

# Animal Surgery and Modeling Solution

Stereotaxic instrument is an important research equipment widely used in many fields such as neuroanatomy, neurophysiology, neuropharmacology and neurosurgery. Up to now, RWD's stereotaxic instrument has helped global neuroscience researchers to publish more than 2300 articles in Cell, Nature, Science and other academic journals, and has been widely recognized in the industry.

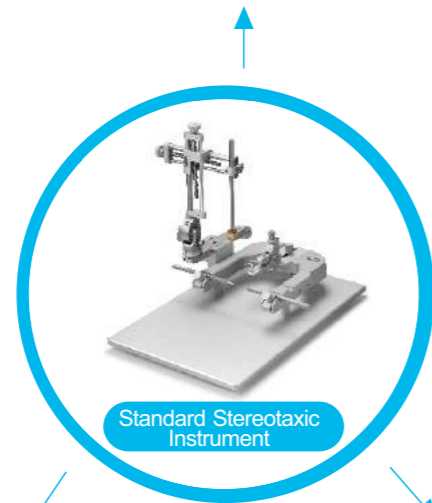
- Meet the needs of rats, mice, guinea pigs, tree shrews, cats, rabbits, dogs, monkeys and other different animal experiments.
- Three kinds of accuracy 100μm, 10μm, 1μm are available.
- Except for the automated model 71000, other models can be upgraded to digital or dual manipulator models.



**Automated Stereotaxic Instrument**  
Operation accuracy is 1μm;  
Built-in rodent brain atlas and three automatic programs.



**Desktop Digital Stereotaxic Instrument**  
Add digital display module,  
displacement resolution 10μm.



**Standard Stereotaxic Instrument**



**Rotational Digital Stereotaxic Instrument**  
Easy to adjust the skull level.



**Portable Stereotaxic Instrument**  
The height of the teeth bar and ear bar can be adjusted for easy adjustment of the cranial level.



**Large Animal Stereotaxic Instrument**  
Used to stereotaxic experiments of cats, dogs, monkeys and other large animals.

## Small Animal Stereotaxic Instruments

### 71000 Automated Stereotaxic Instrument

The 71000 is an automated, high precise (1μm) and intelligent stereotaxic instrument integrated with rodent atlases and built-in software which allows for three automated procedures (skull window, tissue removal and multi-point programs) and it provides intuitive observation of the probe position relative to the brain area, which is much convenient, efficient and easy to operate. It greatly reduces error and damage caused by human operation. In addition, the anti-collision function would prevent animal from damage caused by wrong operation, which is much more safer.

#### Features & Technical Parameters:

##### • Precise

1. The stereotaxic instrument uses a stepping motor to control the manipulator, with a resolution of 1μm, which meets the needs of higher precision experiments.
2. Anti-backlash function can greatly eliminate the error caused by the gap between the motor wheels when the motor moves in the reverse direction.
3. Calibration function, which can calibrate the actual scale value on the manipulator and the reading on the software.



##### • Convenient and efficient

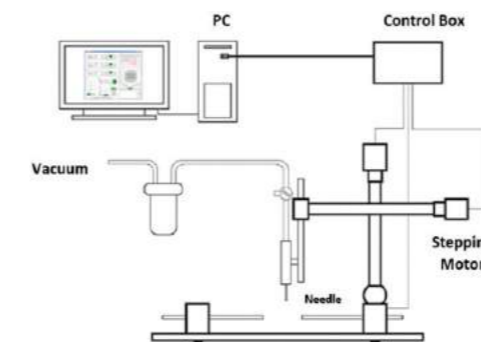
1. The software integrates mouse and rat atlas, which can display the trajectory and position of the probe in real time.
2. Multiple control movement methods: micro-manipulation panel, software and computer keyboard to control the movement of the three-dimensional manipulators, the movement speed is adjustable.
3. When reaching the Bregma/Lambda point, you can set the Bregma/Lambda point as the origin with one key, and you can return to the origin with one key at any coordinate.
4. Skull window, tissue removal and multi-point programs, which can meet a variety of experimental needs, reduce injuries and errors caused by manual operations, and are easy to operate.

##### • Safe

1. Z-axis retraction and motional collision function to prevent animal damage during moving.
2. The emergency stop button can immediately stop the running program to avoid animal damage caused by operating errors.

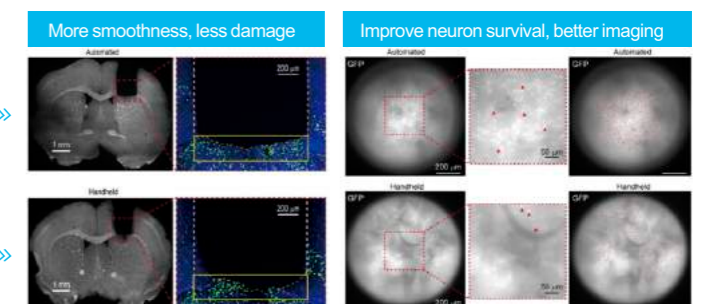
#### Tissue removal module (optional)

It is used for the removal of brain tissue.



Auto >>>

Manual >>>



**Features :**

- Configure a vacuum pump, the software can set the suction depth, sequence, and number of repetitions to automatically and accurately remove brain tissue;
- The software can set the depth and speed of lens implantation, one-click implantation;
- Ensure the flatness of the wound end surface and reduce damage;
- Improve the survival of neurons per unit area and enhance imaging effect;
- Reduce the error caused by traditional manual operation and enhance the repeatability of experiment.

**▶ Rotational Digital Stereotaxic Instrument**

The 69100 series Rotational Digital Stereotaxic can adjust skull level and align sagittal suture quickly and accurately, and the time of skull adjustment is greatly shortened without repeated fixation.



**Features:**

- Precise rotation adaptor can adjust skull position in 3 dimensional space, to maximize the adjustment of horizontal degree and the midline alignment.
- The axis of the rotation adaptor is focused on the crossover point of the Centering Height Gauge, the 40X Center Magnifier assists in adjusting the Bregma to coincide with this point and there is no need to set Bregma repeatedly.
- Improve the efficiency of skull horizontal adjustment, and the adjustment process needs no repeated fixation.
- The 40X Centering Magnifier and the Alignment Indicator assist the skull adjustment, achieving high horizontal degree and good repeatability.
- Contain an anesthetic mask that can be used with inhaled anesthetics to reduce animal mortality.
- Easy realization of 3D multi-angle fixation, easy to tilt injection or other special experiment treatments.

**Recommended Accessories:**

**40X Central Magnifier (69133)**  
Assist in finding Bregma and Lambda, to ensure that the midline is parallel to the Y axis. Assist in adjusting the Bregma to coincide with the rotation axis, no need to set the Bregma repeatedly.



**Alignment Indicator (69134)**  
The deflection angle difference of the Alignment Indicator can feedback horizontal level with a 0.01mm accuracy.

**15° Angle Adaptor (69113)**  
Easy to adjust the skull level (front to back), to meet the needs of greater adjustment.



**Operating Platform for Stereotaxic (69136)**  
50mm height adjustable.

**Order Information:**

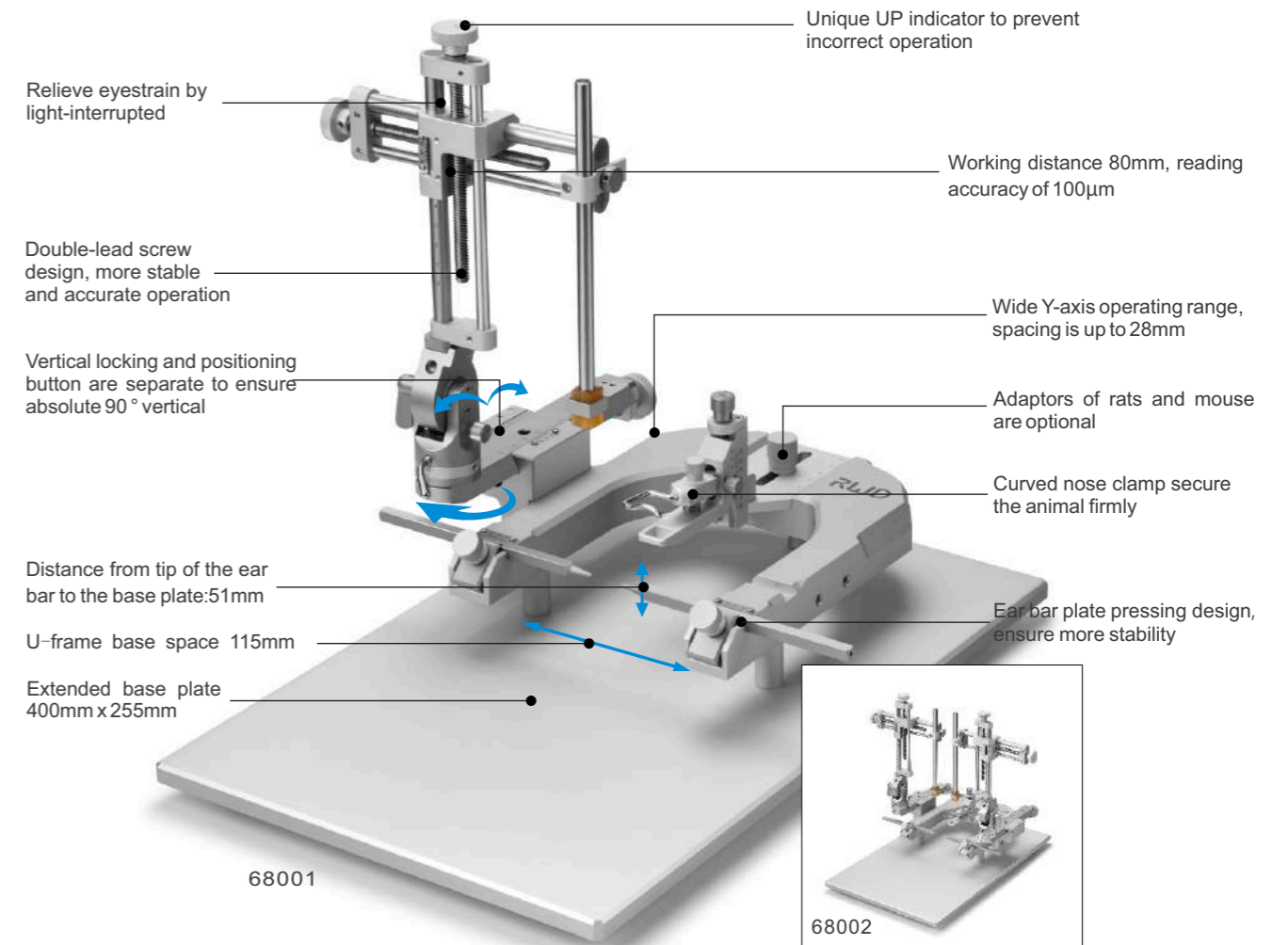
Cat No.	Product Description	Remark
69104	Rotational Digital Stereotaxic Instrument for mouse, SGL M, 69110 Adaptor Incl	Standard configuration, contains 69110 Mouse Anesthesia Adaptor with Tubing, 69113 15° Angle Adaptor, 69114 60° Ear Bars for Mouse.
69105	Rotational Digital Stereotaxic Instrument for mouse, Dual M, 69110 Adaptor Incl	
69106	Rotational Digital Stereotaxic Instrument for mouse, SGL Rat, 69112 Adaptor Incl	Standard configuration, contains 69112 Rat Anesthesia Adaptor with Tubing, 69113 15° Angle Adaptor, 69116 18° Ear Bars for Rat.
69107	Rotational digital Stereotaxic Instrument for mouse, Dual Rat, 69112 Adaptor Incl	
69133	40X Central Magnifier	Optional configuration
69134	Alignment Indicator	
69135	Operating Platform for Stereotaxic	

**Technical parameters:**

Item	Parameter
Sagittal triaxial displacement distance	30mm
Angle adjustment range (left to right)	±30°
Angle adjustment range (forth to back)	±10°
Angle adjustment range (central base plate)	±10°
X-, Y-, Z-axis operating range	80mm
Base plate	400mm*325mm
Central Magnifier	40X
Alignment Indicator resolution	0.01mm

**▶ Standard Stereotaxic Instrument**

Classical U-type base design, professional services in the laboratory for 17 years!



**Composition:**

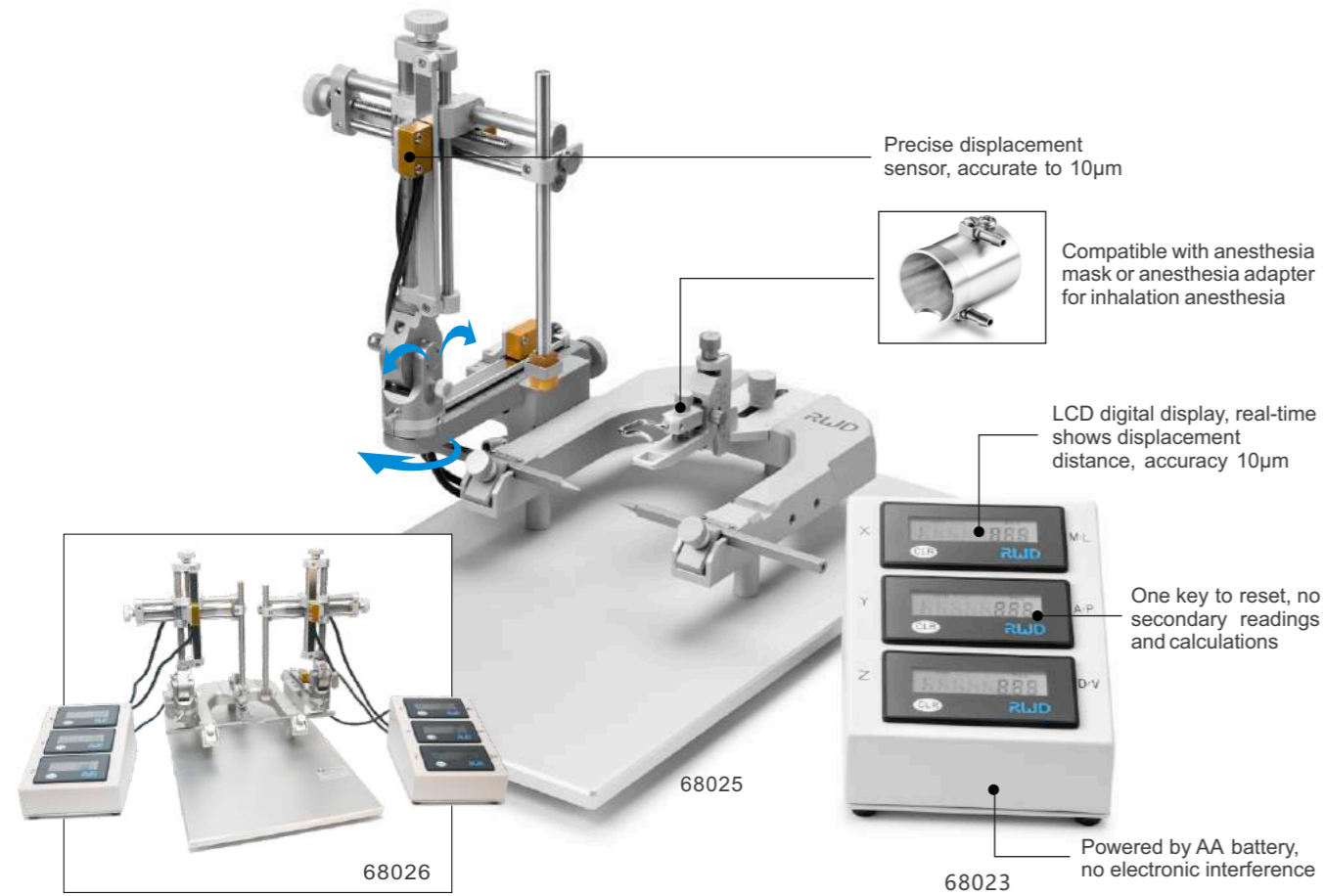
68001 and 68002 are complete sets of stereotaxic (see figure), both containing 68861N base plate, 68401 three-dimensional manipulator - left, 68021 rat adaptor, 68301 rat 18° ear bar, 68201 standard holder, and 68002 includes an extra 68402 three-dimensional manipulator - right.

**Order Information:**

Model	Product Description
68001	Stereotaxic for Rat, SGL M, 18 Deg
68002	Stereotaxic for Rat, Dual M, 18 Deg
68005	Stereotaxic for Rat, SGL M, 45 Deg
68006	Stereotaxic for Rat, Dual M, 45 Deg
68037	Stereotaxic for Mouse, SGL M, 68030 Adaptor Incl
68038	Stereotaxic for Mouse, Dual M, 68030 Adaptor Incl
68043	Stereotaxic for Mouse, SGL M, 68055 Adaptor, 60 Deg
68044	Stereotaxic for Mouse, Dual M, 68055 Adaptor, 60 Deg
68535	Stereotaxic for Mouse, SGL M, 68077 Adaptor, 60 Deg
68536	Stereotaxic for Rat, SGL M, 68078 Adaptor, 18 Deg
68861N	Stereotaxic Base Plate, Standard

## ▶ Desktop Digital Stereotaxic Instrument

Digital displacement display, higher accuracy, higher efficiency!



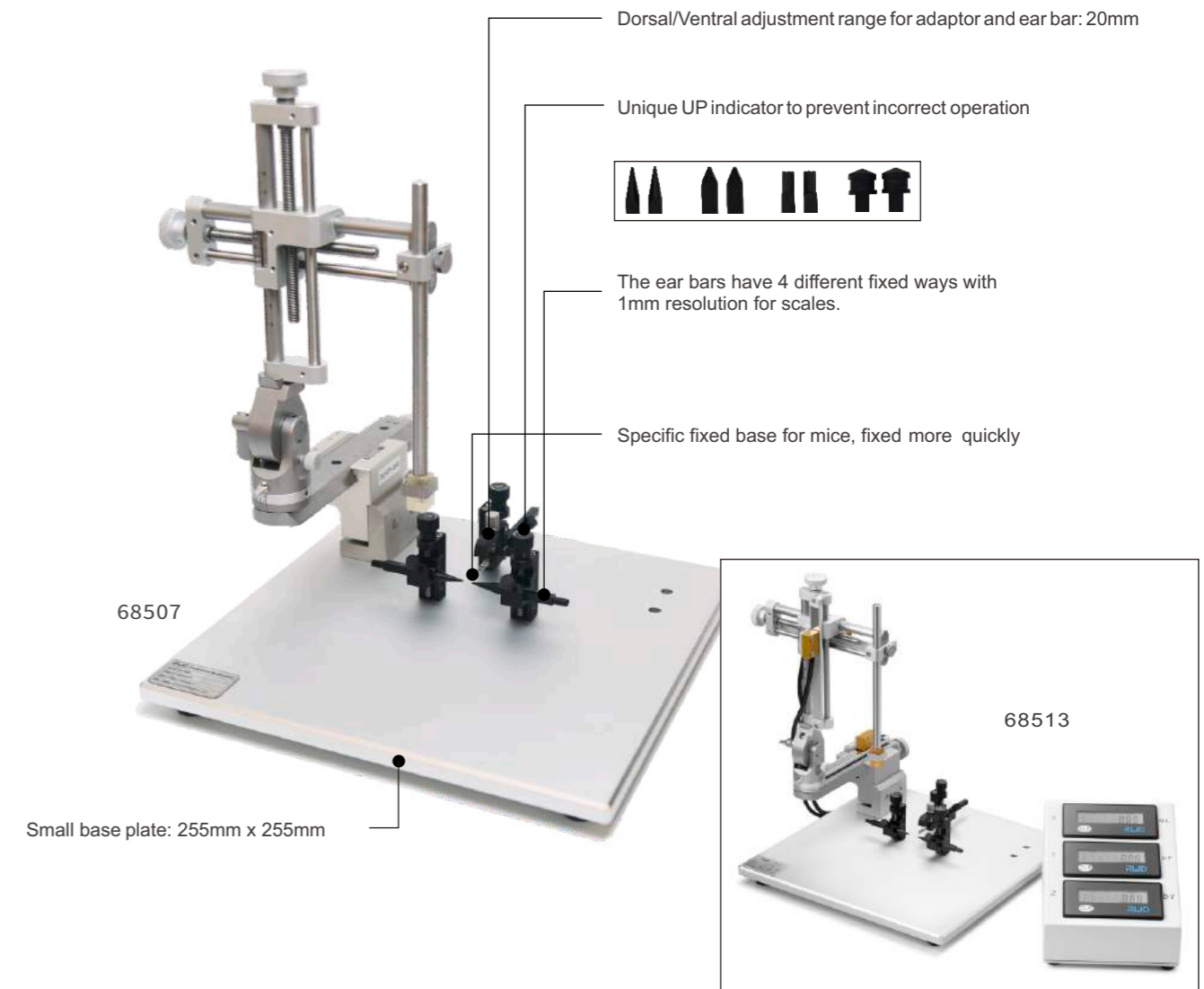
**Composition:**

68025 and 68026 are complete sets of stereotaxic (see figure), both containing 68861N base plate, 68409 3-Axis Digital Manipulator, Left-hand, 68021 rat adaptor, 68301 rat 18 ° ear bar, 68201 standard holder, 68026 includes an extra 68410 3-Axis Digital Manipulator, Right-hand.

**Order Information:**

Model	Product Description
68025	Stereotaxic for Rat, SGL M, Digital, 18 Deg
68026	Stereotaxic for Rat, Dual M, Digital, 18 Deg
68027	Stereotaxic for Rat, SGL M, Digital, 45 Deg
68028	Stereotaxic for Rat, Dual M, Digital, 45 Deg
68018	Stereotaxic for Mouse, SGL M, Digital, 68030 Adaptor Incl
68019	Stereotaxic for Mouse, Dual M, Digital, 68030 Adaptor Incl
68045	Stereotaxic for Mouse, SGL M, Digital, 68055 Adaptor, 60 Deg
68046	Stereotaxic for Mouse, Dual M, Digital, 68055 Adaptor, 60 Deg
68537	Stereotaxic for Mouse, SGL M, Digital, 68077 Adaptor, 60 Deg
68538	Stereotaxic for Rat, SGL M, Digital, 68078 Adaptor, 18 Deg
68861N	Stereotaxic Base Plate, Standard

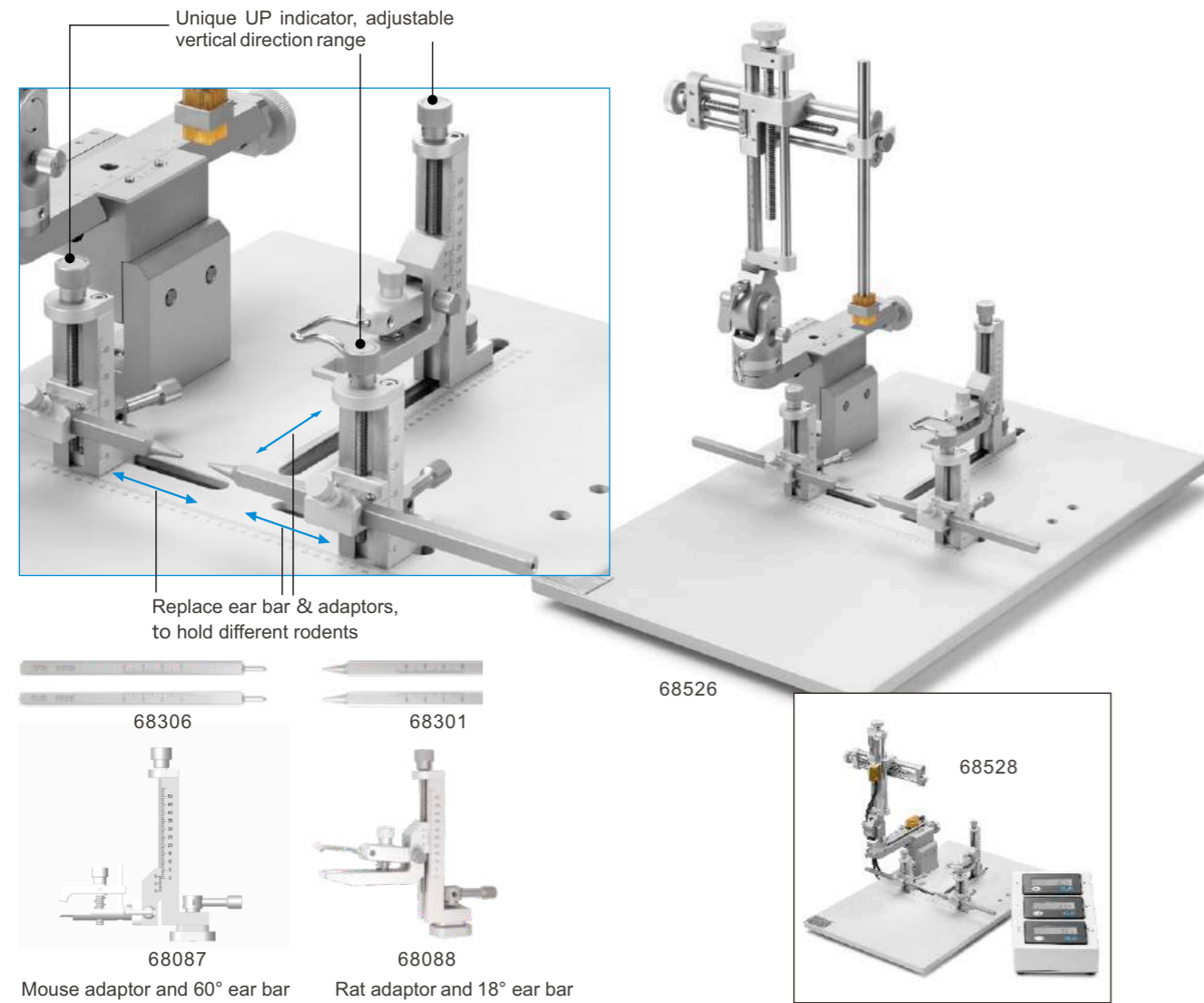
## ▶ Compact Mouse Stereotaxic Instrument



**Order Information:**

Model	Product Description
68507	Stereotaxic for Mouse, SGL M, Portable
68510	Stereotaxic for Mouse, Dual M, Portable
68513	Stereotaxic for Mouse, Digital and Portable, SGL M
68516	Stereotaxic for Mouse, Digital and Portable, Dual M

### ▶ Portable Rat & Mouse Stereotaxic Instrument



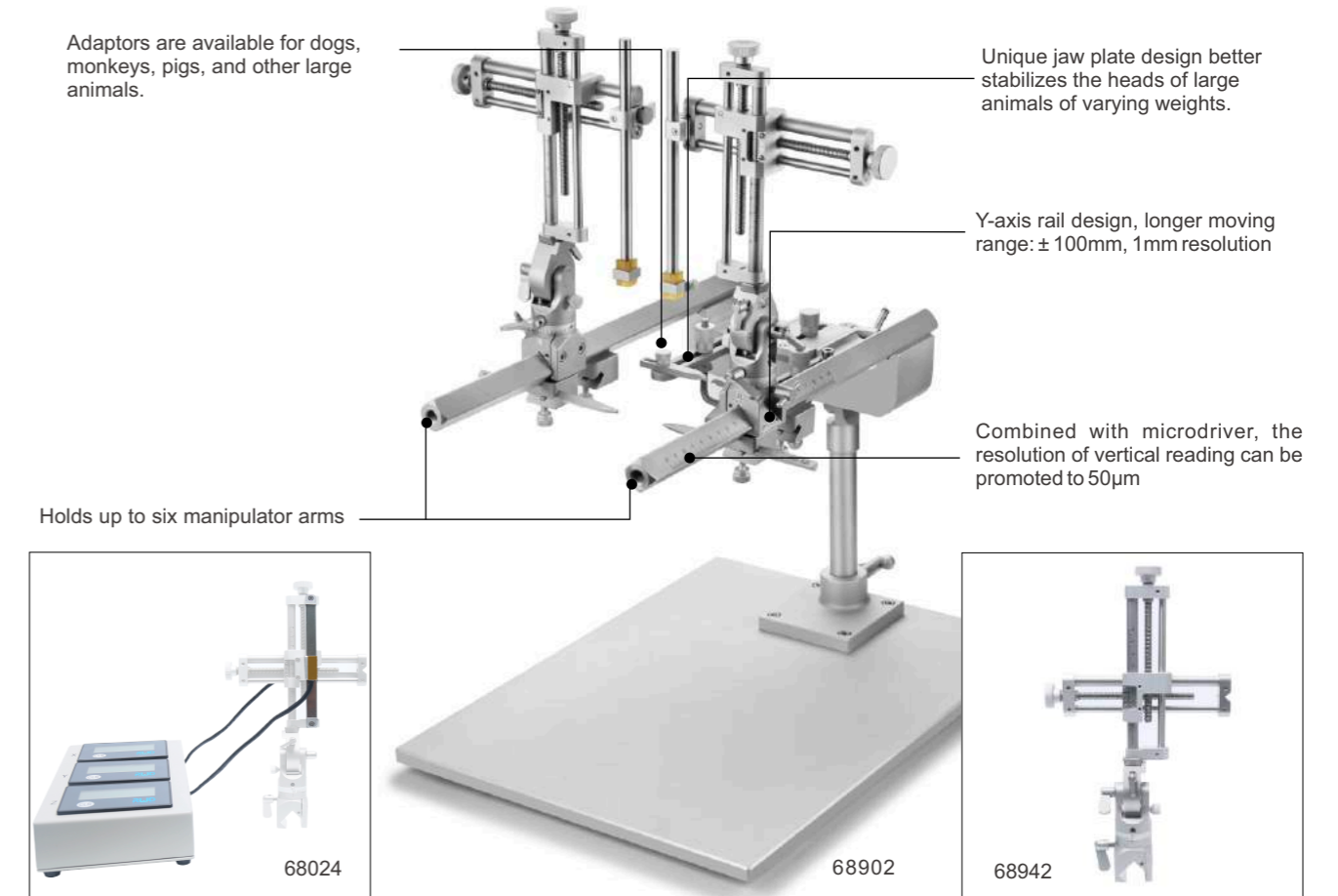
**Composition:**

68526 is a complete set stereotaxic configurations, containing 68867S base plate, 68401 three-dimensional manipulator - left, 68087 mouse adaptor and 68088 rat adaptor, 68301 rat 18° ear bars and 68306 mouse 60° ear bars, 68201 standard holder; Digital version 68528 adds digital display module.

**Order Information:**

Model	Product Description
68526	Stereotaxic for Rat and Mouse, SGL M, Portable
68527	Stereotaxic for Rat and Mouse, Dual M, Portable
68528	Stereotaxic for Rat and Mouse, SGL M, Digital and Portable
68529	Stereotaxic for Rat and Mouse, Dual M, Digital and Portable
68867S	Stereotaxic Base Plate for Rat and Mouse, Portable, SGL M
68867D	Stereotaxic Base Plate for Rat and Mouse, Portable, Dual M
68087	Mouse adaptor (Stereotaxic for Rat and Mouse )
68088	Rat adaptor (Stereotaxic for Rat and Mouse )

### ▶ Large Animal Stereotaxic Instrument



**Composition:**

68902 is a complete set of stereotaxic, containing 68868N base plate, 68941 two-dimensional manipulator - left, 68942 two-dimensional manipulator - right, 68081 dog/monkey adaptor, 68303 cat/ monkey 18° ear bar, 68201 standard holder; Digital version 68916 adds digital display module.

**Order Information:**

Model	Product Description
68901	Stereotaxic for Dog/Monkey, SGL M, 68081 Adaptor Incl
68902	Stereotaxic for Dog/Monkey, Dual M, 68081 Adaptor Incl
68911	Stereotaxic for Cat/Monkey, SGL M, 68041 Adaptor Incl
68912	Stereotaxic for Cat/Monkey, Dual M, 68041 Adaptor Incl
68916	Stereotaxic for Dog/Monkey, Digital, SGL M, 68081 Adaptor Incl
68917	Stereotaxic for Dog/Monkey, Digital, Dual M, 68081 Adaptor Incl
68920	Stereotaxic for Cat/Monkey, Digital, SGL M, 68041 Adaptor Incl
68921	Stereotaxic for Cat/Monkey, Digital, Dual M, 68041 Adaptor Incl
68868N	Stereotaxic Base Plate for Dog, Pig, Monkey etc
68941	2-axis Manip for Dog/Monkey Stereotaxic, Left Hand
68942	2-axis Manip for Dog/Monkey Stereotaxic, Right Hand
68944	2-axis Digital Manip for Dog/Monkey Stereotaxic, Left Hand
68945	2-axis Digital Manip for Dog/Monkey Stereotaxic, Right Hand

## Stereotaxic Instruments Accessories

### Electrode Holders

68201 Standard Probe Holder-Corner



V-groove design, widely used for syringe needles or electrodes with diameter 0.3mm-1.5mm.

68211 Cannula Holder



Compatible with stereotaxic instruments with dual manipulators. Holds electrodes or cannulas of 2.1mm to 5.0mm in diameter.

68210 Electrode Holder



Holder is specifically designed for electrophysiological experiments. Two electrodes, controlled individually, can be located very close to each other. Holds thin electrodes with diameter from 0.7mm to 2.5mm.

### Cannula Holders

68205 Cannula Holder



It's made of metal. Suitable for holding the single cannula or double cannula with the outer diameter of 3.5mm plastic.

68217 Cannula Holder



Suitable for holding the single cannula or double cannula with the outer diameter of 3.5mm plastic base.

68214/68215 Ceramic Ferrule Holder



Hold cannula or Ceramic Ferrule during implantation.

- Versions for Ø1.25 mm — 68214 Cannula or Ceramic Ferrule.
- Versions for Ø2.5 mm — 68215 Cannula or Ceramic Ferrule.

### Multi-function Holders

68202 Large Probe Holder



Lateral fixation, holds micro syringe needles, large diameter electrodes and flexible drill handles etc, V-groove design with 6mm-12mm diameters.

68218 Syringe Holder



Holder is applicable for micro-injection, which holds syringe and needle simultaneously, and the clamping of the syringe is more stable, the syringe holding range is 6mm to 12mm and needle's is 0.6mm to 1.5mm.

68605 Microdrill Holder

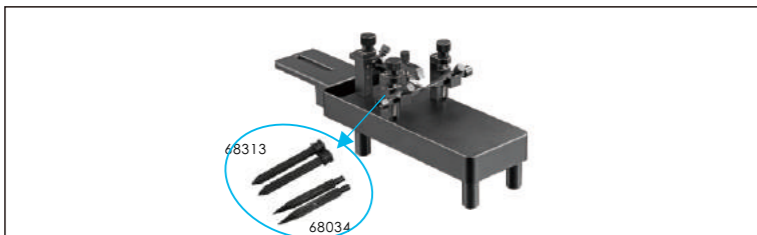


Holder secures the microdrill to stereotaxic instruments. Controls the depth of drilling by the manipulator. Easy and accurate operation protects brain tissue from damage caused by excessive drilling. Holds the microdrill with diameter about 14.5mm.

### Adaptors

#### Mouse Adaptors

68030 Mouse/Neonatal Rat Adaptor  
(with 18° ear bars 68034 and 45° ear bars 68313)



This adaptor can not only fix the mouse and neonatal rat head, but also avoid damage to the skull. Four kinds of earstick tips are available, the height of the earstick and earstick are adjustable, and the adjustment range is 20mm.

68055 Mouse Adaptor

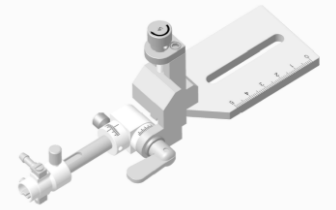


It holds the mouse head by a palate and incisor, and offers vertical regulation to make the head level or at certain angle. The Vertical adjustable range from +10mm to -20mm, with 100µm resolution; Horizontal adjustable range of 43.5mm; Horizontal rotatable range of 35°.

68057 Mouse Gas Anesthesia Head Holder

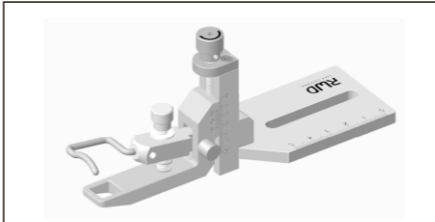
This model offers maximal adjustment for positioning the head. The adaptor can rotate the head to multi angle without blocking the anesthetic gas delivery.

- Vertical adjustable range: 30mm (+10mm~-20mm), with 100µm accuracy.
- Vertical rotatable range: 70° (-35°~+35°), with 5° accuracy.
- Horizontal rotatable range: 70° (-35°~+35°), with 5° accuracy.
- Horizontal adjustable range: 43.5mm
- Diameter of inlet/outlet of the mask: 2mm



### Rat Adaptors

68021 Rat Adaptor



It holds rat head firmly through incisor, nose clip and ear bars. This adaptor can be adjusted 30 mm vertically along dovetail slide with 100µm resolution and 50mm horizontally, which makes it applicable for rats of different weight.

68053 Rat Anesthesia Adaptor



This adaptor integrates the gas anesthesia mask function while hold the rat head firmly. The adaptor can rotate the head to multi angle without blocking the anesthetic gas delivery.

- Vertical adjustment range is 30mm (-20mm ~ + 10mm), with 100µm accuracy.
- Vertically rotatable range is 70°(-35° ~ + 35°), with 5° accuracy.
- Horizontal rotatable range is 70° (-35°~ + 35°), with 5° accuracy.
- Horizontal adjustment range is 43.5mm.

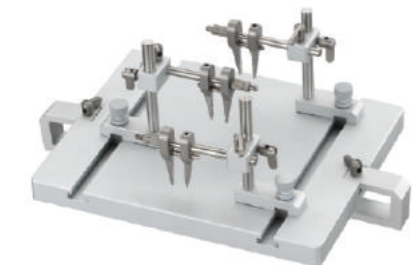
### Multi-function Adaptor

68091 Spinal Cord Adaptor for Rat & Mouse

The adaptor is ideal for spinal securing of rat and mouse. The base plate is 210mm(L) x 165mm(W) x 15mm(H), which can be attached to RWD 68000 series small animal stereotaxic instruments. There are 3 vertical bars and locking blocks, which can be easily disassembled through the T slots without wrench. The adjustment range of vertical bar is 56mm. The height of locking block can be easily adjusted by screw. This adaptor can be adjusted in Vertical/Lateral, Anterior/Posterior and Ventral/Dorsal directions. Standard accessories contain: Base plate, 3 vertical bars and locking blocks and spinal cord clamp (3 pairs).

#### Specifications:

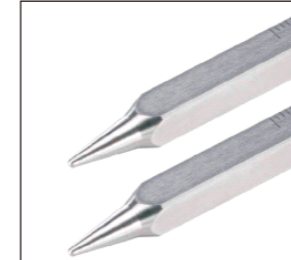
- Accurate and reliable positioning.
- Wide various components and accessories can be used in module.
- Simple, fast and effective clamping and locking.
- Compatible with small animal stereotaxic instruments.



### Ear Bars

RWD ear bar with the scale of 35mm, 1mm resolution, square 6.15mm

68301



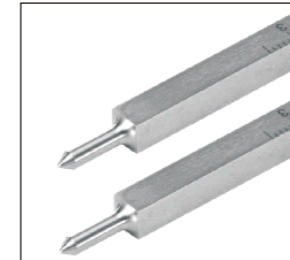
Ear Bars, Rat, 18 Deg. (0.8mm radius tip)

68302



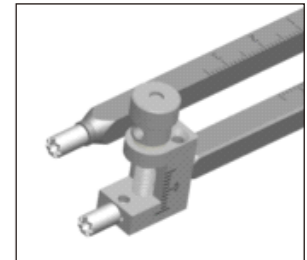
Ear Bars, Rat, 45 Deg. (for guinea pigs, prairie rats, birds, squirrel monkeys 0.8mm tip).

68306

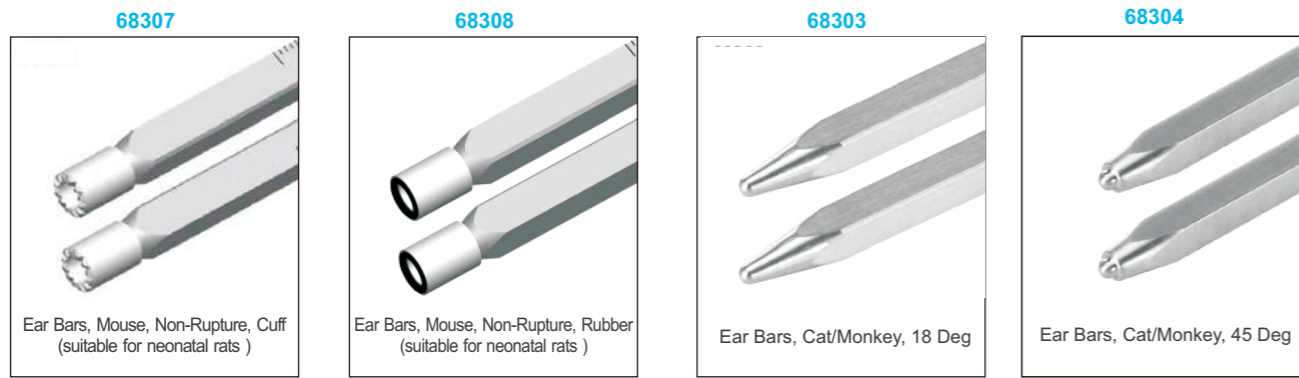


Ear Bars, Mouse, 60 Deg.

68314

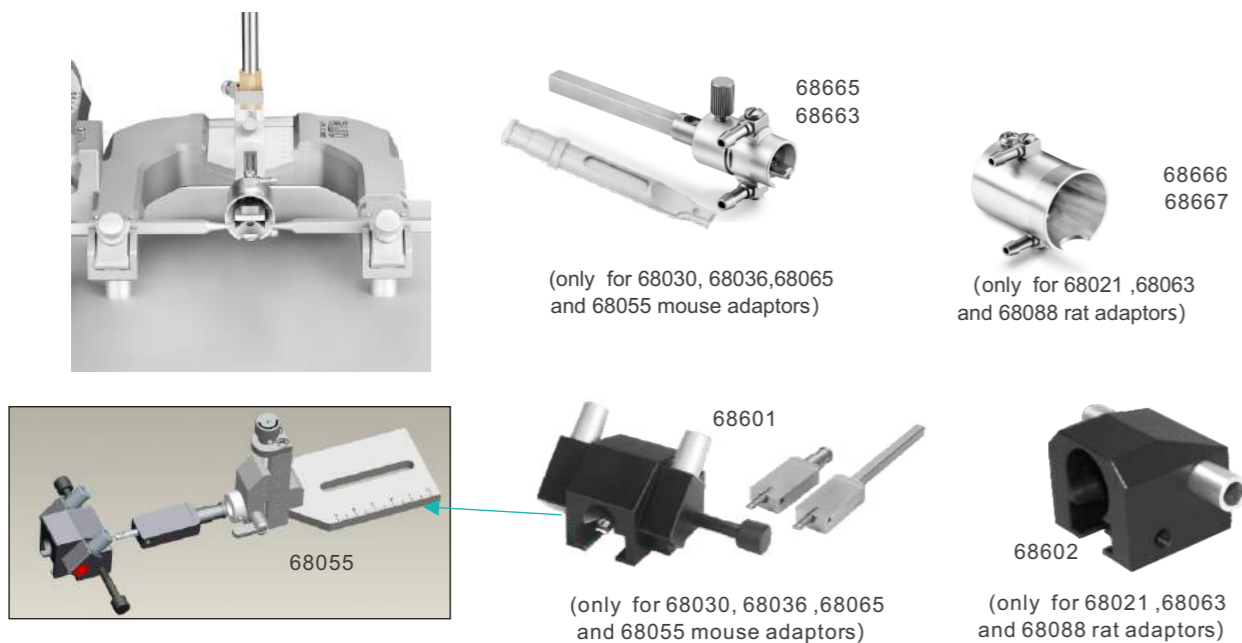


Mouse Ear Bars - height adjustable (tooth tip range: -5mm ~ +5mm).



### Stereotaxic Frame Nosecone Masks

- This type of anesthetic masks are specifically designed to fit most stereotaxic frame and deliver anesthetic gases with minimal exposure during surgery. They are locked onto the adaptor with the cone opening toward the open "U". The animal's teeth is placed over the incisor bar.
- Two kinds of Stereotaxic Frame Nosecone Masks are available: one is "passive" mask with collinear inlet and outlet, and the other one is "active" mask with separate (non-collinear) inlet and outlet on both sides. the "passive" mask is used with charcoal canister only, and the "active" mask can be used with evacuation apparatus.



#### Order Information:

Model	Product Description	Remarks
68601	Stereotaxic Anesthesia Mask Kit -mice or neonatal rats (<70g, Canister & Tubing included)	For Passive Scavenging
68602	Stereotaxic Anesthesia Mask Kit - rats (<300g, Canister & Tubing included)	
68663	Stereotaxic Anesthesia/Evacuation mask- mice or neonatal rats (<30g)	For Active Scavenging
68665	Stereotaxic Anesthesia/Evacuation mask- mice or neonatal rats (30~70g)	
68666	Stereotaxic Anesthesia/Evacuation mask- rats (<300g)	
68667	Stereotaxic Anesthesia/Evacuation mask- rats (>300g)	

## Precise Impactor

### 68099 II Precise Impactor

The 68099 II Precise Impactor is an instrument used for traumatic brain injury and spinal cord injury model. The system adopts pneumatic-electric control, which can precisely adjust the speed, depth and dwell time to achieve precise impact. Touch screen design, convenient and friendly operation. The zero method uses a sensor contact mechanism to automatically detect the zero interface, which is sensitive and efficient.



#### Features:

- Pneumatic-electric design, stable blow without shaking, to ensure the repeatability of the experiment;
- It is suitable for small animal brain and spinal cord injury models such as mice, rats, and guinea pigs;
- LCD touch screen, wide-angle visibility, convenient and friendly operation;
- Sound alarms and text message prompts improve the human-computer interaction between the equipment and the user, and reduce human errors in the operation process;
- The zero-contact method can automatically determine the zero interface to reduce human error;
- A variety of cylindrical flat-head head hammers with outer diameters of 1, 2, 3, 4 and 5mm, which can meet the needs of traumatic brain injury and spinal cord injury model;
- Speed calibration function to ensure the stability and repeatability of the experiment;
- Speed range is 0.5-5.6m/s, resolution 0.1m/s; depth range is 0.00-5.00mm, resolution 0.01mm; dwell time range is 0.00-5.00s, resolution 0.01s;
- The rotatable design ensures that the brain and spinal cord are hit vertically and improves the repeatability of the experiment.

#### Traumatic Brain Injury(TBI)

- Two kinds of brain adaptors for rats and mice are optional. The rotational adaptor can rotate left and right  $\pm 30^\circ$ , the height adjustment range of  $+10 \sim -20$ mm, and the precise rotational adaptor can rotate left and right  $\pm 30^\circ$ , swing up and down  $\pm 10^\circ$ , three-axis displacement 30mm;
- The base is movable, 0~116mm in X direction and 0~98mm in Y direction.

