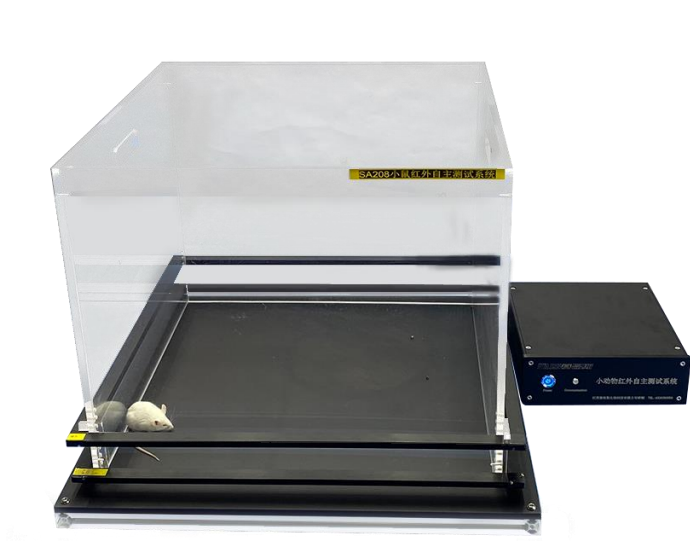
Features

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

MOTORY COORDINATION

Gait Fine Analysis System (Item No. SA114)

***Voluntarily and unforced moving Natural walking behavior***

Walking is the basis of human survival, and gait is the behavior characteristic of walking. Gait analysis is an inspection method to study the walking regularity, aiming to reveal the key links and influencing factors of gait abnormalities through biomechanical and kinematic means, so as to guide rehabilitation assessment and treatment, and also contribute to clinical diagnosis, efficacy evaluation and injury mechanism research.

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 48 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 improve through the camera adjustment.
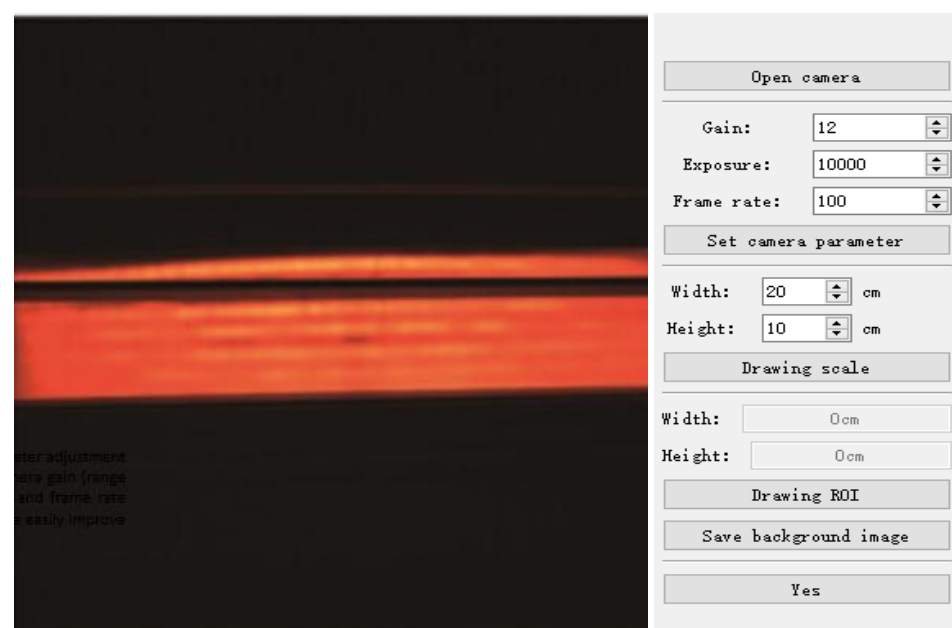
● **Intelligent & Automatic Recording:**

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.
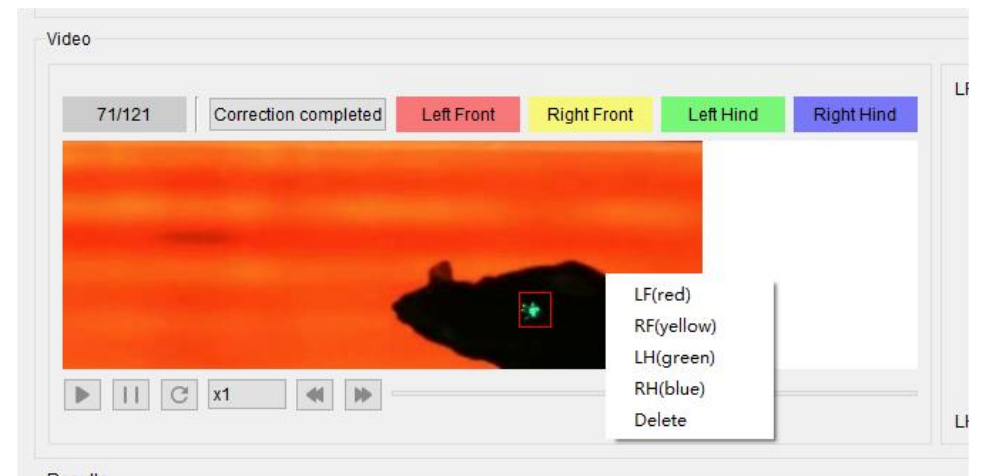
● **Automatic Footprint Classification**

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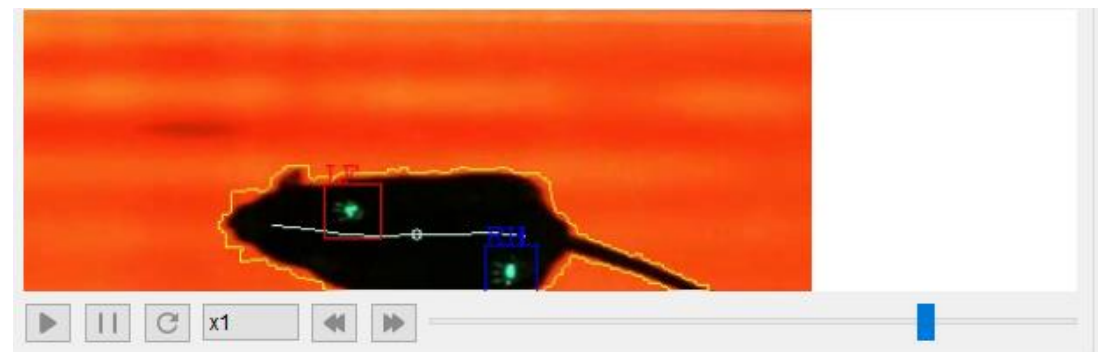
All footprints of the animal will be shown on the walkway

The existing footprints can be enlarged to show each detail of the footprints.
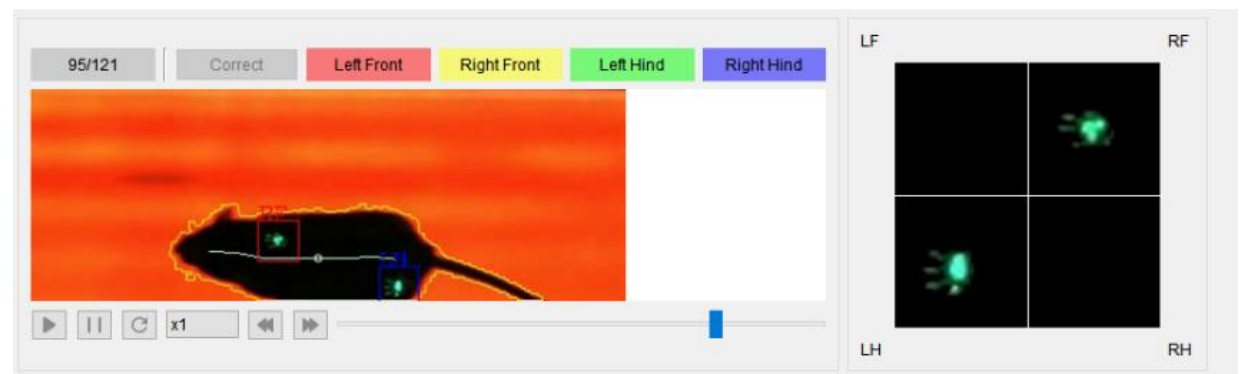
Paw landing situation at various moments, that is, the time sequence diagram.

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)

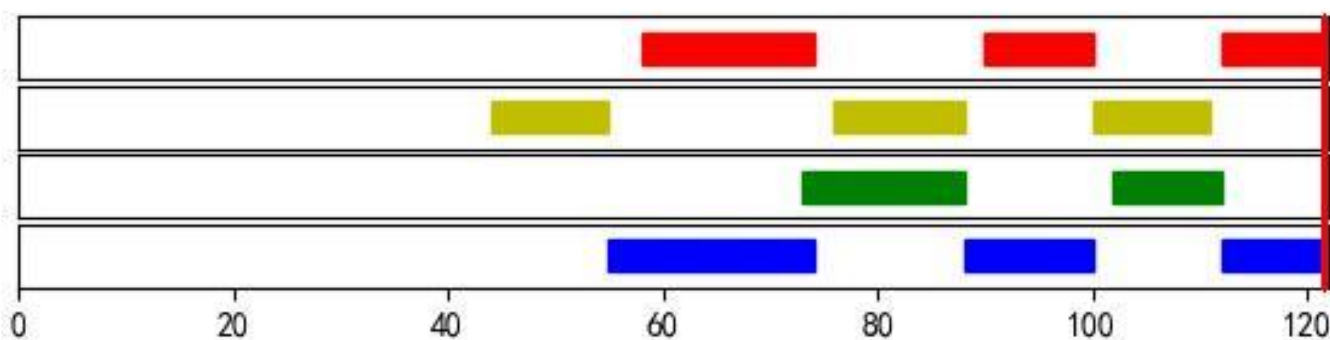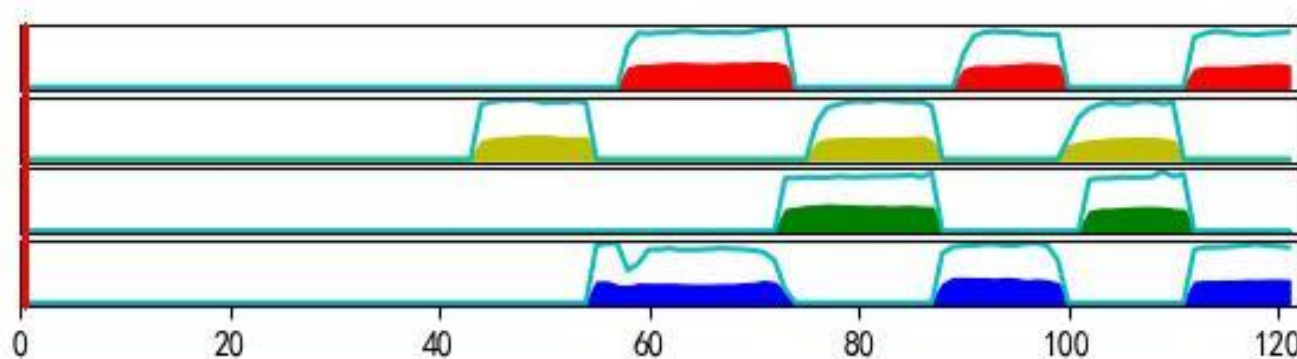The Activity Hole Board Test is used to study the behavior of rodent when facing a new environment (protruding into the hole). By detecting the spontaneous activity of mice/rats, it can be used for new drug screening, pharmacology, nervous system research and Central nervous excitation and inhibition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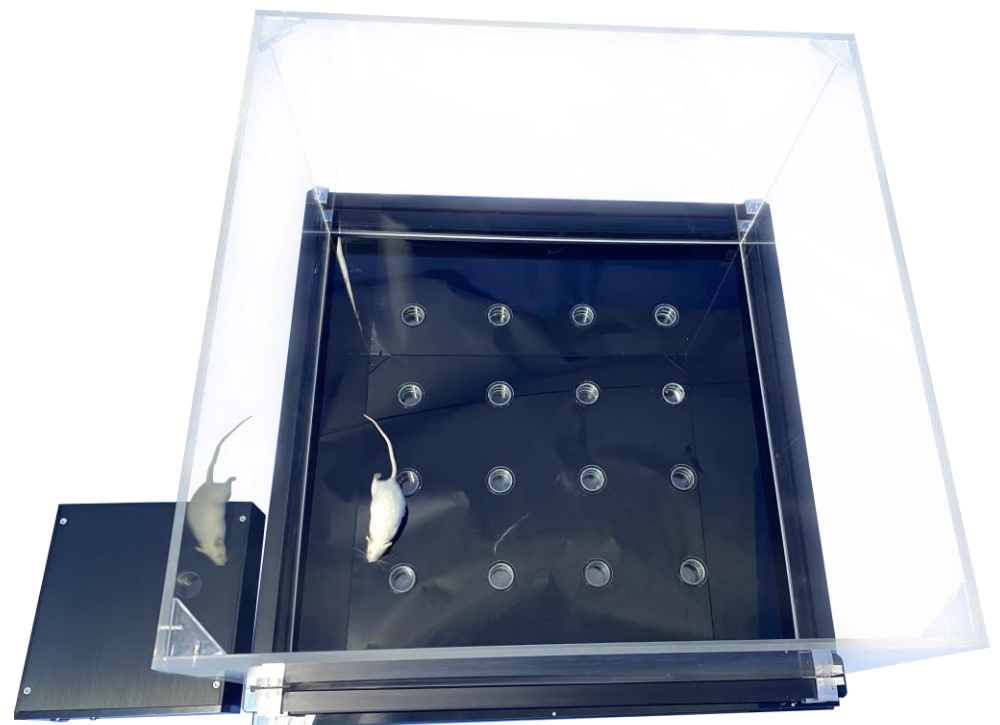
Features

- 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

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.
- 100 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

PAIN, INFLAMMATION
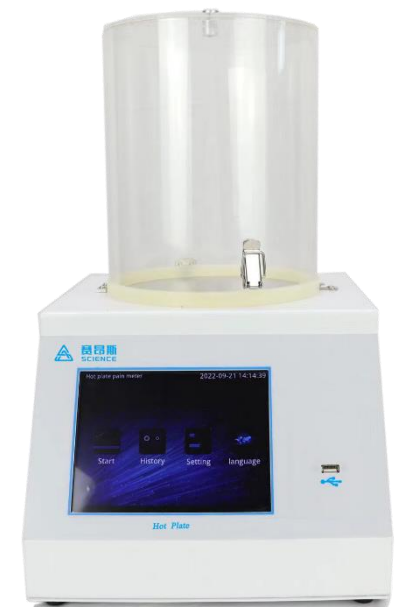
Hot Cold Plate (Item No.: SA705)

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.
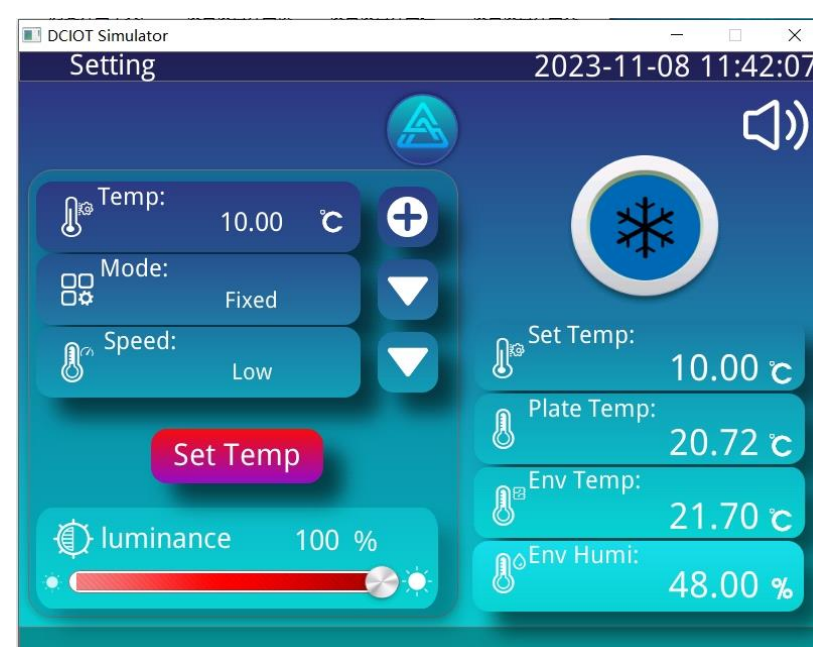
Key Advantages

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.
- 100 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

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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.

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

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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
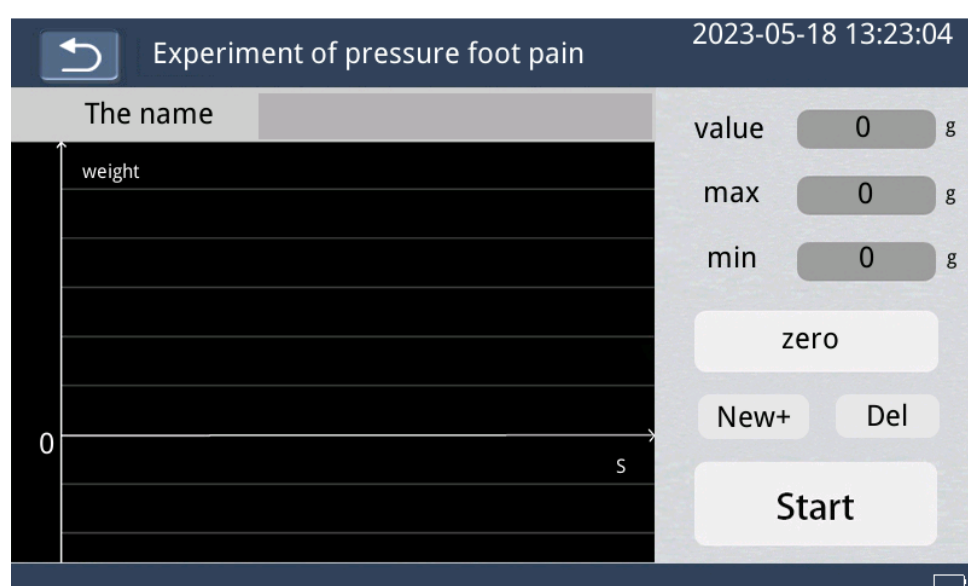
Features

- 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: 0~200g, resolution 0.01g.
- 4 kinds of reusable stainless steel filaments, diameter in 0.2mm, 0.5mm, 0.6mm, 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.
- No base in the chamber
- Chamber table is included

Item No.: SA708-001

PAIN, INFLAMMATION

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.
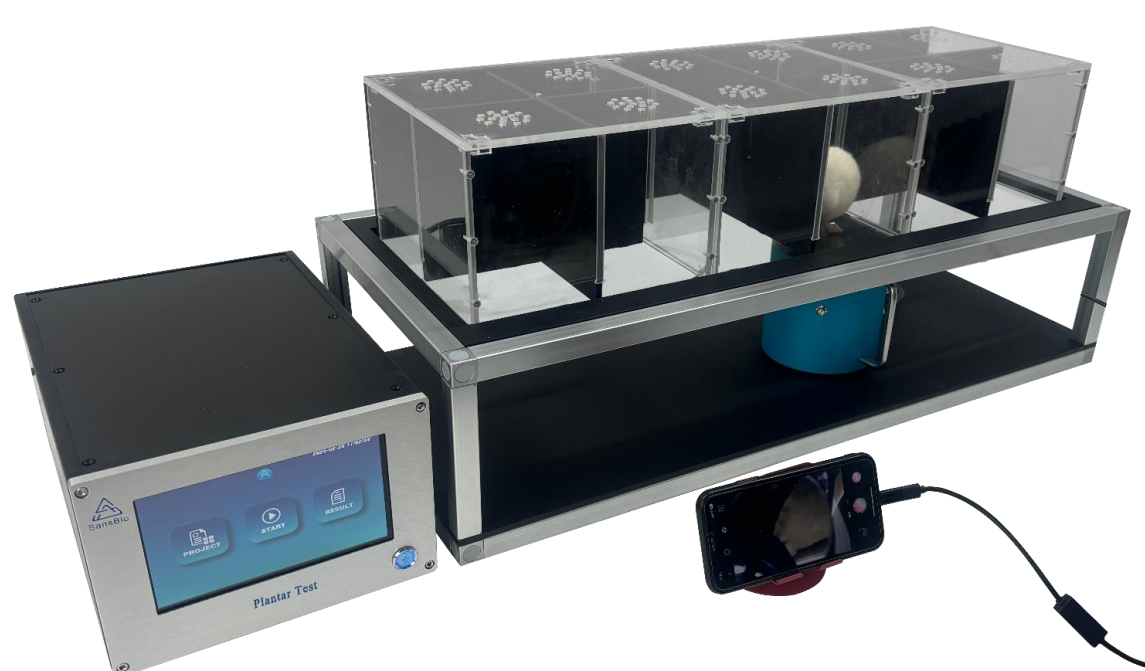
Features

- 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.
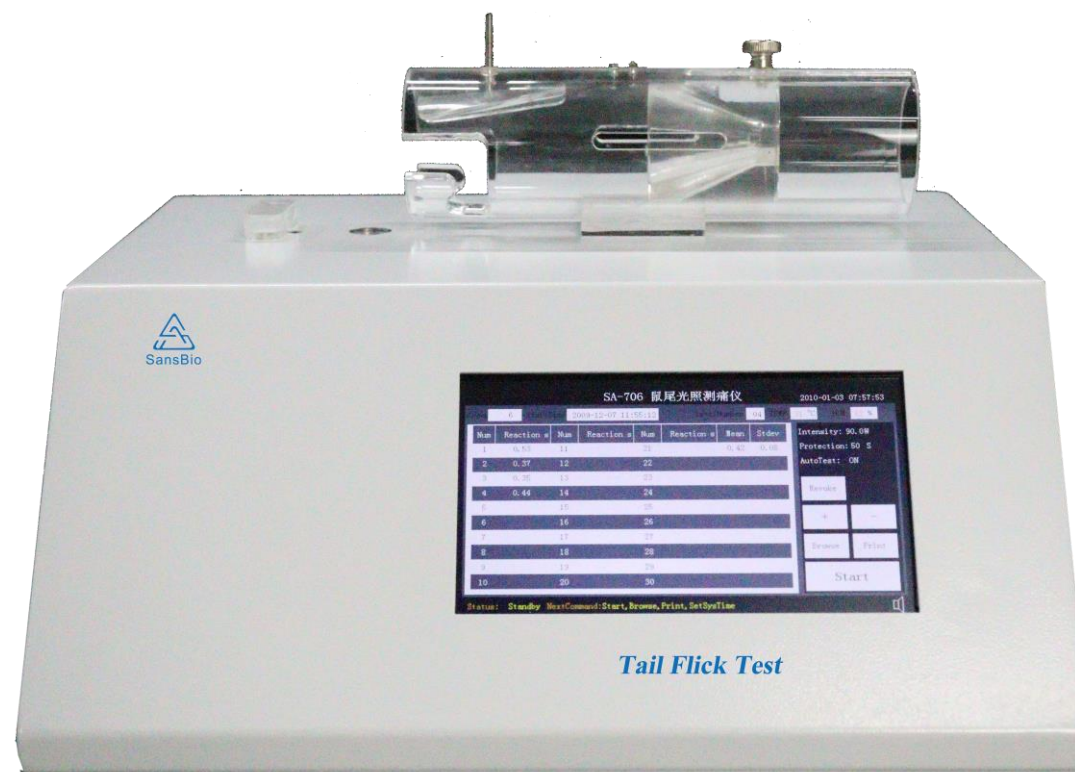
Features

- 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

PAIN, INFLAMMATION

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

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.
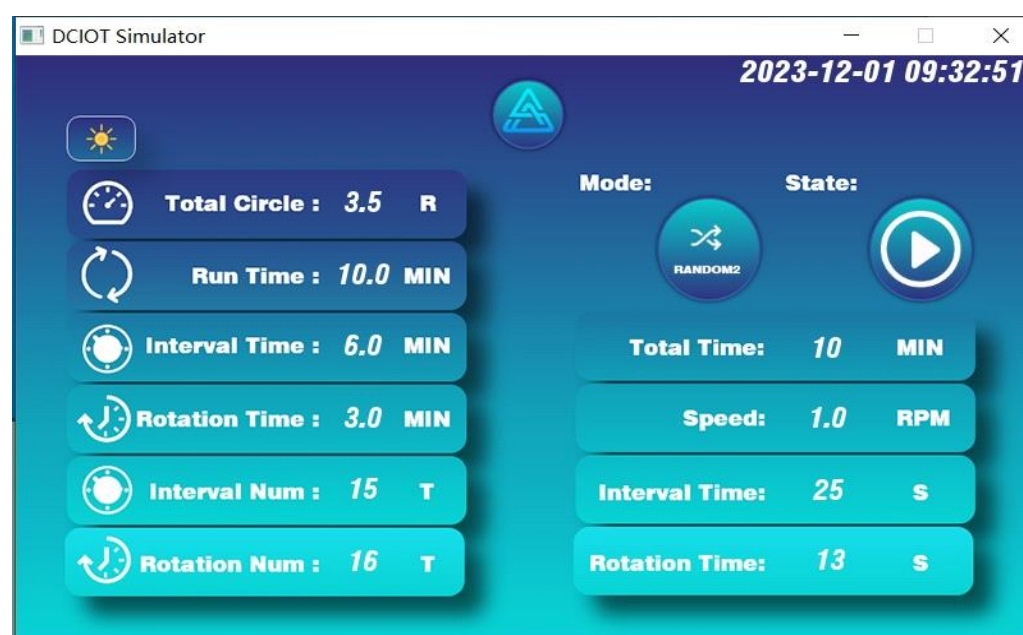
Operation

- 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.

![BioMed Easy logo]

Sucrose Preference Test
(Item No.: SA104T)

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

- One channel can record 2 drinking water status at the same time.
- Our software can support a maximum 256 channels SPT.
- Weighting accuracy 0.01g, long-term 0-point drift less than ±0.05g.
- Drinking times can be set to a single time threshold 0-10000ms, deduct temporary pseudo-drinking data.
- Double high precision sensors (photoelectric sensors and weight sensors) to detect water-drinking events, ensure the accuracy of event detection and ensure the accuracy of timing.
- Equipped with 100ML water bottle (applicable for both rats and mice). The bottle provides the animal continuous 4-5 days or longer drinking. Water exchange can be conducted in the middle of the experiment, just clicking the button on the software interface.
- Animal information: Name, Group, Age, Sex
- Data Record:

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

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.

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.
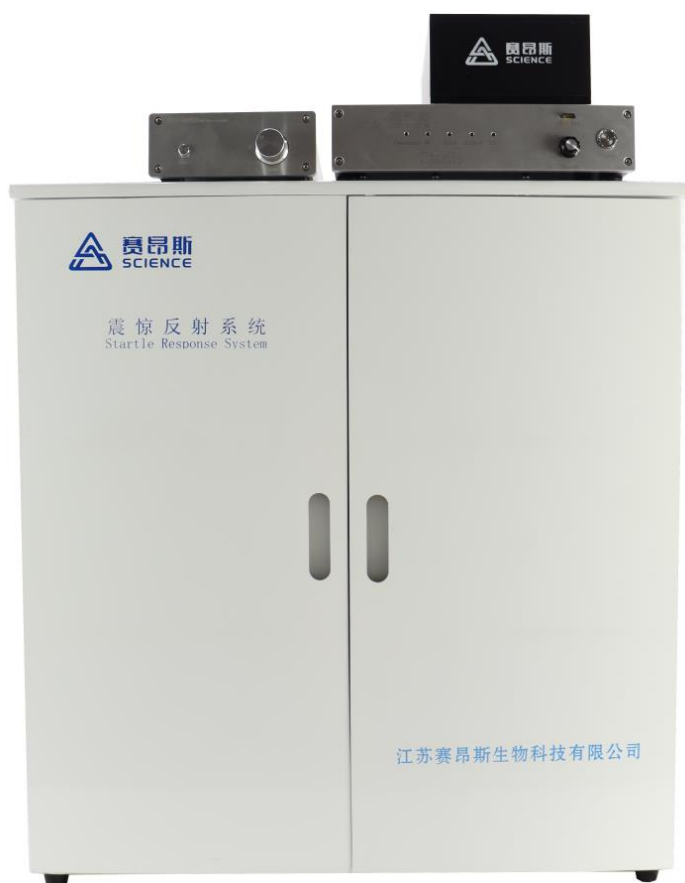
Features

- 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
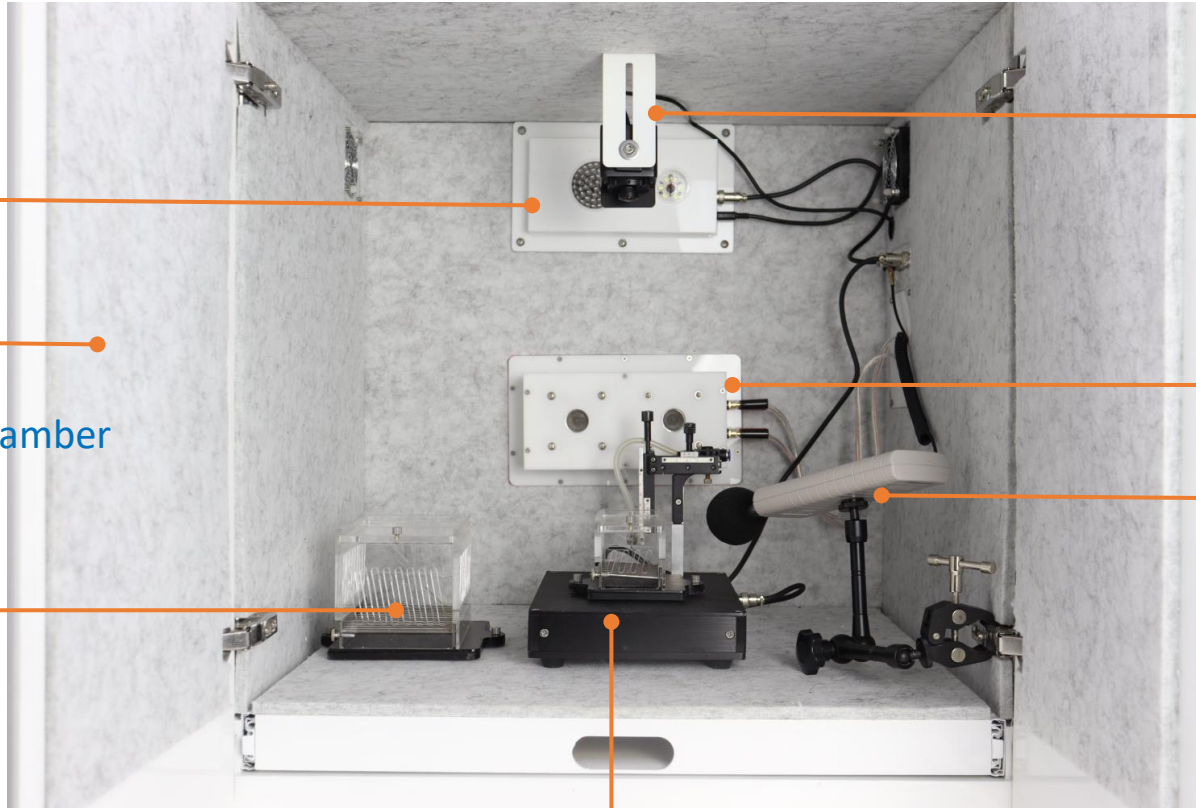
Shock Grid

- 0.1-4.0mA in 0.1mA steps
- DC 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.

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

- Independent signal detection control in each chamber to precise detect the signal in the experiment.
- Independent software operated for separated channel.
- Data can be exported to .csv or.doc format for further analysis.

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 0.1mA steps, during 0-9000min.
- DC 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 17 x 17 x 35cm, rat 25 x 25 x 35 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.
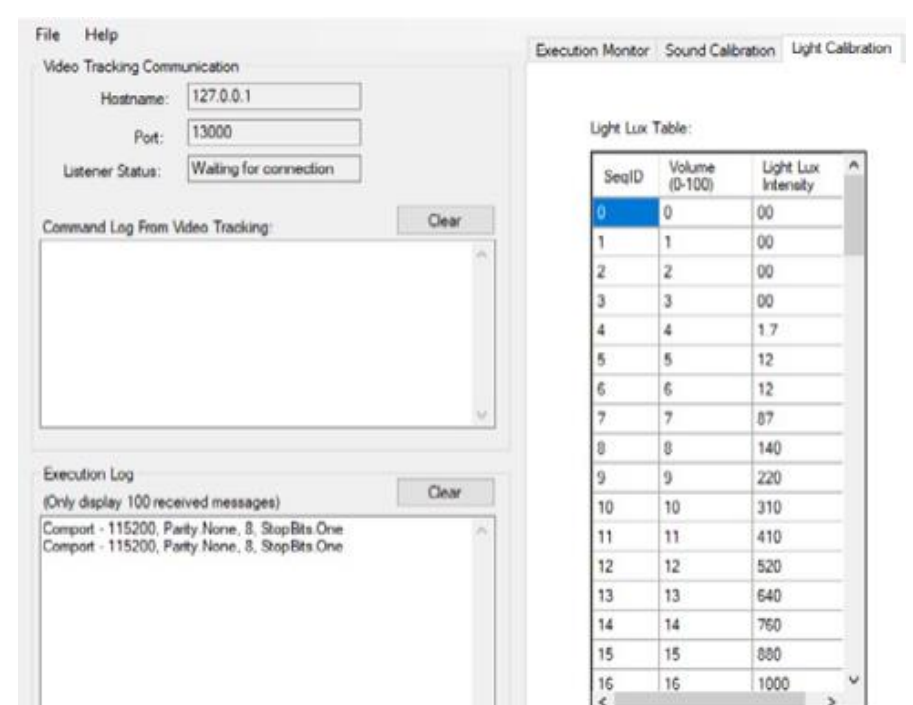
Auto Shuttle Avoidance Test (Item No.: SA223)

Shuttle Avoidance Test, also call Active Avoidance/Passive Avoidance Test, is common 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.

Science 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   DC 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)

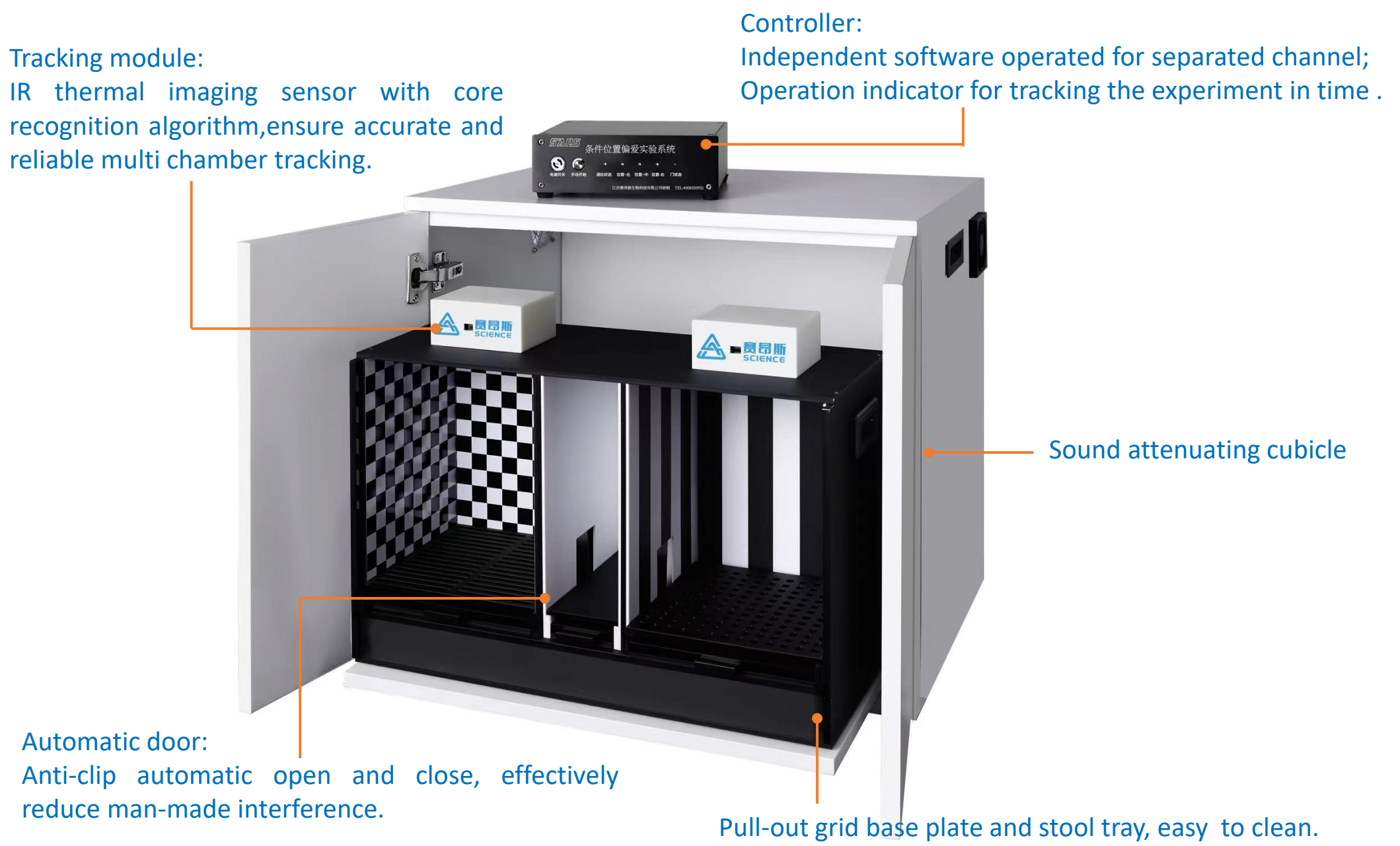- Sound attenuating cubicle (optional): 85cm*60cm*77cm

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.

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.

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

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

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 （%）
- Number of times for total shuttle/left chamber /right 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 （%）

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 and retractable levers, a shock floor grid, and two pellet receptacles etc.

Features

- Our software can supports up to 32 self-administration cages.
- Each self-administration cages is connected to the controller through latest technology like wireless connection.
- Standard automatic feeding device for convenient rodent training.
- Equip with video monitoring for easy observation.
- Electric stimulation is optional.

Specification

- Software can supports up to 32 self-administration cages.

- Independent signal detection control in each box to precise detect the signal in the experiment.

- Each secondary controller comes with various signal indicator, experiment process can be accurately judged through the indicator without opening the insulation box, thus to reduce the human interference.

- Equip with video monitoring for easy observation.

- Two levers are made of stainless steel and mounted on the interaction panel, Mouse 3g, Rat 25g.

- Two Nose-poke Apertures, each aperture is equipped with an infrared sensor capable of detecting the insertion of the animal's nose.

- Each aperture is equipped with a cue light, range 0~100lux, duration 0.1~60s.

- Frequency tone – 200-5,000Hz frequency; time 0.1~60s.

- Independent sound frequency and volume control for each chamber.

- Electrical stimulation module 120V,0-5.00mA, mouse: 200x200mm, rat: 250x250mm

- Intravenous (IV) Drug Infusion

  Configurable pump speeds 0.5 – 60 RPM,

  Syringe diameter range: 1-60mm,

  Single dose, range 0.0001ml-1ml.

- Pellet Dispenser

  The pellet dispenser delivers a pellet to the food receptacle given a certain condition. The sensor on the receptacle detects animal nose pokes for food.

  45 mg pellet dispenser is the default choice.

- 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)

- Each self-administration cages is connected to the controller through latest technology like wireless connection.

- Simple and easy wire connections.

BioMed Easy

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.

REWARD

Specification

Shock Stimulus

- Constant Current from 0.01 to 4.0 mA in 0.1mA 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.
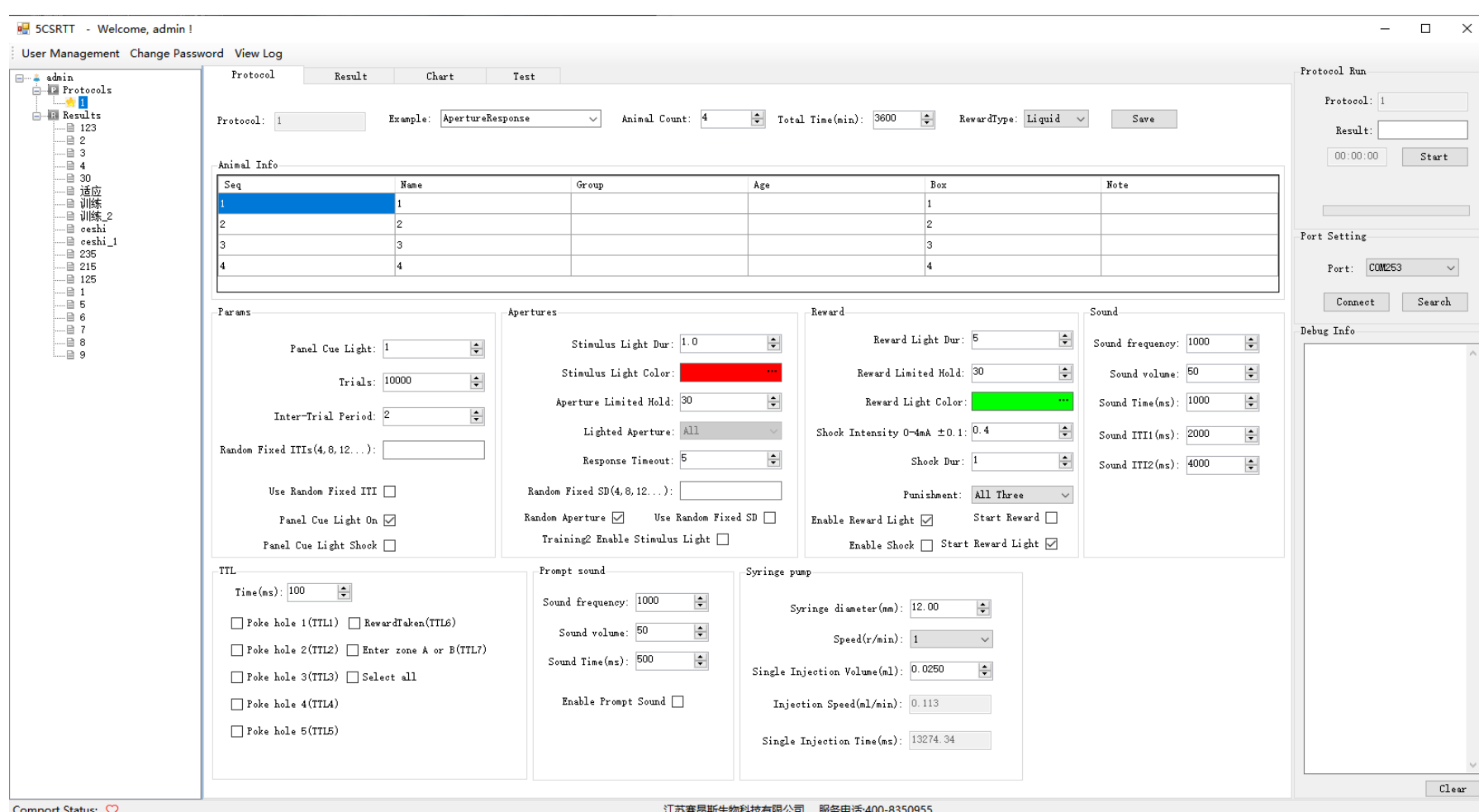
Rodent Metabolism Monitoring System

(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.
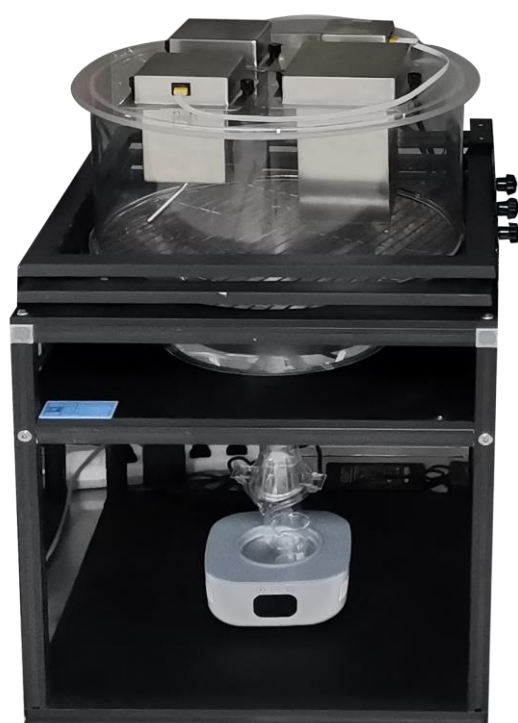
Parameter record

- 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.

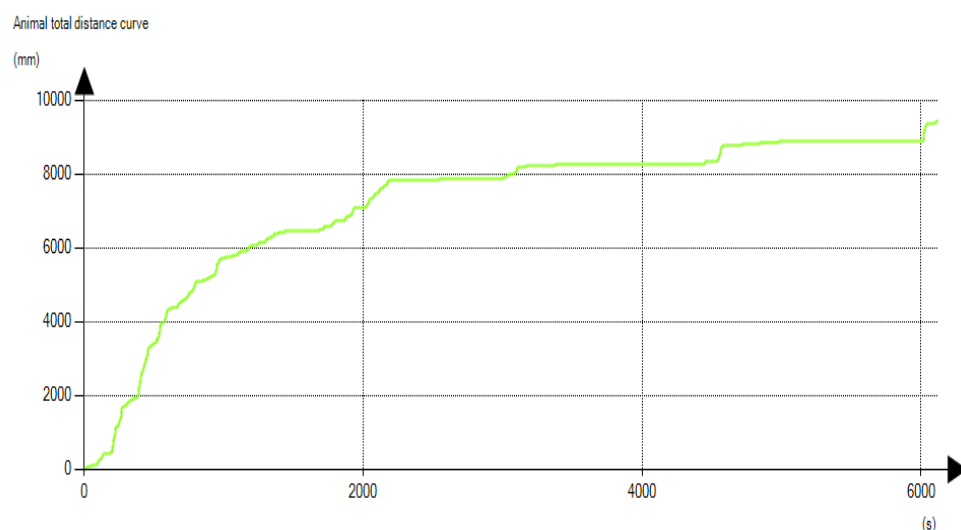METABOLISM

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 supports 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

![BioMed Easy logo]
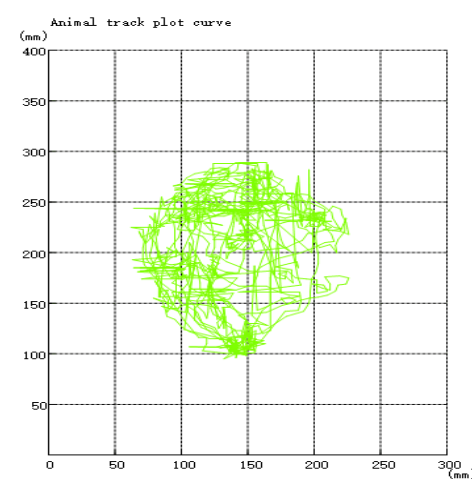
Rodent Metabolic Cage
(Item No.: SA105)

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	

Automated Syringe Pump (for Syringe and Glass capillary)

This syringe pump has a remote pump head which can be placed close to the experiment and make it ideal for use with a Micromanipulator, Stereotaxic and other clamping devices.

Features

- Unique design to make it applicable for both Syringe and Glass capillary.
- Widely used in Rat, Mouse, Zebra fish, Insect, bufonid and in vitro cells like oocyte and embryonic cell.
- Syringe: 0.5-100ul.
- Flow Rate: 0.005nl/min(0.5ul)- 152.4ul/min(100ul).
- Glass Capillary: 5ul (ID ≥0.5mm, OD≤1.5mm).
- Flow Rate: 0.119nl/min - 17.9ul/min.
- Injection: Pico liter, Nanoliter, Microliter.
- Working Mode: Infuse, Withdraw, Infuse/ Withdraw, Withdraw/ Infuse, Continuous.1
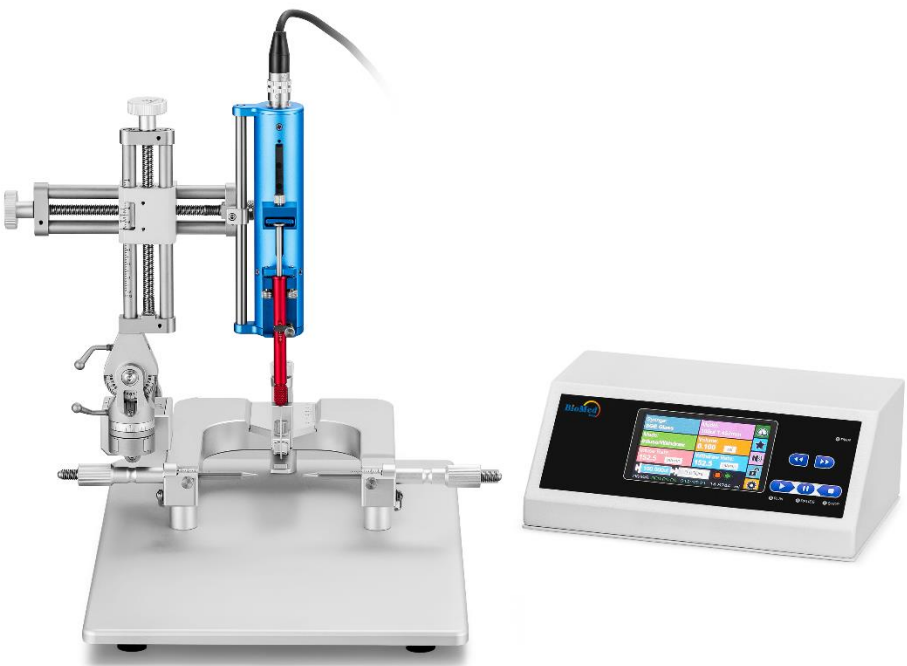
Application

With Syringe

With Glass Capillary

With Stereotaxic Instrument

With Micro Manipulator

Ordering Information

Item No.	Product Description
SP20-0200	Automated Syringe Pump (for Syringe and Glass capillary)
32-2004	Glass Capillary Holder
32-3009	Glass Capillary

SURGICAL INSTRUMENTS

BioMed Easy

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
.

Application

With Stereotaxic Instrument   **With Micro Manipulator**

Dual Channel Syringe Pump

This syringe pump is widely used in scientific research, applicable for 2 syringes at the same time.

Features

- Working Mode: Infuse, Withdraw, Infuse/Withdraw, Withdraw/Infuse, Continuous.
- 4.3 Inch touch screen with intelligent operation.
- Start, Stop and Pause are visible during the whole experiment.
- Applicable for different syringe to meet the demands of different experiment.
- High precision with alarm function.

Technical Parameters

Syringe	10ul-60ml
Flow Rate	0.184 nl/min-83.318 ml/min
Channels	Dual channels
Operation	Touch screen and button
Power-off memory	Data saving automatically when power off

Ordering Information

Item No.	Product Description
SP20-0120	Dual Channel Syringe Pump
SP20-0119	Single Channel Syringe Pump

Digital Microinjector (for Micromanipulator)

This Digital Microinjector adopts Micromanipulator design, specially used in holding the Syringe or Glass capillary, to achieve the precise microinjection.

Features

- Reach target position in short time based on different axis (X、X'、Y、Z and rotational one) together with the coarse and fine adjustment.
- Stable fixing to ensure the accurate infusion and withdrawal.
- Digital display available in X and X' axis, which achieve:
  - Automatically calculate the target distance of X' axis by submitting the infusion /withdrawal volume and the diameter of the syringe.
  - Real-time display the moving distance of X and X' axis, no need to read the scale in the micromanipulator or syringe, thus to avoid error and relax the eye.
  - Accuracy reach 0.01mm.

Technical Parameters

|	
Syringe	0-1000ul
Resolution	0.01mm
Digital resolution	0.01mm
Power	DC power

Ordering Information

Item No.	Product Description
MJ20-0111	Digital Microinjector (for Micromanipulator)-Left arm
MJ20-0112	Digital Microinjector (for Micromanipulator)-Right arm
32-2001	Micromanipulator Stand
32-2002	Micromanipulator Stand (Magnetic)
32-2003	Electrode Holder
32-3009	Glass capillary (100pcs/pkg)

32-2002　　　　　　　　**32-2001**　　　　　　　　**32-2003**

SURGICAL INSTRUMENTS
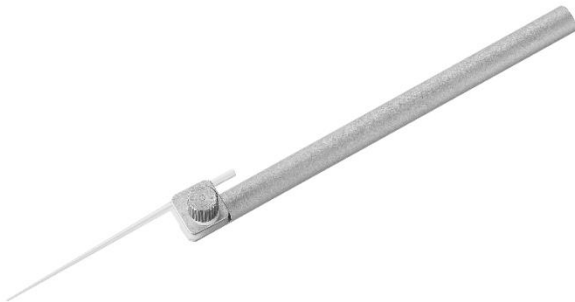
Digital Microinjector (for Stereotaxic Instrument)

This Digital Microinjector is installed in the Stereotaxic Instrument, applicable for the Virus, Cell and Drug injection in the brain of Rat and Mouse.

Features

- Easily needle installation.
- Applicable for Hamilton, SGE syringe (0.5-100ul).
- Working mode: Infuse, Withdraw.
- Returning Zero can be set at any time, any position and display the distance of infusion and withdrawal of the piston in real time.
- Infuse/withdraw volume can be automatically calculated by EXCEL.
- Minimum infuse/withdraw volume 0.0083nl (with 0.5ul syringe)-16.7nl (with 100ul syringe).
- Injector lock when infuse/withdraw finish to avoid disoperation.
- Infuse/withdraw rate can be adjusted.

Ordering Information

Item No.	Product Description
MJ20-0110	Digital Microinjector (for Stereotaxic Instrument)

Versatile Digital Microinjector

This Versatile Digital Microinjector is specially used with glass syringes (such as HAMILTON syringe, SGE syringe, etc.) or disposable plastic syringe.

Application

- Intracerebral Injection: connecting with cannula or stainless steel capillary embedded in the brain.
- Self-Administration.
- Indwelling needle administration.
- Other injection.

Features

- **Efficient:**
  - Calculate the forward or backward distance automatically after entering the target infuse/withdraw volume or the diameter of the syringe.
  - Real-time display the forward or backward distance, no need to read the scale in the syringe.
- **Accuracy:** Resolution 0.01mm.

Technical Parameters

Syringe	0-1000ul
Forward resolution	0.01mm
Power	AC

Ordering Information

Item No.	Product Description
MJ20-0113	Versatile Digital Microinjector

Micromanipulator

Micromanipulator is widely used in experiment required high stability and precision, like patch clamp experiments, extracellular recording, microinjection, intracellular recording, and precision robotic positioning.

With vertical overlay design, the forward and backward moving of the axes can be easily adjusted by using with Microscope.

Based on our patented transmission technology, it well ensure the long term stability and accuracy during the experiment.

Technical Parameters

	Travel	Resolution
X axis (fine alignment)	9.6mm	10um (0.01mm)
X axis	32mm	100um (0.1mm)
Y axis	22mm	100um (0.1mm)
Z axis	20mm	100um (0.1mm)

Accessories

| 32-2001 | 32-2002 | 32-2003 | 32-2009 |
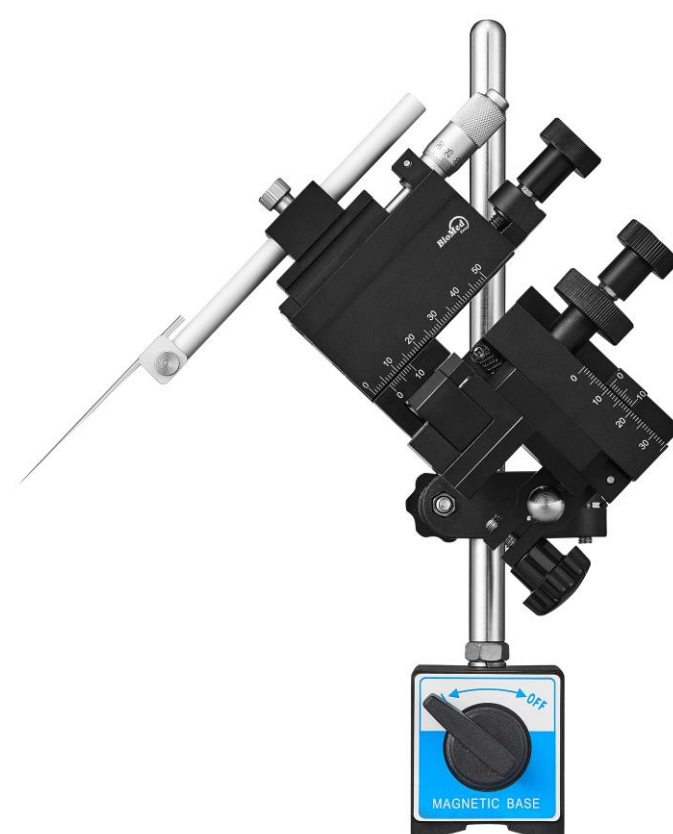
Ordering Information

| Item No.	Product Description
MP32-0010	Micromanipulator-Left Arm
MP32-0020	Micromanipulator-Right Arm
32-2001	Micromanipulator Stand, 102*102*25MM, Ø12MM
32-2002	Micromanipulator Stand (Magnetic), 50*68*55MM, Ø12MM, 8T
32-2003	Electrode Holder
32-3009	Glass capillary (100pcs/Pkg)

Micromanipulator (NEW)

Features

- Compact overlapping design allows use in tight environments
- The fine rotating arm of the Micromanipulator is located on the same side as other Micromanipulator arm.
- Cross-loaded roller bearings ensure smooth, low friction movement and minimal backlash.
- High accuracy with Micro and Submicron positioning.
- X-axis fine movement: 9.6 mm, resolution 10um
- X-axis coarse movement: 32 mm, resolution 100um
- Y-axis horizontal movement: 22mm, resolution 100um
- Z-axis vertical movement: 20 mm, resolution 100um
- The base board allows the Micromanipulator to be tilted from 0 to 70° vertically.
- The optional tiltable X-axis allows the fine axis to be tilted up to 60°.

60 degree tilt

Item No. MP32-0060

base 70 degree tilt
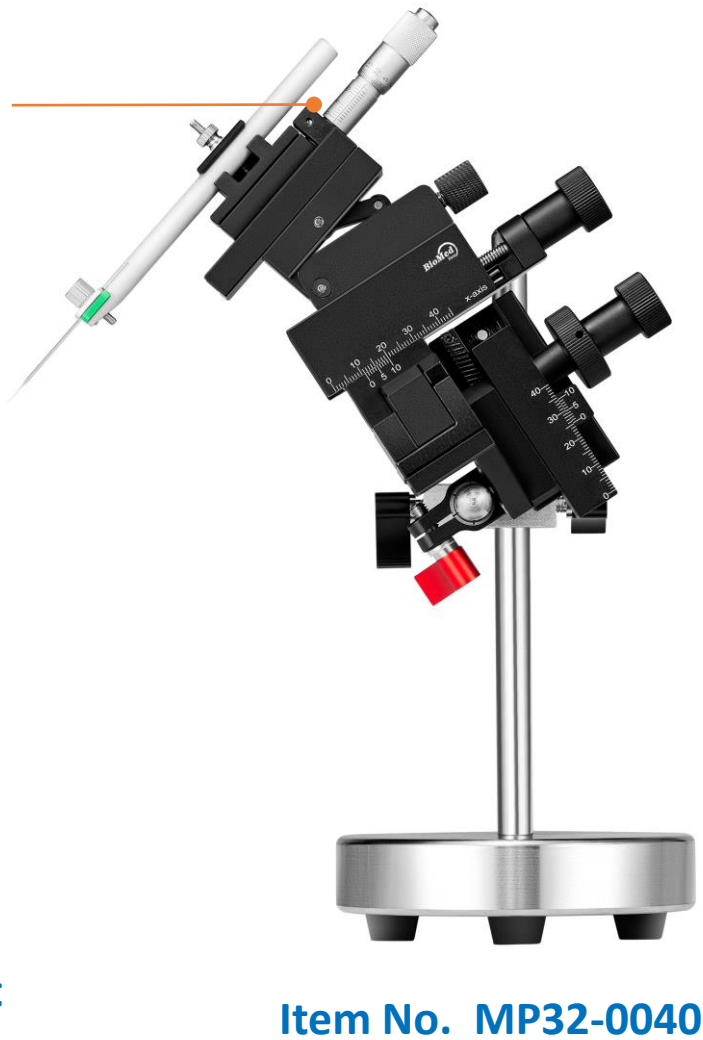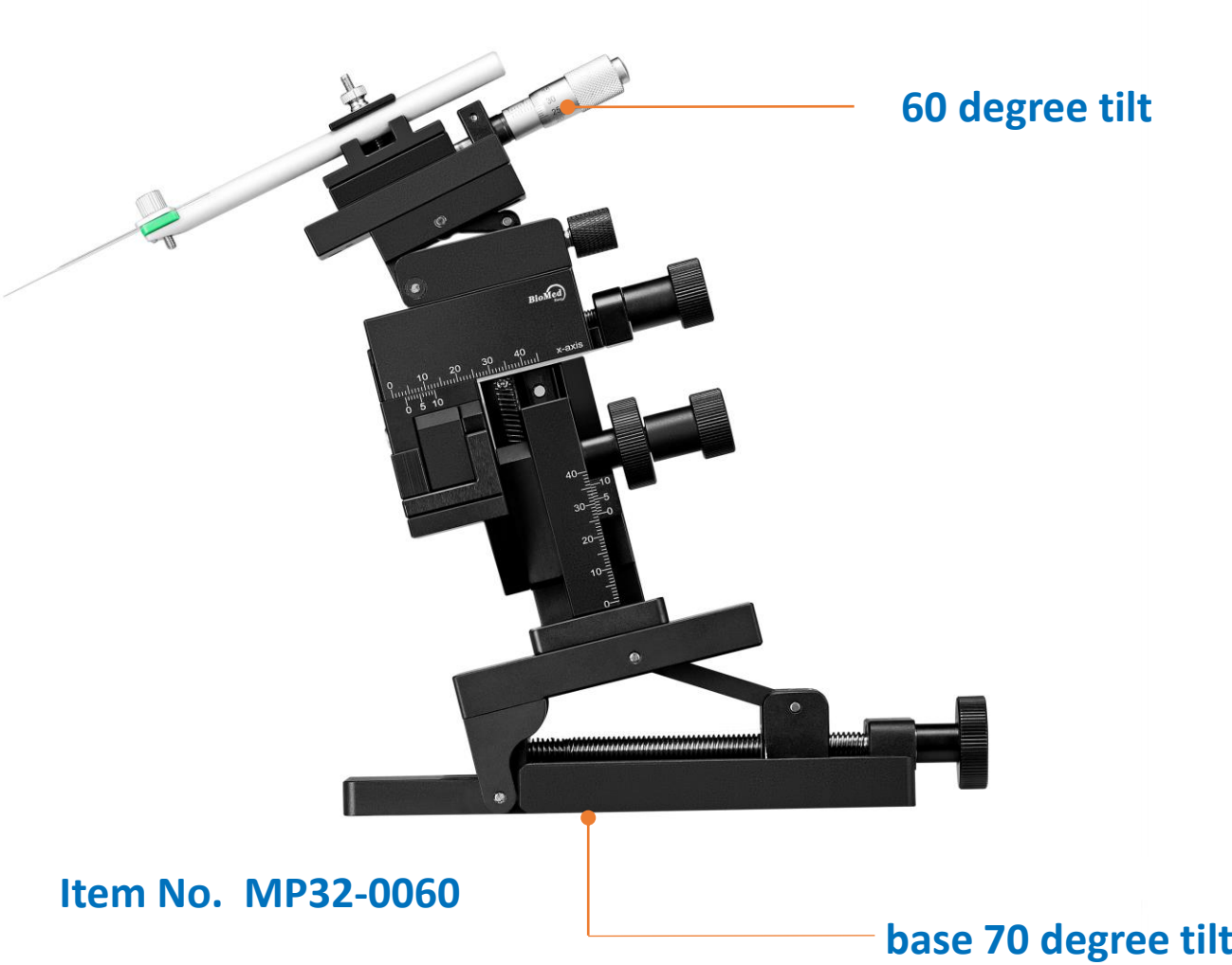
Item No. MP32-0040

Ordering Information

Item No.	Product Description
MP32-0030	Manual Micromanipulator-Left Arm
MP32-0040	Manual Micromanipulator-Right Arm
MP32-0050	Manual Micromanipulator-Left Arm
MP32-2060	Manual Micromanipulator-Right Arm
32-2006	Micromanipulator Stand, φ120*25MM, Ø12MM
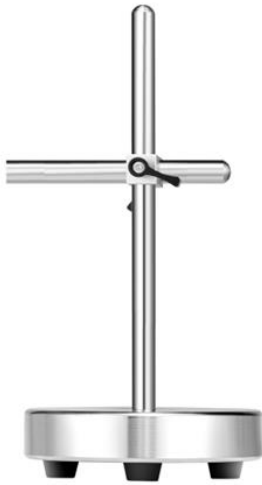
Item No. 30-2006

MICROINJECTION

Oil Hydraulic Micromanipulator (NEW)

Based on the oil hydraulic movement principle, it is used in pushing and withdrawing injection needle (such as piston of capillary glass electrode), wire electrode, etc., in in vivo or in vitro brain injection, cell injection, physiological signal recording and other experiments.

Application: It can be installed on Stereotaxic, micromanipulator and other devices to achieve vertical and angular injection.
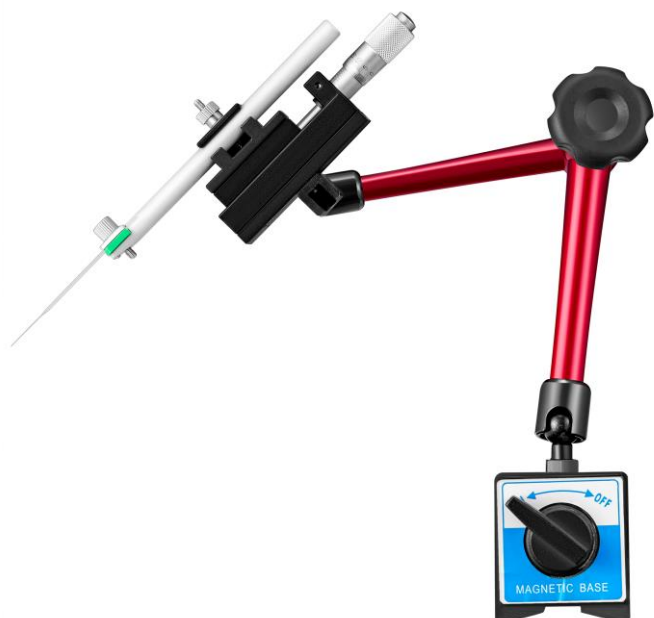
Manual operation, 25mm movement distance with digital resolution 0.001mm.

One-axis Manual Micromanipulator (NEW)

Item No. 20-0210

Installed with 360° universal rotation frame, this single-axis Micromanipulator provides flexible position adjustment wh... easily gets close to the experimental object.

Ordering Information

Item No.	Product Description
MP32-0070	One-axis Manual Micromanipulator-Left Arm
MP32-0080	One-axis Manual Micromanipulator-Right Arm
MP20-0210	Oil Hydraulic Micromanipulator

Mouse Tail Vein Injection Imaging Equipment

BioMed Easy's Tail Vein Injection Imaging Device is innovative design to help the researchers easily achieve the accurate vein puncture. This imager easily solve the below problems:

1. The animal fixation

2. Tail blood vessel filling and visual

3. Needle filling in blood vessel

For Mouse

For Rat

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 150-450g
Light source	Mouse: 1W LED Yellow light Rat: 10W
Control Mode	Manual/Foot Pedal
Power	AC100-220V, 50Hz
Output	DC 12V 2A
Size	30*16*11cm (Mouse), 40*25*26cm (Rat)
Weight	2KG (Mouse), 4KG (Rat)

Ordering Information

Item No.	Product Description
TVI2100MT	Mouse Tail Vein Injection Imaging Equipment (1 channel)
TVI20-0140	Rat Tail Vein Injection Imaging Equipment (1 channel)

SURGICAL INSTRUMENTS

Stereotaxic Instrument (for free moving mouse)

Optogenetics, Electrophysiology and Micro imaging are widely used in Brain Research. To well provide a more natural and accurate condition, rather than under the anesthesia, BioMed Easy manufactures the specific Stereotaxic Instrument for free moving mouse. Together with behavior experiment, it can greatly help the researchers to detect the Mouse neuron, explore the complexity and diversity of the brain.
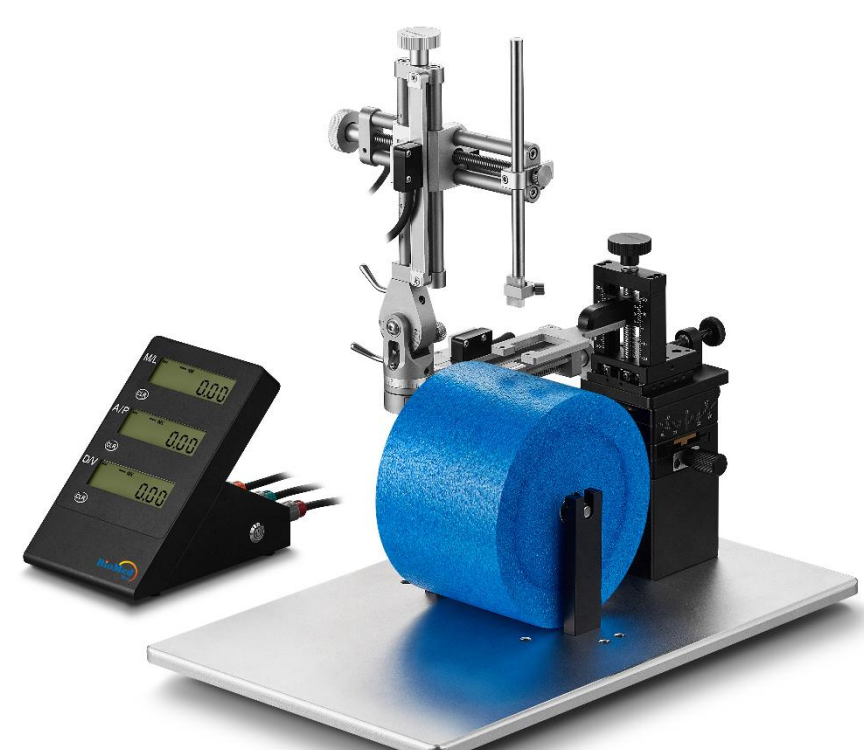
ST30-1351
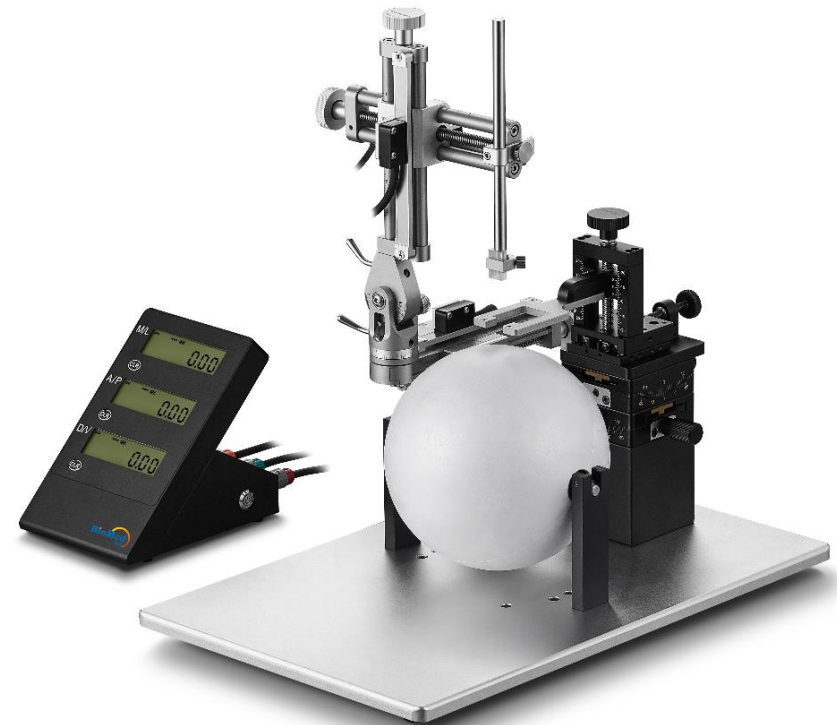
ST30-1352

ST30-1353

ST30-1354

Features

- Unique design for free moving Mouse with thin fixing plate.

- Specially design with turning plate, rolling ball, wheel, roller for free moving mouse.

- Adopts concentric directional transmission technology, dual-lead screw and rolling design in the Manipulator, ensuring the consistency and accuracy for long term experiment.

- Compact LCD display, allowing real-time coordination presentation of all three axes within 10 μm resolution.

- Use battery instead of AC power, reduces electronic noise dramatically.

- Working distance for each 3-dimension is 80 mm with precise alignment to 0.01mm resolution.

- Adopts lead screw transmission technology in cerebral fixation, together with teeth bar, nose clamp and ear bars, simplify the fixation and ensure the stability in the experiment.

- Vertical lock and fixing knob are separated to ensure accurate position at any angle.

- Vertical direction: 180° rotation and lock at any angles.

- Horizontal direction: 360° rotation and lock at any angles.

Ordering Information

Item No.	Product Description
ST30-1351	Stereotaxic Instrument (for free moving mouse), Digital, Turning Plate
ST30-1352	Stereotaxic Instrument (for free moving mouse), Digital, Rolling Ball
ST30-1353	Stereotaxic Instrument (for free moving mouse), Digital, Wheel
ST30-1354	Stereotaxic Instrument (for free moving mouse), Digital, Roller
ST30-2091	Stereotaxic Instrument accessories (Turning plate, rolling ball, wheel and roller, 3 of them)
ST30-2092	Free moving mouse brain fixation, 10pcs/pkg

◆ Customized Stereotaxic Instruments are available in BioMed Easy.

SURGICAL INSTRUMENTS

Stereotaxic Instrument

Stereotaxic Instrument is an important device using in Neuroscience, Neuropharmacology, and Neurophysiology etc. It uses markers on the surface of the animal skull (such as Bregma) as reference to determine the accurate position of a neural structure (nucleus/brain region). There are digital and manual version available in BioMed.

Concentric directional transmission technology, dual-lead screw and rolling design, ensure long term stability and accuracy.

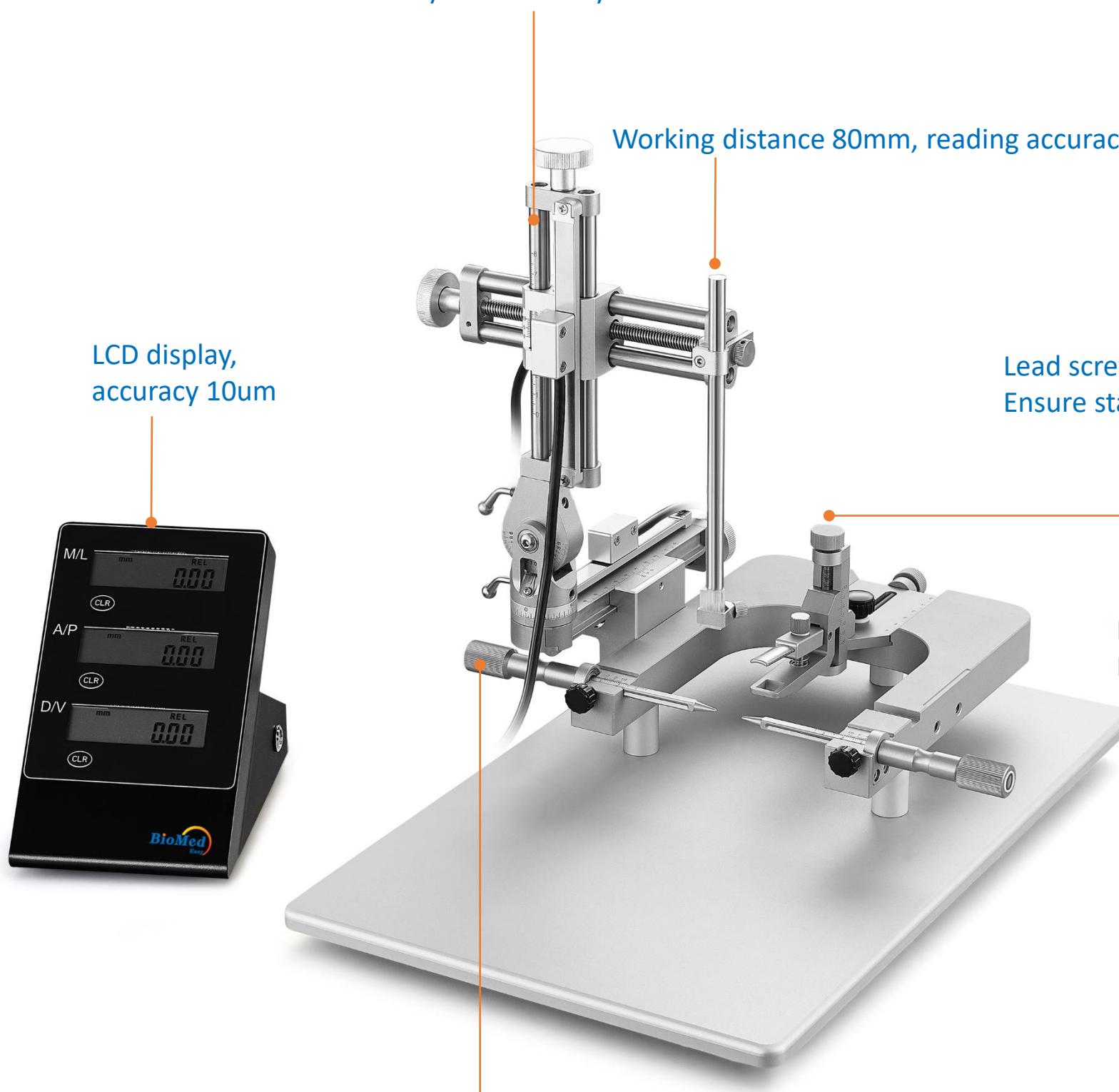Working distance 80mm, reading accuracy 100um

LCD display, accuracy 10um

Lead screw transmission technology, Ensure stability.

M/L

A/P

D/V

Rat adaptor
Mouse adaptor optional

Dual functional ear bar
Mouse ear bars optional

Model No. : ST30-1030

Features

- Suitable for Rat, Mouse, Guinea Pig etc.

- Digital Stereotaxic, with accuracy 10um.

- Adaptor for Rat and Mouse is optional.

- Adopts concentric directional transmission technology, dual-lead screw and rolling design in the Manipulator, ensuring the consistency and accuracy for long term experiment.

- Working distance for each 3-dimension is 80 mm.

- Adopts lead screw transmission technology in cerebral fixation, together with teeth bar, nose clamp and ear bars, simplify the fixation and ensure the stability in the experiment.

- Vertical lock and fixing knob are separated to ensure accurate position at any angle.

- Vertical direction: 180° rotation and lock at any angles.

- Horizontal direction: 360° rotation and lock at any angles.

- Can be upgraded to Dual Manipulator.
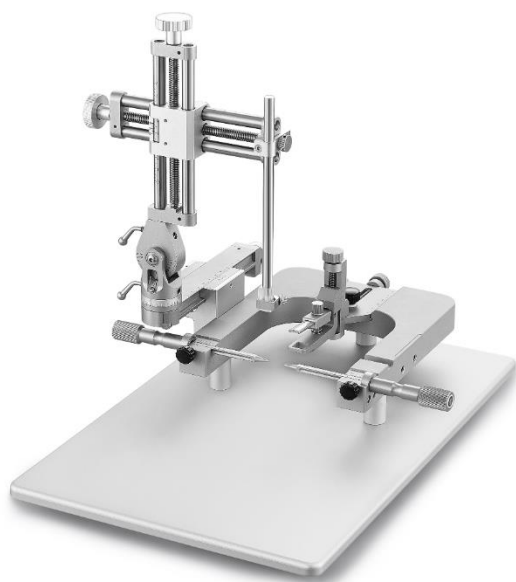
Item No. : ST30-1010
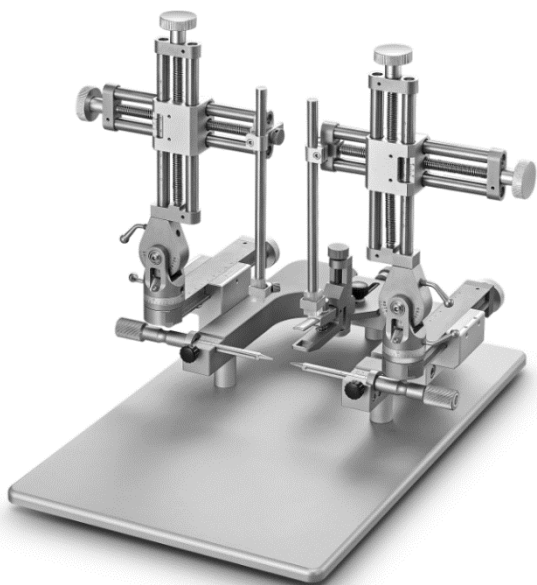
Item No. : ST30-1020

Item No: ST30-1040

Ordering Information

Item No.	Product Description
ST30-1010	Rat Stereotaxic, SGL M., 0.1MM
ST30-1020	Rat Stereotaxic, Dual M., 0.1MM
ST30-1030	Rat Stereotaxic, SGL M., Digital 0.01MM
ST30-1040	Rat Stereotaxic, Dual M., Digital 0.01MM
ST30-1050	Mouse Stereotaxic, SGL M., 0.1MM, with 30-2022 adaptor
ST30-1060	Mouse Stereotaxic, Dual M., 0.1MM, with 30-2022 adaptor
ST30-1070	Mouse Stereotaxic, SGL M., Digital 0.01MM, with 30-2022 adaptor
ST30-1080	Mouse Stereotaxic, Dual M., Digital 0.01MM,with 30-2022 adaptor

SURGICAL INSTRUMENTS

Holders

Electrode Holder
Item No. 30-2070

Dual Electrode Holder
Item No. 32-2005

Dual Electrode Holder
Item No. 30-2073

The Standard Probe Holder is included with every Stereotaxic.
The Side Clamp with vertical V-groove on both sides holds probes from 0.2 to 4.5 mm, and can hold probes, pins, capillary glass etc.
.

Holds dual electrodes from 0.1 to 1mm, total length 120mm.
.

Holds dual electrodes from 1.5 to 3mm, space distance 0.5~40mm, total length 160mm.
.

The syringe holder allows to clamp disposable plastic or glass syringe with outer diameter6.5-13MM, such as Hamilton 600, 700, 7000, or Gas-Tight Series syringes, ranging from 1 to 1000µl sizes and enables a wide range of volumes to be delivered — both infusion and withdrawal operation.

For clamping optical fiber ceramic ferrules with outer diameters of 1.25mm and 2.5mm, or cannula with outer diameter of 3.5mm.
Rod diameter: 8 ± 0.1mm.
The optical fiber ceramic ferrules is for optogenetic research, and the cannula for brain chronic drug delivery experiments.

Syringe Holder
Item No. 30-2067

Cannula and Ceramic Ferrule Holder (3 in 1)
Item No. 30-2069

For precisely-controlled infusion/withdrawal of microliter volumes.
This new Stereotaxic Injector provides an economical means of injecting/withdrawing a calibrated volume with simple, precise manual control.
Mounted directly on a stereotaxic frame, it allows precise injection directly through the needle into the tissue. This avoids the compliance issues that arise when injections are forced through plastic tubing. Volumes as large as 415 microliters may be infused.
The precise withdrawal mechanism makes it simple to pick up even one small sample! This results in minimal waste, preventing degradation of precious samples.
The injector has a universal adaptor for Hamilton 600, 700, 7000, or Gas-Tight Series syringes, ranging from 1 to 1000µl sizes and enables a wide range of volumes to be delivered — both infusion and withdrawal operation.
The manual Stereotaxic Injector is graduated in 0.01mm increments.
One complete revolution advances the plunger of the syringe 0.5mm.
Full Distance: 25MM.

Manual Stereotaxic Injector
Item No. 30-2071

Stereotaxic Anesthesia Mask

This type of anesthetic masks, also called "active" masks, is specifically designed to fit most stereotaxic frame in the market and deliver anesthetic gases with minimal researcher exposure during stereotaxic surgery in rats or mice. They feature separate (non-aligning directly) inlet and outlet on both sides and should be used with evacuation system.

Mouse Stereotaxic Mask
Item No. 10-2201

Rat Stereotaxic Mask
Item No. 10-2204

Ordering Information

Item No.	Product Description
10-2201	Stereotaxic Mask for Mouse(18g~45g)
10-2206	Stereotaxic Mask for Mouse(<18g)
10-2204	Stereotaxic Mask for Rat

Cone Mask

Be applicable to inhalation anesthesia, oxygen up taking, and atomization in multiple kinds of animals including mice, rats, rabbits, cats, birds, dogs, pigs and so on. These masks provide a convenient way of artificial ventilation or administration of anesthetic gases to Feline or Canine patients, and feature high-quality plastic cone for full visualization and highly flexible, replaceable rubber diaphragm for a leak-free fit. One end with standard 15mm (3/5 in) connector fits all breathing circuits, while the other end has a soft flexible rubber diaphragm that molds itself to the contours of patient's snout. Two sizes are available.
Six sizes from #0-5 are available.
Recommendations:
- #0 and #1：for mice, rats, small moon-face animals, and infant animals.
- #2, #3, #4 and #5：for long-face animals like dogs, cats, rabbits, pigs, birds etc.

Ordering Information

No.	Item No.	Size	Description		
			Core Dia.	Outer Dia.	Depth
1	10-2249	#0-5			
2	10-2250	#0	25mm	50mm	27mm
3	10-2251	#1	31mm	60mm	37mm
4	10-2252	#2	38mm	65mm	55mm
5	10-2253	#3	38mm	90mm	80mm
6	10-2254	#4	45mm	115mm	105mm
7	10-2255	#5	76mm	140mm	125mm

#5   #4   #3   #2   #0   #1

STEREOTAXIC

Adaptor

Neonatal Rat/Mouse Adaptor

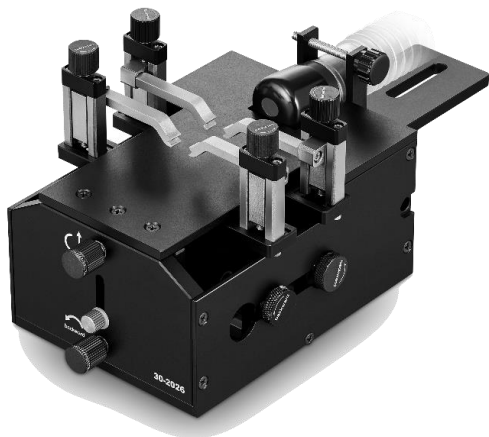**Item No. 30-2031**
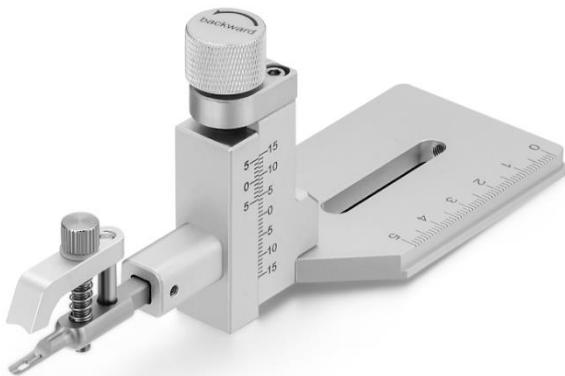
Mouse Adaptor

Item No. 30-2022
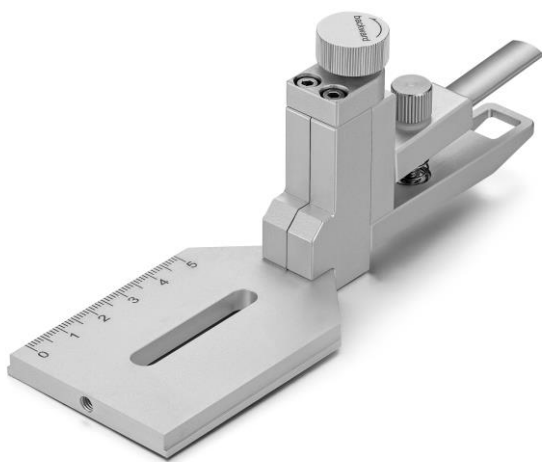
Rat adaptor

Item No. 30-2021

Item No. 30-2026

Item No. 30-2027

Features

- Equip with 2 pairs of V spinal cord fixing clamp which can be independently adjusted up and down, left and right, and back and forth, and fix at any position.

- Adjustment range of the spinal cord clamp in back and forth is 0-145mm, left and right adjustment range is 0-40mm, and up and down adjustment range is 0-20 mm.

- "Backward" in the adaptor to prevent disoperation.

- The height of the surgical plate on the spinal cord adaptor can be adjusted to adapt to different animals.

- Base plate for spinal cord adaptor is 230*140*150MM.

Ordering Information

| Item No.	Product Description
30-2031	Neonatal Rat/Mouse Adaptor
30-2022	Mouse Adaptor
30-2021	Rat Adaptor
30-2026	Mouse Spinal Cord Adaptor
30-2027	Mouse and Rat Spinal Cord Adaptor

Brain and Spinal Cord Injury Impactor

The Brain/Spinal Cord Impactor is used to generate an animal brain/spinal cord injury model. It is based on the principle of "free fall", and is composed of Stereotaxic Manipulator, Spinal Cord Adaptor, and strikers.

A certain weight of the ram falls freely, hitting the striker instantly (the striker contacts the brain or spinal cord), so as to damage the brain or spinal cord tissue.

How to operate: Install the impactor device in the X / Z arm of the Stereotaxic Instrument, and move to the target impact area, and then the depth of the injury can be adjusted through the X / Y / Z three-dimensional arm of the stereotaxic instrument.

Item No. 22-0010
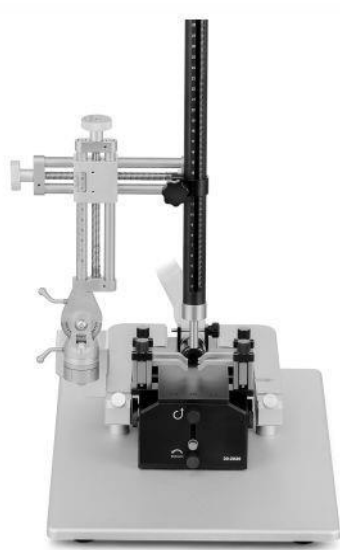
Mouse spinal cord impactor with stereotaxic, impact device etc.

Features

- Special transparent materials allow to observing the movement of the ram real time.
- The scales are marked in the surface of the device, and the impact height shall be positioned accurately to 1mm.
- The exhaust holes on both sides of the device to reduce the air resistance during the falling of the ram and reduce the experimental error accordingly.

Technical Specification

- Ram weight: complete with 20g, 40g, 60g, 80g and 100g.
- Striker size (damage area): 3mm and 5mm size for brain injury, and 1.2mm and 2.5mm sizes for spinal cord, both are available.
- Impact height: 0-300mm adjustable, accuracy 1mm.

Ordering Information

Item No.	Product Description
20-0010	Brain & Spinal Cord Injury Impactor
22-2001	Spinal Cord Impacting Kit

STEREOTAXIC

Fiber-lite LED illuminator

BioMed double fiber lite illuminator adopts advanced infrared filter technology, high color temperature and no heat effect in visible spectrum. With double-layer chassis design, durable structure and low noise, very easy to operate.

Technical Parameters

Item No.	16-0040	16-0050
Light Source	21V, 150W Halogen lamp	10W LED
Spectrum range	450nm-700nm, peak 550nm	
Color Temperature	3200K	6000K
Life Time	200h	30000-50000h
Fiber Length	55cm	55cm
Input voltage	220V/AC 50/60HZ	220V/AC 50/60HZ
Max power	200W	35W
Light adjustmnet	Continuous	Continuous
Cooling method	Fan	Fan
Size	250*95*156mm	250*95*156mm

Ordering Information

Item No.	Product Description
16-0040	Halogen fiber lite illuminator
16-0050	LED fiber lite illuminator

Temperature Controller

During and after surgery, it is often necessary to keep the animal warm and monitor the change of its body temperature (rectal temperature) in real time to maintain its vital signs. BioMed rodent temperature controller is the ideal equipment to meet this demand, especially suitable for small and medium-sized animals such as mice, rats, rabbits, cats, dogs, pigs, etc. The instrument equips with high precision in LCD display, stable temperature monitoring and exquisite design. Single channel and 6-channel are available in our company.

Technical Parameters

Temperature	-30-60℃
Heating Pad	0-60℃
Resolution	0.1℃
Accuracy	±0.1℃
Power	0.1W
Size	200*140*140mm
Weight	750g

Item No. 36-0000

Item No. 36-0060

Ordering Information

Item No.	Product Description
36-0000	Temperature Controller (single channel)
36-0060	Temperature Controller (6 channel)
36-2001	Heating Probe (ø1.5*15mm)
36-2002	Heating Probe (ø2*30mm)
36-2003	Heating Pad (70*100mm)
36-2004	Heating Pad (120*205mm)
36-2005	Heating Pad (150*250MM), customized
36-2006	Heating Pad (400*600MM), customized

SURGICAL INSTRUMENTS

Microdrill

This micro drill is for scientific research laboratory use, suitable for mice, rats, cats, rabbits and other animals head skull, leg bone drilling, grinding and bone extraction; round tip & flat tip drill bits, ring saw, circular saw can be installed for different experiments. This Micro drill equips with low noise, smooth operation, high power, overload protection etc.

Microdrill Holder
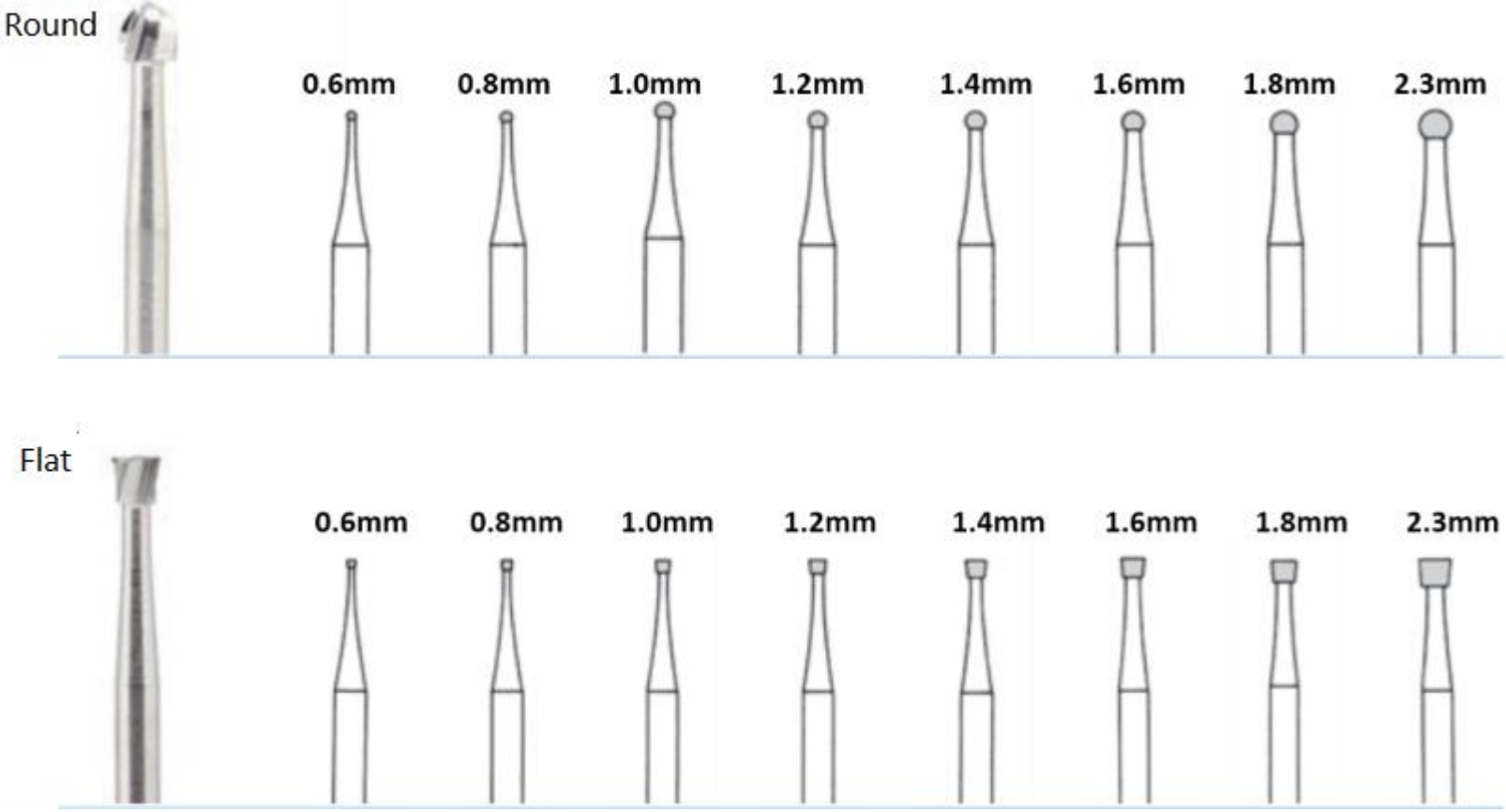**Item No. 30-2064**

Features

- Used for drilling and bone extraction of the skull of mice, rats, cats, rabbits and other animals Speed 0-35,000RPM adjustable. Rotate clockwise or counterclockwise.
- Adaptor for Rat and Mouse is optional.
- Manual or foot switch control flexible switching.
- Handle fixed 2.35mm diameter drill or ring saw.

Application

Ordering Information

Item No.	Product Description
19-7010	Microdrill, 0-35000RPM, with foot pedal
19-7049	Drill Bits HM1010 0.5mm, Round Tip, pkg of 5
19-7050	Drill Bits HM1010 0.6mm, Round Tip, pkg of 5
19-7051	Drill Bits HM1010 0.8mm, Round Tip, pkg of 5
19-7052	Drill Bits HM1010 1.0mm, Round Tip, pkg of 5
19-7053	Drill Bits HM1010 1.2mm, Round Tip, pkg of 5
19-7054	Drill Bits HM1010 1.4mm, Round Tip, pkg of 5
19-7055	Drill Bits HM1010 1.6mm, Round Tip, pkg of 5
19-7056	Drill Bits HM1010 1.8mm, Round Tip, pkg of 5
19-7057	Drill Bits HM1010 2.3mm, Round Tip, pkg of 5
19-7081	Drill Bits HM1010 0.8mm, Flat Tip, pkg of 5
19-7082	Drill Bits HM1010 1.0mm, Flat Tip, pkg of 5
19-7083	Drill Bits HM1010 1.2mm, Flat Tip, pkg of 5
19-7084	Drill Bits HM1010 1.4mm, Flat Tip, pkg of 5
19-7085	Drill Bits HM1010 1.6mm, Flat Tip, pkg of 5
19-7086	Drill Bits HM1010 1.8mm, Flat Tip, pkg of 5
19-7087	Drill Bits HM1010 2.3mm, Flat Tip, pkg of 5

Round

0.6mm 0.8mm 1.0mm 1.2mm 1.4mm 1.6mm 1.8mm 2.3mm

Flat

0.6mm 0.8mm 1.0mm 1.2mm 1.4mm 1.6mm 1.8mm 2.3mm

SURGICAL INSTRUMENTS

Universal Stereo Microscope (New)

Features the open base design, biological specimens, experimental animals, operating table etc., can be directly placed under the Microscope, thus to meet demand of the specimen research, animal modeling (such as MCAO brain ischemia, myocardial ischemia, etc.), animal anatomy, subject detection and other wide applications.

Features

- Lens and frame can be rotated in 360° to flexibly focus the position of the observed object.
- HD wide-angle eyepiece and large field of vision, well eye protection.
- 7-50 afocal zoom to achieve greater magnification.
- Eyepieces can be adjusted to the left and right according to people's pupil distance, which is more comfortable in use;
- Objective lens with HD coating, all copper material, mildew and moisture proof to ensure long service life.
- Binocular and Trinocular lenses can be mounted in the frame.
- 0.5X synchronous interface add on Three-lens Microscope, which can connect the CCD and electronic eyepiece camera to display on the monitor synchronize.
- Equipped with bright LED ring light with adjustable light intensity, soft light and eye protection.
- Equipped with 0.5x auxiliary lens to increase the working distance.

Specifications

- **Lens:** 45° tilt, 360° rotation, pupil distance 48-76MM adjustable range, bilateral visibility adjustment ±5 diopter; Fine-tuning lifting range 0-50MM.
- **Eyepiece:** WF10, 22MM field of view (Standard); Optional other eyepieces and auxiliary objectives, Maximum 70MM.
- **Magnification:** afocal zoom 0.7-5 times, magnification ratio 6:4:1, corresponding magnification 7-50 times, magnification 2.1-270 times is available.
- **Working distance:** 100MM and 200MM (with 0.5x auxiliary objective);
- **LED ring lamp:** 144 ring lamp beads, φ62 standard interface, working distance 50-250MM, and 50000Lux above brightness, brightness is adjustable;
- **Open base:** ID 300MM, height 70MM.
- **Column:** Height 230MM, lens lifting range 0-160MM.
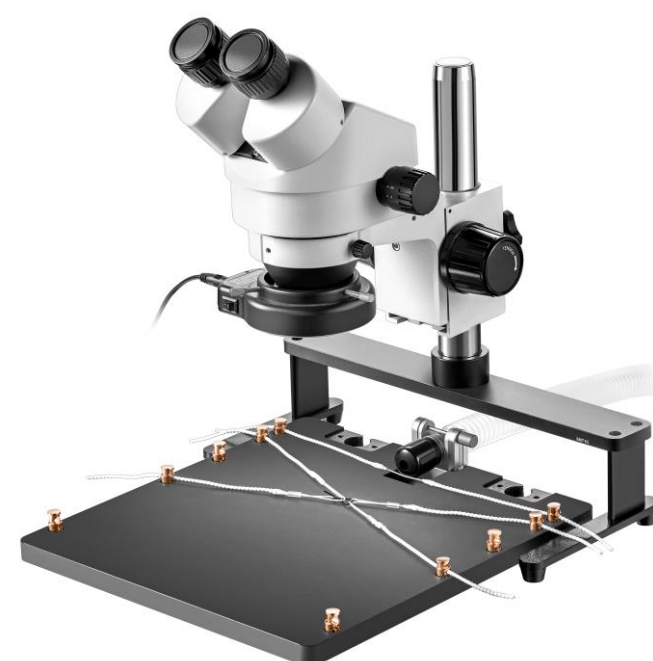
Be used with Rodent Surgery Table and anesthesia device.

Ordering Information

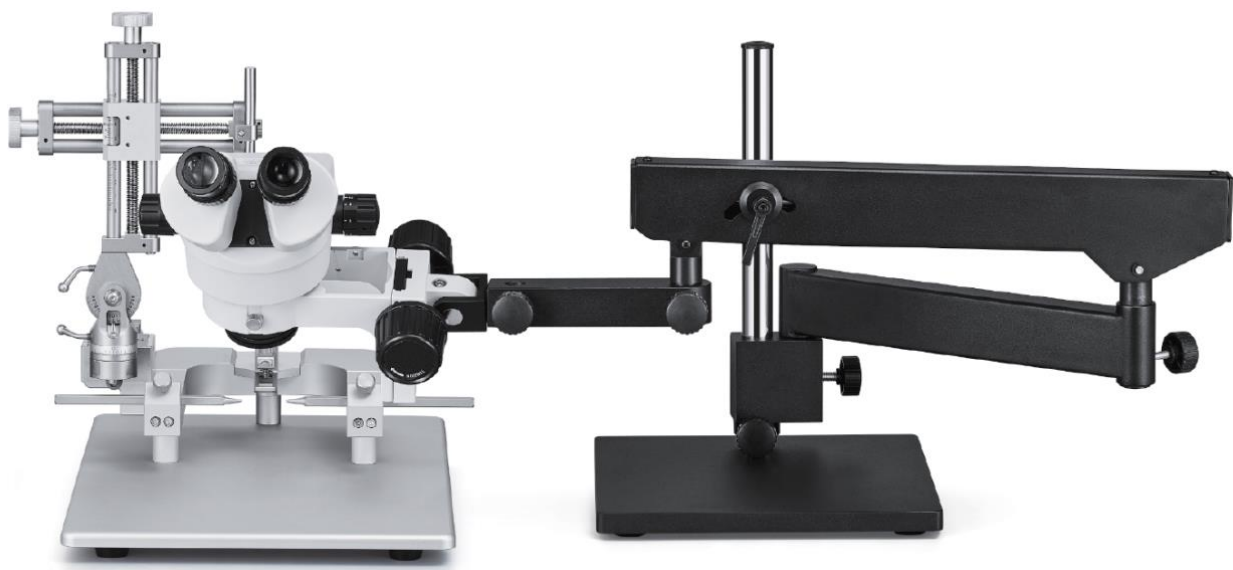| Item No.	Product Description
16-0180	Universal Stereo Microscope, Binocular
16-0190	Universal Stereo Microscope, Trinocular

Swing-arm Stereo Microscope

Item no. 16-0003

Item no. 16-0120

These two types of microscopes are specially chosen and particularly suitable for matching with brain stereotaxic instrument (as shown in the figure below). It is widely used because of its flexible angle rotation and time-saving focusing and positioning. Zoom Ratio: 1:6.4.
Magnification Times: 7-45.
Working Distance: 100mm.
Method of Focusing: by handwheel ranging from 0 to 49mm.
Be equipped with LED ring-shaped light with adjustable brightness.

Combined scenario of swing-are microscope and stereotaxic

Ordering Information

Item No.	Product Description
16-0003	Swinging-arm Stereo Microscope, Table-side Clip, Binocular, 7-45X
16-0120	Swinging-arm Stereo Microscope, Table-top, Binocular, 7-45X

SURGICAL INSTRUMENT

Brain Matrix

Brain Matrix is mainly used in section before TTC staining in MCAO experiment, sampling of target brain region, and section preparation in pathological tissue.

Materials: High quality stainless steel with strong durability, which can be heated, chilled, autoclaved scrubbed and use in variety of harsh conditions.

Section: 0.5mm and 1mm, Coronal and Sagittal.

Tip: Ultrasonic cleaning after use.
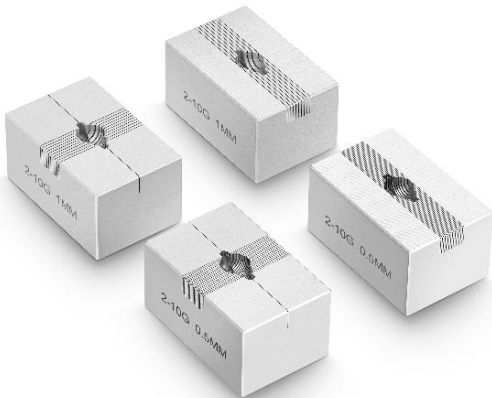
Ordering Information

Item No.	Product Description
14-2100	Brain Matrix, Mouse 15-30g, Coronal, 1mm
14-2101	Brain Matrix, Mouse 15-30g, Sagittal, 1mm
14-2110	Brain Matrix, Rat, 150-300g, Coronal, 1mm
14-2111	Brain Matrix, Rat, 150-300g, Sagittal, 1mm
14-2120	Brain Matrix, Rat, 300-600g, Coronal, 1mm
14-2121	Brain Matrix, Rat, 300-600g, Sagittal, 1mm
14-2130	Brain Matrix, Mouse 15-30g, Coronal, 0.5mm
14-2131	Brain Matrix, Mouse 15-30g, Sagittal, 0.5mm
14-2140	Brain Matrix, Rat, 150-300g, Coronal, 0.5mm
14-2141	Brain Matrix, Rat, 150-300g, Sagittal, 0.5mm
14-2150	Brain Matrix, Rat, 300-600g, Coronal, 0.5mm
14-2151	Brain Matrix, Rat, 300-600g, Sagittal, 0.5mm
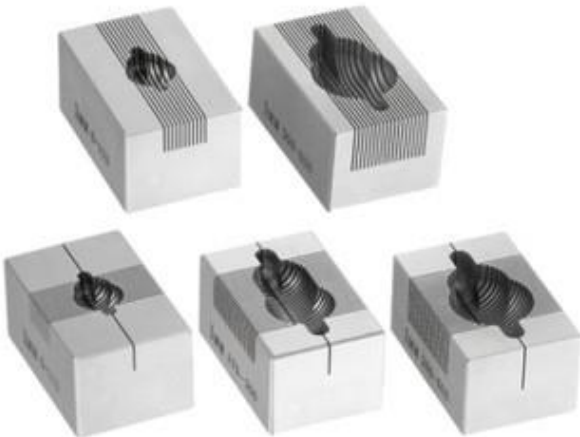
Neonatal Mouse Brain Matrix

Ordering Information

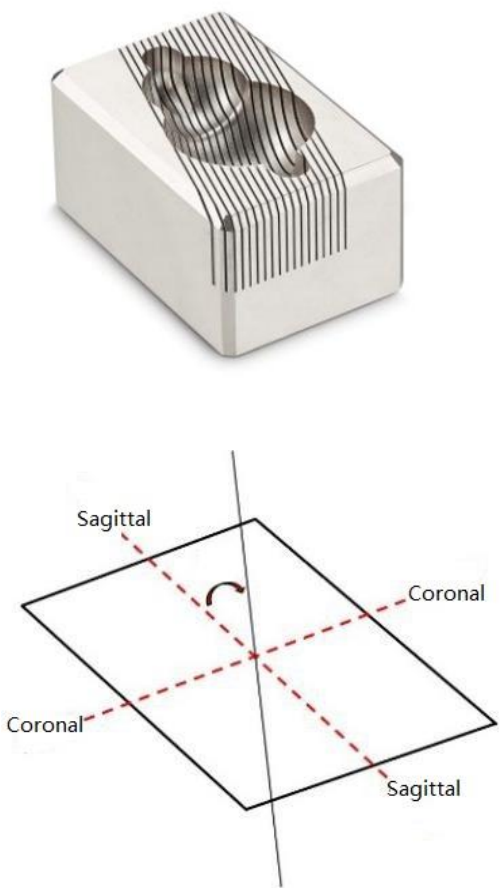| Item No.	Product Description
14-2080	Brain Matrix, Neonatal Mouse, 2-10g, Coronal 1mm
14-2081	Brain Matrix, Neonatal Mouse, 2-10g, Sagittal 1mm
14-2090	Brain Matrix, Neonatal Mouse, 2-10g, Coronal 0.5mm
14-2091	Brain Matrix, Neonatal Mouse, 2-10g, Sagittal 0.5mm

Brain Matrix (Angled section)

BioMed Easy offers angled section to meet different demand of your experiment.

Ordering Information

Item No.	Product Description
14-2301	Brain Matrix, Mouse 15-30g, Angled Section, 1mm
14-2302	Brain Matrix, Rat 150-300g, Angled Section, 1mm
14-2303	Brain Matrix, Rat 300-600g, Angled Section, 1mm
14-2304	Brain Matrix, Mouse 15-30g, Angled Section, 0.5mm
14-2305	Brain Matrix, Rat 150-300g, Angled Section, 0.5mm
14-2306	Brain Matrix, Rat 300-600g, Angled Section, 0.5mm

Heart Matrix

Heart matrix is applicable in myocardial ischemia, ischemia reperfusion and other cardiac related experiments. It can also be chilled and used in experiments of freezing tissue.

Ordering Information

Item No.	Product Description
14-2280	Heart Matrix, Mouse, Coronal, 0.5mm
14-2281	Heart Matrix, Rat, Coronal, 0.5mm
14-2290	Heart Matrix, Mouse, Coronal, 1mm
14-2291	Heart Matrix, Rat, Coronal, 1mm

SURGICAL INSTRUMENTS