

# **HUAYON**

## **2025** **Product Catalogue**

Quality Innovation Excellence Intelligence

Shenzhen Huayon Biotech Co., Ltd



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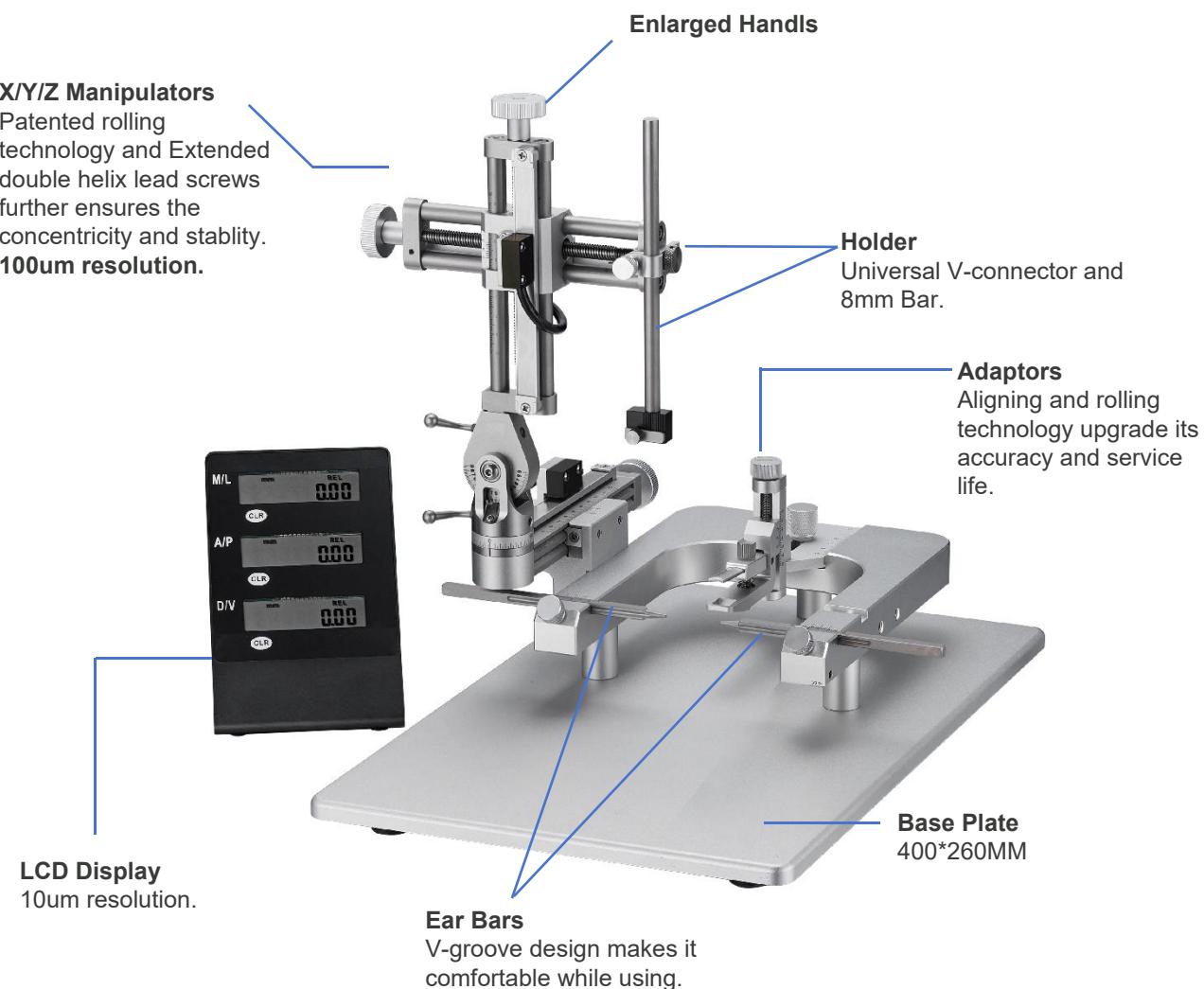
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## &gt;&gt;&gt; SU100 Stereotaxic

The stereotaxic apparatus is the key equipment of brain science research. It uses the marks on the surface of animal skull (such as bregma) as the basic reference point, determines the position of a neural structure (Lateral Ventricle, Corpus Striatum etc.) under the animal cerebral cortex through the directional movement of 3-axis manipulators, and further carries out operations such as injection, stimulation, destruction, signal recording etc. It is also the basic equipment for brain cognition and brain function research, and usually associated with equipment including optogenetics, two-photon imaging, optical fiber recording, electrophysiology and other systems.

The patented stereotaxic by HUAYON own multiple innovations compared with that in the market, which greatly improves the accuracy, stability, service life and use comfort of the instrument.



- Most popular U-type frame design.
- Patented rolling technology towards manipulators and adaptors ensures long-term stability and accuracy.
- Extended double helix lead screws further ensures the concentricity and stability.
- 80mm of medial-lateral, anterior-posterior and dorsal-ventral travel.
- Absolute lock at 90° for vertical injection and also allows tilting for angle injection.
- LCD digital display offers 10 micron resolution in all three directions and real-time zeroing function for fast targeting the specific coordinates in the brain for injection, implantation, etc. Calculation of distance measurements is thus no longer necessary and then save more valuable time and improve accuracy.
- Adaptors and/or ear bars available for mice, neonatal rats, birds and most other species.
- Multiple holders with universal V-connector and 8mm bar available for different uses.
- Base plate 400\*260MM.

## Neurosurgery Equipment



Cat no. 30-1030



Cat no. 30-1010



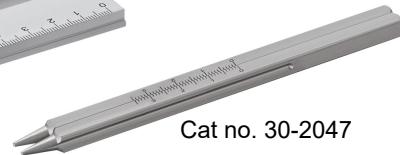
Cat no. 30-1020



Cat no. 30-1040



Cat no. 30-2021



Cat no. 30-2047

No.	Cat no.	Description
1	30-1030	Stereotaxic for rat, Digital 0.01MM, SGL M.
2	30-1040	Stereotaxic for rat, Digital 0.01MM, Dual M.
3	30-1010	Stereotaxic for rat, Basic 0.1MM, SGL M.
4	30-1020	Stereotaxic for rat, Basic 0.1MM, Dual M.



Cat no. 30-1070



Cat no. 30-1080



Cat no. 30-1050



Cat no. 30-2022



Cat no. 30-2048

No.	Cat no.	Description
1	30-1070	Stereotaxic for mouse, Digital 0.01MM, SGL M.
2	30-1080	Stereotaxic for mouse, Digital 0.01MM, Dual M.
3	30-1050	Stereotaxic for mouse, Basic 0.1MM, SGL M.
4	30-1060	Stereotaxic for mouse, Basic 0.1MM, Dual M.



Cat no. 30-1060

## Neurosurgery Equipment



Cat no. 30-1130



Cat no. 30-1110



Cat no. 30-1120



Cat no. 30-1140



Cat no. 30-2031

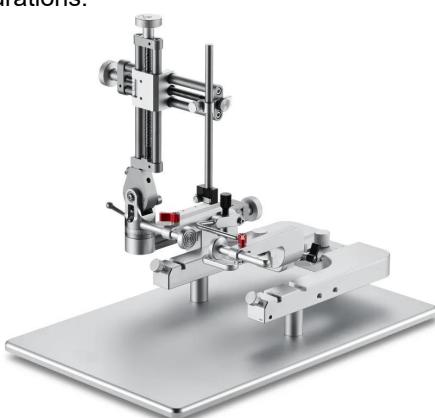
No.	Cat no.	Description
1	30-1130	Stereotaxic for mouse, Digital 0.01MM, SGL M.
2	30-1140	Stereotaxic for mouse, Digital 0.01MM, Dual M.
3	30-1110	Stereotaxic for mouse, Basic 0.1MM, SGL M.
4	30-1120	Stereotaxic for mouse, Basic 0.1MM, Dual M.

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## SU100 Rabbit, Cat, Marmoset Stereotaxic

Based on the U-frame stereotaxic, you can select the "cat-monkey (marmoset) or rabbit adaptor" and together with one-pair ear bars to perform three-dimensional brain positioning.

LCD display with 10um resolution and dual manipulators are also optional to upgrade the following basic configurations.



Cat no. 30-1141

Cat no. 30-2023  
Cat/Marmoset Adaptor

No.	Cat no.	Description
1	30-1141	Rabbit Stereotaxic, SGL M., 0.1MM
2	30-1142	Rabbit Stereotaxic, Dual M., 0.1MM
3	30-1143	Rabbit Stereotaxic, SGL M., Digital 0.01MM
4	30-1144	Rabbit Stereotaxic, Dual M., Digital 0.01MM

>>> **SV100 Stereotaxic**

The prominent feature of this locator is an open base design that allows the installation of different rat and mouse head adapters (nose clips) and ear rods, the position of nose clip and ear bar can be adjusted according to the experimental objects, operating habits and the third party equipment (such as two-photon microscope), so as to meet the wider experimental needs. No U-frame maximizes operating space.

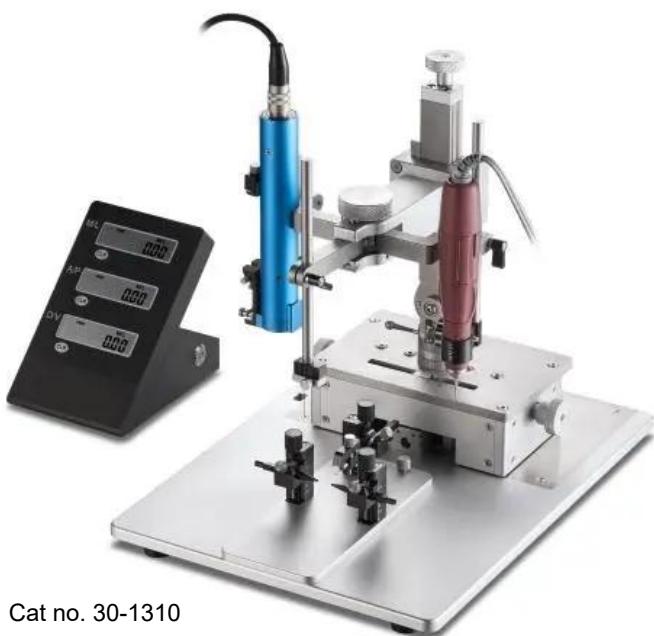
32mm travel for the mouth bar post and 40mm travel for ear bar post each.

Standard configurations includes rat and mouse nose clips, rat 18° ear bar, mouse 60° ear bars and one pair short 18° ear bars for mouse.



Cat no. 30-1250

No.	Cat no.	Description
1	30-1230	Rat and Mouse Stereotaxic, SGL.M, 0.1MM
2	30-1240	Rat and Mouse Stereotaxic, Dual.M, 0.1MM
3	30-1250	Rat and Mouse Stereotaxic, SGL.M, Digital 0.01MM
4	30-1260	Rat and Mouse Stereotaxic, Dual.M, Digital 0.01MM

>>> **ST100 Stereotaxic**

Cat no. 30-1310

This type of stereotaxic device, deriving from the protocol of experiments (sequentially positioning → drilling → injecting), has a new breakthrough in design, and its special highlights shows that three clamping arms are firmly equipped onto the Z-manipulator (85mm travel) at the same time, that allows simultaneously holding positioning needles, skull drills, and injection pumps. The three clamping arms can rotate to switch their positions back and forth. For different experimental steps towards the same animal or different animals, only one clamping operation is required, no need to disassemble and assemble those tools repeatedly, that greatly save more time and improve your working efficiency.

X/Y-manipulator with 45mm travel each are equipped onto the base plate, making the whole structure and travel operation more stable and convenient, and also provide one wider operation space for your experiments.

For rat experiments, both the rat head fixator and base plate are customized as your requirements.

No.	Cat no.	Description
1	30-1300	Mouse Stereotaxic, SGL M., Basic 0.1MM
2	30-1310	Mouse Stereotaxic, SGL M., Digital 0.01MM

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## SX100 Stereotaxic



This type of SX100 stereotaxic for rat and mouse (also known as the "stereotaxic alignment system") provides the excellent ability to finely level the head in three-dimensional space before exploring brain experiments. That is, after the head is fixed by ear bars and nose clips (inserting ear canals, locking incisors and pressing nose bridges), there is no need to repeatedly lift and fall the ear bars and nose clips. Instead, the entire head together with the animal body is finely leveled through a "multi-dimensional adjustment mechanism" that performs sagittal tilt (dorsal/ventral), coronal tilt (medial-lateral), anterior/posterior and midline alignment adjustments. The significant advantages of this design shows that:

(1) the head only needs to be fixed once, without repeatedly toss about the animal head, that avoiding interference with the animal. (2) Reduce the time-consuming operation of lifting and falling ear bars and nose clips, significantly improving the efficiency of the entire experiment. (3) Multi-dimensional leveling is a fine adjustment that is more precise than the coarse adjustment method of direct pushing and pulling.

### Technical Features

1. The head is leveled from left to right (coronal plane), from front to back (sagittal plane), and the center line is centered from left to right (sagittal plane), all of which are knob fine tuning and real-time self-locking.
2. The height of the ear bar and nose clip is fixed, and the nose clip can move from forward to backward. A nose clip with an anesthesia mask is optionally installed.
3. The nose clip post with double-use design allows easily change rat or mouse nose clip by only rotating 180° clockwise or counterclockwise in the vertical direction.
4. The animal body is equipped with non-metallic trays that can hold insulation blankets to reduce rapid heat loss and ensure good insulation effect.
5. The ear bar post allows installing the "rat and mouse spinal cord clip (Cat no.30-2017)" for spinal cord experiments such as vertical and oblique injection.
6. No "towering" mechanism in front of the animal's head, that providing a wide field of view and facilitating other related experiments.
7. Optionally install dual manipulators and LCD display with 10um resolution.

### Order Information

No.	Cat no.	Description
1	30-1410	Rat and Mouse Stereotaxic, SGL.M, 0.1MM
2	30-1420	Rat and Mouse Stereotaxic, Dual M, 0.1MM
3	30-1430	Rat and Mouse Stereotaxic, SGL.M, Digital 0.01MM
4	30-1440	Rat and Mouse Stereotaxic, Dual.M, Digital 0.01MM

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## SM300X Just for Mouse Stereotaxic

This type of Just for mouse stereotaxic (also known as the "stereotaxic alignment system") has the similar excellent ability as SX100 stereotaxic to finely level the head in three-dimensional space before exploring brain experiments. That is, after the head is fixed by ear bars and nose clips (inserting ear canals, locking incisors and pressing nose bridges), there is no need to repeatedly lift and fall the ear bars and nose clips. Instead, the entire head together with the animal body is finely leveled through a "multi-dimensional adjustment mechanism" that performs sagittal tilt (dorsal/ventral), coronal tilt (medial-lateral). The difference is that nose clip further allows to fine "up and down" and "foreward and backward" movement in two directions. Additionally, the rotary mouse adaptor (Cat no. 30-2038) could be easily installed onto your existing U-frame stereotaxic.



Cat no. 30-1210



Cat no. 30-2038

No.	Cat no.	Description
1	30-1190	Just for Mouse Stereotaxic, SGL M., 0.1MM
2	30-1200	Just for Mouse Stereotaxic, Dual M., 0.1MM
3	30-1210	Just for Mouse Stereotaxic, SGL M., Digital 0.01MM
4	30-1220	Just for Mouse Stereotaxic, Dual M., Digital 0.01MM

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## SM300 Just for Mouse Stereotaxic

This type of Just for Mouse stereotaxic Instrument, specifically designed for use with knock-out and transgenic mice and other small rodents, offers several competitive advantages such as small size, light ear bars and mouse bars etc. Precision alignment ensures accurate placement of electrodes, micropipettes, cannula, and other devices. LCD display with 10um resolution and zeroing function allows the user to target specific coordinates in the brain for injection, implantation, etc.



Cat no. 30-1170



Cat no. 30-1150



Cat no. 30-1060



Cat no. 30-1180

No.	Cat no.	Description
1	30-1170	Just for mouse stereotaxic, Digital 0.01MM, SGL M.
2	30-1180	Just for mouse stereotaxic, Digital 0.01MM, Dual M.
3	30-1150	Just for mouse stereotaxic, Basic 0.1MM, SGL M.
4	30-1160	Just for mouse stereotaxic, Basic 0.1MM, Dual M.

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## SCM300 Conscious Mouse Stereotaxic

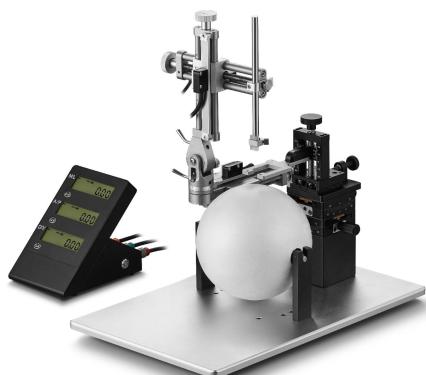


Cat no. 30-1351

At present, optogenetics, electrophysiology, microscopic imaging and other technologies have been widely used in the experiment of studying brain function. However, due to the limitations of technical requirements, *in vivo* research is mainly carried out on anesthetized animals, which can not simulate a real or natural environment. Therefore, how to study awaking animals (i.e. free moving animals) has become a scientific research difficulty. The SCM300 series stereotaxic for conscious mice allows to place conscious mice in several behavioral experimental scenes while carrying out experiments such as optogenetics, electrophysiology or microscopic imaging after skull fixation, precise location of target brain, which helps scientific researchers more precisely detect the function of mouse neurons and understand the complexity and diversity of brain information transmission. Understanding the function of brain nuclei and the pathogenesis of some brain related diseases (such as Alzheimer's disease and epilepsy) will improve the guiding significance for the prevention and treatment of these related neurological diseases in human medicine.

No.	Cat no.	Description
1	30-1351	Conscious mouse stereotaxic, Digital, SGL M., [Disk-type]
2	30-1352	Conscious mouse stereotaxic, Digital, SGL M., [Rolling ball-type]
3	30-1353	Conscious mouse stereotaxic, Digital, SGL M., [Rolling wheel-type]
4	30-1354	Conscious mouse stereotaxic, Digital, SGL M., [Rolling drum-type]
5	30-2091	Stereotaxic accessories, only 3-piece optional (disk, ball, wheel and drum)
6	30-2092	Customized head fixing plate, pk of 10.

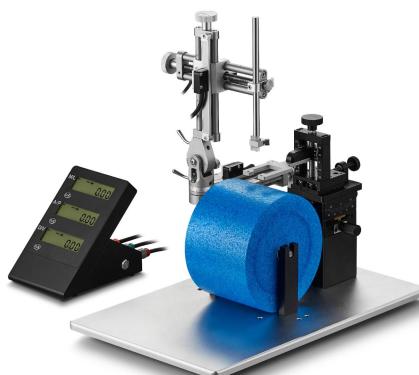
- ✓ Two photon microscope imaging.
- ✓ Patch clamp recording.
- ✓ Photogenetics research.
- ✓ Endogenous optical imaging.
- ✓ Cyclic voltammetry.
- ✓ Research on ion sensing.
- ✓ Microdialysis analysis.
- ✓ Multichannel silicon electrode recording.



Cat no. 30-1352



Cat no. 30-1353



Cat no. 30-1354

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## SLA500 Large Animal Stereotaxic

Model SLA500 Large Parallel Rail Stereotaxic Instrument, the most versatile stereotaxic instrument, is modular designed for large animals but can be used on almost any laboratory animals when used with a wide variety of animal adaptors. Up to four manipulators may be conveniently positioned on the two parallel rails for several tools or probes independently positioned in one animal.

Multiple patented technologies are developed that make the instrument having high performance of accurate positioning, smooth movement, firmness and operation comfort.

The movement of Y-axis operating arm is based on the rolling principle, which is similar to the rolling forward of the train wheel on the rail, reducing the friction between the two pieces of metals, which greatly reduces the rapid abrasion caused by the direct friction between metals, and accordingly maintains long-term stability, prolonging the service life, labor-saving operation and comfortable hand feeling.



Cat no. 30-1321

The design of X-Z axis operating arm follows the structure of small animal stereotaxic apparatus (please see the introduction of small animal stereotaxic), which has the high-quality characteristics of easy and stable operation, firmness and durability. The tilting and angling universal joints are also reserved to gain access to the side or underside of the animal's head.

LCD display with 10um resolution may be installed onto the 3-axis operating arm. No need A/P Microdrive.

The adaptor could be replaced easily, and the second and third ear bar posts are for matching to the small adaptors towards cat, monkey, rabbit and rat etc.

The two-parallel rail frame assembles Universal Swivel Stand which allows to fast adjust the "up and down" height and to position the head by sagitally tilting (dorsal/ventral) and coronally tilting (medial-lateral).

No.	Cat no.	Description
1	30-1321	Large Animal Stereotaxic, SGL M., Basic 0.1MM
2	30-1322	Large Animal Stereotaxic, Dual M., Basic 0.1MM
3	30-1323	Large Animal Stereotaxic, Three M., Basic 0.1MM
4	30-1324	Large Animal Stereotaxic, Four M., Basic 0.1MM
5	30-1325	Large Animal Stereotaxic, SGL M., Digital 0.01MM
6	30-1326	Large Animal Stereotaxic, Dual M., Digital 0.01MM
7	30-1327	Large Animal Stereotaxic, Three M., Digital 0.01MM
8	30-1328	Large Animal Stereotaxic, Four M., Digital 0.01MM

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## Mouse Adaptors



Cat no. 30-2031



Cat no. 30-2022



Cat no. 30-2036

Use with Water Recirculating Pump.



Cat no. 30-2025

Level the whole head by adjusting the tilt angle in coronal and sagittal directions, use with gas anesthesia system.



Level the whole head by adjusting the tilt angle in coronal direction only, use with gas anesthesia system.



Cat no. 30-2037

Level the whole head by finely adjusting the tilt angle in coronal and sagittal directions. .



Cat no. 30-2048

Mouse Ear Bar, 60° tips.

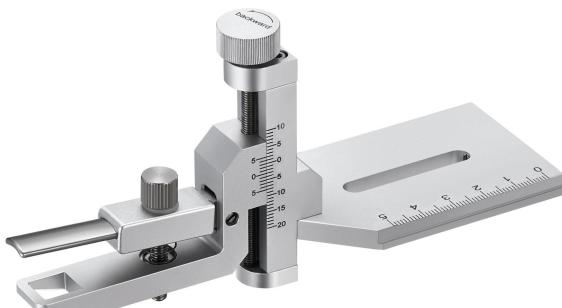


Cat no. 30-2055

Mouse Ear Bar Adaptor, 60° tips.



Universal Mouse Nose Clip, 5MM Bar.

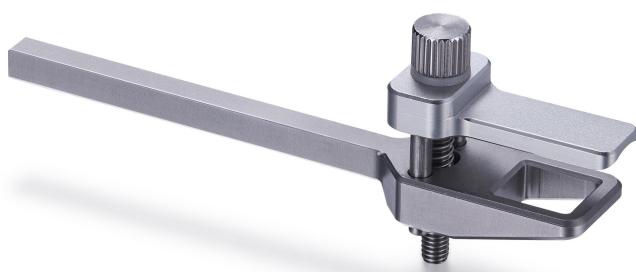
**>>> Rat Adaptors**

Cat no. 30-2021



Cat no. 30-2047

Rat Ear Bar, 18° tips.



Cat no. 30-2050

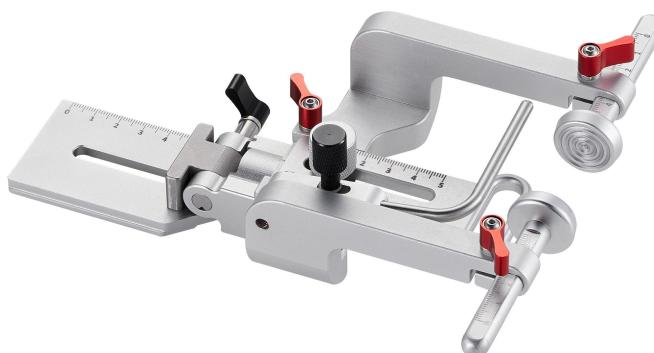
Rat Nose Clip, 5MM Bar.

Use with SV100 and SX100 Stereotaxic.

**>>> Cat/Marmoset, Rabbit Adaptors**

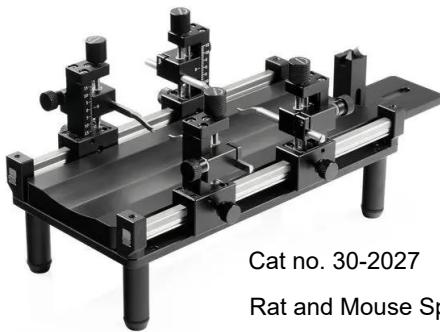
Cat no. 30-2023

Cat/Marmoset Adaptor



Cat no. 30-2028

Rabbit Adaptor

**>>> Spinal Cord Adaptors/Fixators/Clips**

Cat no. 30-2027

Rat and Mouse Spinal Cord Adaptor



Cat no. 30-2017

Rat and Mouse Spinal Cord Clip.  
6MM Bar.

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## Holders



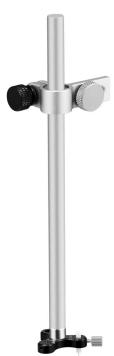
Cat no. 30-2072

Microdrill Holder, 18.5MM  
Use with Stereotaxic.

Optional holders for other sizes of  
Microdrill Handles, please contact us.



Cat no. 30-2083  
Manual Stereotaxic Injector for 1.2MM  
Capillary Glass, 25MM Travel, 0.01mm  
Resolution.



Cat no. 30-2069

3 in 1 Cannula and Ceramic  
Ferrule Holder, 1.25MM,  
2.5MM and 3.5MM.



Cat no. 30-2071

Glass Syringe Holder,  
φ6.5-13MM, 25MM Travel,  
0.01 Resolution.



Cat no. 30-2067

Glass Syringe Holder,  
φ6.5-13MM



Cannula and Ceramic  
Ferrule Holder

Cat no. 30-2076, 1.25MM  
Cat no. 30-2077, 2.5MM  
Cat no. 30-2078, 3.5MM



Cat no. 30-2079

Dual Electrode Holder  
φ0.1-1MM



Cat no. 30-2073

Dual Electrode Holder  
φ1.5-3MM, Space 0.5-40MM



Cat no. 30-2075

Fiber Collimator Holder  
φ32MM



Cat no. 30-2070

Standard Electrode Holder  
φ0.25-2MM

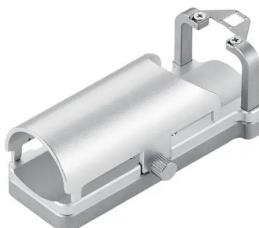
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## Conscious Animal Head Fixators

This ergonomic fixator with small size is an ideal tool for awake mouse to do in-vivo two-photon imaging experiments, OCT, among other techniques.

After fixing the mouse head with a headplate (Cat no. 30-3101) to the bracket, the body was also "fixed" as your protocol to keep the mouse quiet and comfortable.

In addition, you can also choose the model (Cat no. 30-2102) with a two-dimensional rotational regulator at the bottom to adjust the angle in both coronal and sagittal planes and achieve a wider range of research.



Cat no. 30-2101



Cat no. 30-2102



Cat no. 30-2108



Cat no. 30-2104

We provide two types of belt treadmill according to the driving principles, one is freely or actively driven by animal (Cat no. 30-2108) to let the animal walk normally on the treadmill, and the other is passively driven by motor (Cat no. 30-2104) to improve training efficiency.

A head fixation system has been equipped onto the treadmill and lets you to adjust its height to optimize animal comfort and relieve the pressure on the spine and neck based on the age and size of the mouse. Also, the belt could be angle of pitch inclined (front-back) and the belt speed could be translation adjusted for the motor-driven version.



Cat no. 30-2103



Cat no. 30-2105

Similar to the belt and disk treadmill for awake mouse, we also provide another two types of fixators, ball and wheel, that could be easily replaced by yourself and positioned in the front-back direction.

Also, the height of the headplate could be adjusted to matching to the ball or wheel and to relieve the animal pressure.

The diameter of ball and wheel is 150mm each.

The consumable headplates for the above fixators (Cat no. 30-2107 not included) may be customized according to your experiments, including material, window shape, size, and whether to install cranial window glass etc.



Cat no. 30-3101

This economic fixator lets the awake animal to be hanged vertically. The headplate secured on the head is equipped with the cross block by 12mm rods. A 200\*150mm metric breadboard (M6 taps) comes as the standard base to make the whole device very stable for your experiments.



Cat no. 30-2107

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## Anesthetized Animal Head Fixators



Cat no. 18-7215



Cat no. 18-7216

The two economical head fixators are specially designed for anesthetized rats or mouse. The height of the ear bars is fixed, but the head level adjustment can be achieved by moving the nose clip up and down. Optional stereotaxic masks can replace the nose clip to use with any gas anesthesia system.

18° ear bar with blunt tips is included.



Cat no. 30-2121



Cat no. 30-2124

This type of two head fixators are suitable for surgical operations and observation experiments on anesthetized rat or mouse under a microscope. In addition, we could provide MRI compatible version for use in MRI environments.

The height of the ear bar and nose clip on the micro U-type frame, as well as their relative height position, are basically fixed according to the brain atlas. When the head is fixed, the skull is basically horizontal, and only slightly rotate the U-type frame to conduct horizontal or angled experiments.

The small U-shaped bracket together with ear bar and nose clip may be adjusted by rotating 360° horizontally, 360° vertically, and angle of pitch, and moving up and down.

Gas anesthesia masks can be optionally selected to replace the nose clips and maintain anesthesia with any gas anesthesia system.

The standard heavy base further increases the stability of the entire fixators that allows to directly use on experimental table or vibration Isolation table.



Cat no. 30-2123

This rabbit head fixator is exclusively designed to hold the animal head by means of zygoma clamps, adjustable tooth bar and nose clamp. Also, rotational angle of pitch adjustment features are included to allow positioning the head in both coronal and sagittal planes.

One open space above the base plate for different sizes of animals.



Cat no. 30-2125

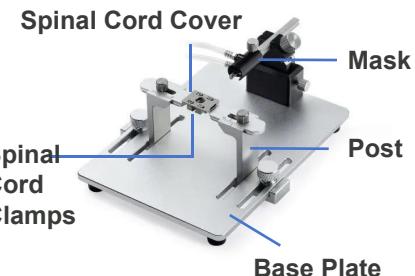
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## Conscious Mouse Spinal Cord Fixators

This fixator is exclusively designed for spinal cord fixation in the anesthetized state and then two-photon observation or imaging experiments in the awake state.

Several spinal accessories have been included. Base plate, posts, one pair of spinal cord clamps, spinal cord cover with window and one stereotaxic mask.

The spinal cord cover as consumables could be customized as your requirements.

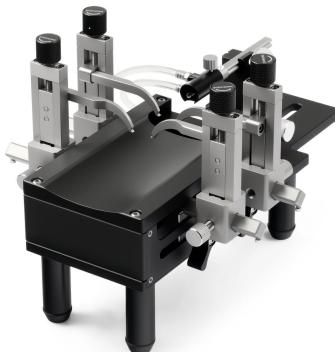


Cat no. 30-2140

Conscious Mouse Spinal Cord Fixator

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## Rat and Mouse Spinal Cord Adaptors



Cat no. 30-2026

Mouse Spinal Cord Adaptor



Cat no. 30-2027

Rat and Mouse Spinal Cord Adaptor

This Adaptor is exclusively designed to facilitate manual manipulation of spinal cord forks in order to safely and gently clamp the rat or mouse spinal cord. Four sets of assemblies including post and fork each are equipped onto the rails on both sides. The posts could be smoothly moved along the rail and locked by thumb screws any time, and the forks could be finely raised or lowered by leading screws separately.

One stereotaxic mask is optional to easily install and used with any gas anesthesia system.

The base plate for the body is made of plastic material that allows to place the animal directly or heating blanket. This adaptor could be used with any U-type frame or similar stereotaxic instruments, or our BSCI300 Impactor.

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## Rat and Mouse Spinal Cord Clips



This pair of economic spinal cord clamps is used with any U-frame or similar stereotaxic instruments and being installed in the position of 6mm ear bars.

It is especially suitable for injection, injury, ephys signal record experiments while used with syringe pump, impactor, ephys device etc.

Cat no. 30-2017

Rat and Mouse Spinal Cord Clip.  
6MM Bar.

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## BSCI300 Precision Impactor



The BSCI300 Precision impactor is designed to induce traumatic brain injury (TBI) through controlled cortical impact modeling in small and medium sized animals such as mouse, rat, cat, rabbits etc. The advanced equipment uses pneumatic electric control to accurately regulate the strike speed, depth, dwell time and force by the tip, and allows researchers to achieve precise strikes with excellent accuracy and repeatability.

The control method adopts touch screen control without software to install. It can be turned on with one click and operated step by step. The zero calibration method adopts a sensor contact mechanism to automatically detect and identify the zero interface, which is sensitive and efficient, and then reducing the error of judgment.

Stereotaxic Impactor by HUAYON also allows for customization of the tip size, geometry, and position to accommodate different species. Together, these features enable researchers to address multiple histopathological and functional questions related to brain injury, making it an indispensable tool in neurotrauma research.

**Hardware:**

- (1) A cylinder, servo motor, electromagnetic valve as the core elements for the striking speed, depth, start/stop control, that greatly improve the accuracy, repeatability.
- (2) 4.3-inch touch screen control, multiple confirmation methods are required while following the steps to reduce misoperation.
- (3) Using capacitive touch method for contact zeroing to reduce errors.
- (4) Strike speed calibration, output the set strike speed and actual strike speed at the end of the test.
- (5) The head and spinal cord adaptors with or without gas anesthesia masks could be flexibly switched.

**Software:**

- (1) Having the functions of startup zero position and speed calibration, and startup operation prompts.
- (2) Experimental parameters are automatically retained after the experiment ends.
- (3) Speed and pressure striking modes are included. The speed striking mode is used to strike by setting the movement speed of the cylinder (including the telescopic rod), while the air pressure striking mode is used to strike by setting the air pressure required when the telescopic rod of the cylinder extends.
- (4) The speed setting range is 0.5-5.6m/s, with an accuracy of  $\pm 0.1$ m/s (when the speed is below 3m/s); The pressure setting range is 0.03-0.35Mpa, with an accuracy of  $\pm 0.01$ Mpa.
- (5) The range of strike depth setting is 0-5mm, with an accuracy of  $\pm 1$   $\mu$ m.
- (6) The range of dwell time setting is 0-5s, with an accuracy of  $\pm 0.01$ s.
- (7) Zero face calibration function: When the striking head comes into contact with the experimental object, the buzzer prompts whether it is in contact.
- (8) There are two ways for moving the striking rod to set the striking depth, quick and fine adjustment. The former allows the striking rod to move quickly and the later to finely move by 10um per step.
- (4) At the end of the experiment, the experimental data will be displayed: comparison between the set values and actual values of impact speed/pressure, impact depth, and dwell time.
- (5) Experimental log: You can view the replay of nearly 50 experimental data, including parameters such as impact speed/pressure, impact depth, dwell time, and experimental time.

**\*\*\*Order Information\*\*\***

The standard configurations include: Precison Impactor, four sizes of Striking Tips 1.2mm, 2.5mm, 3mm and 5mm,  $\varnothing 8$  PU Tubings and Tool Kits.

Air Compressor, adaptors and customized striking tips are optionally purchased.

No.	Cat no.	Description
1	22-0020	Precison Impactor
2	30-2024	Rat Anesthesia Adaptor, Coronal and D/V Tilt, G0
3	30-2025	Mouse Anesthesia Adaptor, Coronal and D/V Tilt, G0
4	30-2027	Rat and Mouse Spinal Cord Adaptor
5	23-0000	Air Compressor

## &gt;&gt;&gt; Free-Falling Gravity Impactor

This economic device is based on the principles of freely-fall impact. A certain weight of the ram falls freely, hit the striker instantly (the striker contacts the brain or spinal cord), and then cause the damage of the brain or spinal cord tissue. For the position of target area, the device is firstly installed onto the X/Z operating arm of the brain stereotaxic instrument, and then the striker tips are moved to right above of the target area through the X-Y operating arms and the impact depth is adjusted by the Z-axis operating arm.



Cat no. 22-0010

- ✓ One groove window allows to observing the movement of the ram real time, and most important of all, the window could reduce the air resistance during the falling of the ram and accordingly reduce the experimental error.
- ✓ The scales are clearly marked and the impact height could be positioned accurately to 1mm.
- ✓ Impact height: 0-300mm adjustable, accuracy 1mm.
- ✓ The standard complete configurations include five sizes of rams (20g, 40g, 60g, 80g and 100g) and two sizes of strikers (3mm and 5mm). Two sizes of 1.2mm and 2.5mm strikers are also optionally purchased for spinal cord.

## Order Information

No.	Cat no.	Description
1	22-0010	Gravity Impactor, complete with five rams (20-100G) and two strikers (3MM and 5MM).
2	22-0001	Spinal Cord Kits with 1.2MM and 2.5MM strikers.

## &gt;&gt;&gt; Free-Falling Gravity Impactor

This impactor is the updated version that adds one stereotaxic device with solid 3-axis manipulators. The manipulator typically uses exclusive structure designs and short travel distance to ensure the precision and stability while the striker falls and impacts. The Base Plate allows to install different adaptors and ear bars for brain injury in different animals, and the ear bar posts could be easily disassembled and then install spinal cord adaptors for spinal cord injury. Also, the stereotaxic device could be used to do other brain-related experiments after disassembling the impactor. The standard configurations includes the stereotaxic device, rat adaptor and 18° ear bar, mouse adaptor and 45° ear bar and one complete impactor for brain injury. For spinal cord injury, the adaptors and strikers are optionally purchased.



## Technical Specifications

- ✓ X- and Y-axis travel 40mm, 0.1mm resolution.
- ✓ Z-axis travel 50mm, 0.1mm resolution.
- ✓ Impact height: 0-300mm adjustable, accuracy 1mm.
- ✓ Five sizes of rams (20g, 40g, 60g, 80g and 100g).
- ✓ Two sizes of strikers (3mm and 5mm).
- ✓ Other sizes of strikers (1.2mm and 2.5mm) for Spinal Cord injury are optional.

## Order Information

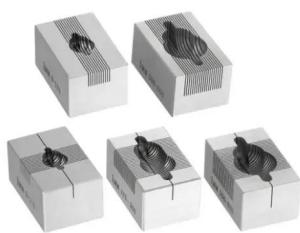
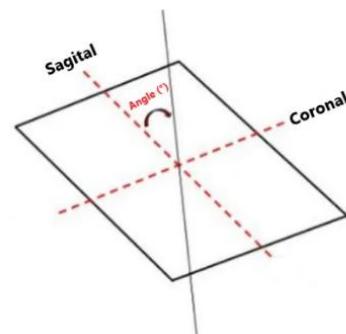
No.	Cat no.	Description
1	22-0000	Gravity Impactor with Stereotaxic Device.
2	22-0001	Spinal Cord Kits with 1.2MM and 2.5MM strikers.

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## Brain Matrix

For use with mice and rats in brain slicing for TTC staining, drawing of the targeting brain area, preparation of frozen or paraffin section and so on.

- ✓ Minimum Thickness of Slicing: 0.5MM and 1MM.
- ✓ Slicing Direction: Coronal, Sagittal and Angled.
- ✓ Materials: Stainless Steel that allows high-temperature sterilization, freezing and cleaning.
- ✓ Cleaning Methods: Purified or distilled water is firstly suggested to clean followed by Ultrasonic method to guarantee the cleaning thoroughly, and then dry it ASAP.



15-30g Mouse, 150-300g Rat and 300-600g Rat

No.	Cat no.	Description
1	14-2100	Brain Matrix, 15-30g Mouse, Coronal, 1MM
2	14-2101	Brain Matrix, 15-30g Mouse, Sagittal, 1MM
3	14-2110	Brain Matrix, 150-300g Rat, Coronal, 1MM
4	14-2111	Brain Matrix, 150-300g Rat, Sagittal, 1MM
5	14-2120	Brain Matrix, 300-600g Rat, Coronal, 1MM
6	14-2121	Brain Matrix, 300-600g Rat, Sagittal, 1MM
7	14-2130	Brain Matrix, 15-30g Mouse, Coronal, 0.5MM
8	14-2131	Brain Matrix, 15-30g Mouse, Sagittal, 0.5MM
9	14-2140	Brain Matrix, 150-300g Rat, Coronal, 0.5MM
10	14-2141	Brain Matrix, 150-300g Rat, Sagittal, 0.5MM
11	14-2150	Brain Matrix, 300-600g Rat, Coronal, 0.5MM
12	14-2151	Brain Matrix, 300-600g Rat, Sagittal, 0.5MM



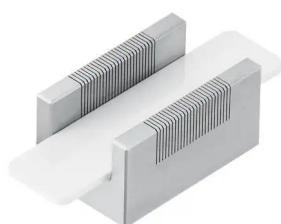
2-10g Neonatal Mouse

No.	Cat no.	Description
1	14-2080	Brain Matrix, 2-10g Neonatal Mouse, Coronal, 1MM
2	14-2081	Brain Matrix, 2-10g Neonatal Mouse, Sagittal, 1MM
3	14-2090	Brain Matrix, 2-10g Neonatal Mouse, Coronal, 0.5MM
4	14-2091	Brain Matrix, 2-10g Neonatal Mouse, Sagittal, 0.5MM



Oblique Cutting for Adult Mouse or Rats

No.	Cat no.	Description
1	14-2301	Brain Matrix, 15-30g Mouse, Oblique Cutting, 1MM
2	14-2302	Brain Matrix, 150-300g Rat, Oblique Cutting, 1MM
3	14-2303	Brain Matrix, 300-600g Rat, Oblique Cutting, 1MM
4	14-2304	Brain Matrix, 15-30g Mouse, Oblique Cutting, 0.5MM
5	14-2305	Brain Matrix, 150-300g Rat, Oblique Cutting, 0.5MM
6	14-2306	Brain Matrix, 300-600g Rat, Oblique Cutting, 0.5MM

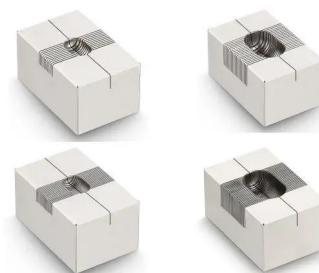


new Brain Matrix for Adult Mouse and Rats

No.	Cat no.	Description
1	14-2321	New Brain Matrix, 15-30g Mouse, Coronal, 1MM
2	14-2323	New Brain Matrix, 150-300g Rat, Coronal, 1MM

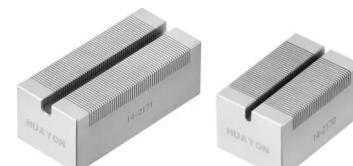
## &gt;&gt;&gt; Heart Matrix

No.	Cat no.	Description
1	14-2280	Heart Matrix, Adult Mice, Coronal, 0.5MM
2	14-2281	Heart Matrix, Adult Rat, Coronal, 0.5MM
3	14-2290	Heart Matrix, Adult Mice, Coronal, 1MM
4	14-2291	Heart Matrix, Adult Rat, Coronal, 1MM



## &gt;&gt;&gt; Spinal Cord Matrix

No.	Cat no.	Description
1	14-2170	Spinal Cord Matrix, Mouse, 1MM
2	14-2171	Spinal Cord Matrix, Rat, 1MM
3	14-2180	Spinal Cord Matrix, Mouse, 0.5MM
4	14-2181	Spinal Cord Matrix, Rat, 0.5MM



## &gt;&gt;&gt; Tumor Matrix

No.	Cat no.	Description
1	14-2160	Tumor Matrix, #S
2	14-2161	Tumor Matrix, #L

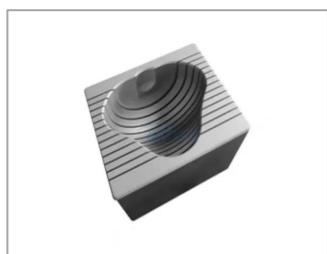


## &gt;&gt;&gt; Brain Matrix (non-human Primate)

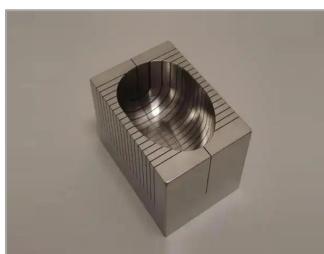
No.	Cat no.	Description
1	14-2311	Brain Matrix, 100-200g Tree Shrew, Coronal 1MM
2	14-2312	Brain Matrix, 100-200g Tree Shrew, Sagital 1MM
3	14-2313	Brain Matrix, 100-200g Tree Shrew, Coronal 0.5MM
4	14-2314	Brain Matrix, 100-200g Tree Shrew, Sagital 0.5MM



100-200g Tree Shrew

Cynomolgus Monkey  
(Cerebellum)

Cynomolgus Monkey



Squirrel Monkey

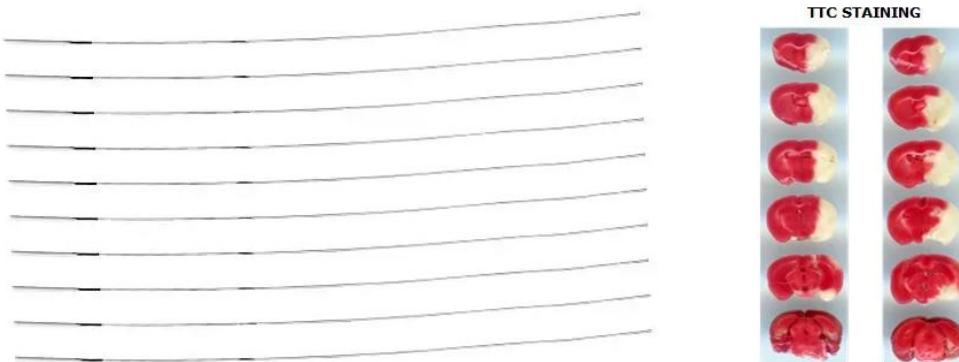


Rhesus Monkey

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## MCAO Sutures

HUAYON provides MCAO sutures for inducing ischemic stroke models in rats and mice. Our monofilaments have been well recognized and preferably selected by stroke investigators for inducing ischemic stroke models. Our clients are top-ranked universities, highly prestigious research institutes, and world-leading pharmaceutical companies from all over the world. Using HUAYON monofilaments for inducing MCAO models has been widely accepted as a necessary technical step and also a new standard for ensuring the highest quality of stroke modeling. MCAO sutures are available in nylon monofilament material range from 0.12 to 0.31mm; diameters of silicone-rubber coated part range from 0.20 mm to 0.44 mm; coating lengths are available from 1.5 mm to 10 mm. One distinct indicator was marked for each suture lets the beginners to judge the depth of penetration very easily. Using HUAYON monofilaments for inducing MCAO models has been reported to be able to drastically decrease the within-group variation of stroke models, reducing the standard deviation (SD) to 5% of the mean value for infarction volume. HUAYON also provides sorted MCAO sutures of different diameters and coating lengths for surgeons to find out their optimal MCAO sutures.



### Order Information

No.	Cat No.	Package	Tip Dia. (mm)	Body Dia. (mm)	Total Length (mm)	Animal B.W. (g)
1	14-3001	50/pk	0.20±0.02	0.12	30	Mice (19.5-21.5)
2	14-3002	100/pk				
3	14-3003	50/pk	0.21±0.02	0.14	30	Mice (22-25)
4	14-3004	100/pk				
5	14-3005	50/pk	0.22±0.02	0.14	30	Mice (26-35)
6	14-3006	100/pk				
7	14-3007	50/pk	0.23±0.02	0.14	30	Mice (>35)
8	14-3008	100/pk				
9	14-3009	50/pk	0.36±0.02	0.29	50	Rats (190-230)
10	14-3010	100/pk				
11	14-3011	50/pk	0.38±0.02	0.31	50	Rats (235-255)
12	14-3012	100/pk				
13	14-3013	50/pk	0.40±0.02	0.31	50	Rats (270-280)
14	14-3014	100/pk				
15	14-3015	50/pk	0.42±0.02	0.31	50	Rats (300-310)
16	14-3016	100/pk				
17	14-3017	50/pk	0.44±0.02	0.31	50	Rats (350-400)
18	14-3018	100/pk				

## &gt;&gt;&gt; EEG Screws

The two sizes of mini-screws are commonly used in brain and sleep research with rats and mice. There are two using methods, one is to fix the head mount together with preamplifier (as shown in the figure, left), and the other one to be used as EEG recording electrode (as shown in the figure, right).



No.	Cat no.	Description
1	32-3001	EEG Screws, 0.1", pk of 100.
2	32-3002	EEG Screws, 0.12", pk of 100.

## &gt;&gt;&gt; EEG Connectors

This connector is widely used in brain research, sleep research, epilepsy research, mainly used to connect the mouse EEG screw and EEG, EMG signal preamplifier.

The package is 20 pcs.



Cat no. 32-3007

## &gt;&gt;&gt; Silver Wires

In the research laboratory, the silver wires are mainly used for animal modeling, dilation of damaged blood vessels, electrode production etc. Diameter within 0.02-0.5mm could be available.

For other sizes not shown in the table, please contact us for detailed information.



No.	Cat no.	Description
1	30-3151	Silver Wire, Ø0.02mm, pk of 10m.
2	30-3152	Silver Wire, Ø0.025mm, pk of 10m.
3	30-3153	Silver Wire, Ø0.03mm, pk of 10m.
4	30-3154	Silver Wire, Ø0.04mm, pk of 10m.

## &gt;&gt;&gt; Cranial Window Glass

Cranial window glass is often used for in vivo neuron research in awake animal calcium imaging to achieve long-term, real and stable neurological function observation.

Instructions for use: Open a window in the skull just above the target brain area (use a cranial drill + trephine).

After bonding the cranial window glass with a metal ring material (such as titanium alloy), use glue to further connect the metal ring to the skull window. Peripheral bonding to seal the cranial window.

After the animal recovers, the skull glass maintains good light transmittance, and the animal can be long-term and repeatedly observed the neuronal activity under the two-photon microscopes.

The thickness, the diameter and the shape could be customized as your requirements.



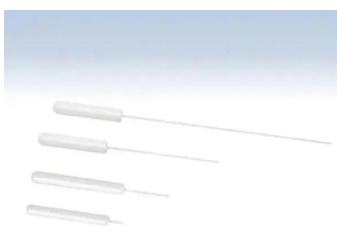
No.	Cat no.	Description
1	32-3010	Customized Cranial Window Glass, pk of 10.
2	32-3011	Cranial Window Glass, Ø5*0.3, pk of 10.
3	32-3012	Cranial Window Glass, Ø4*0.5, pk of 10.
4	32-3013	Cranial Window Glass, Ø4*0.13, pk of 10.

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## Ceramic Cannula



0.22NA  
0.37NA



No.	Cat no.	Description
1	12-3000	Ceramic Cannula, $\varphi 1.25\text{mm}/100\text{um}/0.22\text{NA}$ , pk of 20.
2	12-3001	Ceramic Cannula, $\varphi 1.25\text{mm}/200\text{um}/0.22\text{NA}$ , pk of 20.
3	12-3002	Ceramic Cannula, $\varphi 1.25\text{mm}/300\text{um}/0.22\text{NA}$ , pk of 20.
4	12-3003	Ceramic Cannula, $\varphi 1.25\text{mm}/400\text{um}/0.22\text{NA}$ , pk of 20.
5	12-3020	Ceramic Cannula, $\varphi 1.25\text{mm}/100\text{um}/0.37\text{NA}$ , pk of 20.
6	12-3021	Ceramic Cannula, $\varphi 1.25\text{mm}/200\text{um}/0.37\text{NA}$ , pk of 20.
7	12-3022	Ceramic Cannula, $\varphi 1.25\text{mm}/300\text{um}/0.37\text{NA}$ , pk of 20.
8	12-3023	Ceramic Cannula, $\varphi 1.25\text{mm}/400\text{um}/0.37\text{NA}$ , pk of 20.
9	12-3040	Ceramic Cannula, $\varphi 2.5\text{mm}/100\text{um}/0.22\text{NA}$ , pk of 20.
10	12-3041	Ceramic Cannula, $\varphi 2.5\text{mm}/200\text{um}/0.22\text{NA}$ , pk of 20.
11	12-3042	Ceramic Cannula, $\varphi 2.5\text{mm}/300\text{um}/0.22\text{NA}$ , pk of 20.
12	12-3043	Ceramic Cannula, $\varphi 2.5\text{mm}/400\text{um}/0.22\text{NA}$ , pk of 20.
13	12-3060	Ceramic Cannula, $\varphi 2.5\text{mm}/200\text{um}/0.22\text{NA}$ , pk of 20.
14	12-3061	Ceramic Cannula, $\varphi 2.5\text{mm}/200\text{um}/0.37\text{NA}$ , pk of 20.
15	12-3062	Ceramic Cannula, $\varphi 2.5\text{mm}/300\text{um}/0.37\text{NA}$ , pk of 20.
16	12-3063	Ceramic Cannula, $\varphi 2.5\text{mm}/400\text{um}/0.37\text{NA}$ , pk of 20.

HUAYON Implantable Fiber Optic Cannulae are designed to deliver light from an LED or laser light source to optically sensitive cells within a specimen. Each cannula consists of a ferrule and a length of protruding optical fiber that is typically surgically implanted using stereotaxic guidance. After implantation, the ferrule remains exposed, that provides an interface with Optogenetics Equipment.

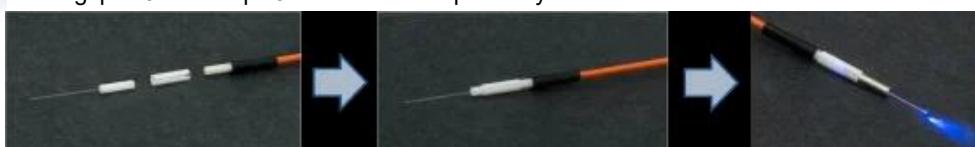
The cannulae are commonly used with  $\varphi 100\text{ }\mu\text{m}$  or  $\varphi 200\text{ }\mu\text{m}$  core, 0.22 NA or 0.37NA fiber with a variety of ferrule and length options. Cannulae with  $\varphi 1.25\text{ mm}$  ferrules are less invasive and lightweight, making them ideal for smaller specimens or placing multiple cannulae in close proximity, and  $\varphi 2.5\text{ mm}$  ferrules are larger and easier to handle, that provides a more robust connection that is ideal for working with larger specimens. Ceramic ferrules are lighter than stainless steel ferrules, which reduces stress on the specimen.

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## Mating Sleeve



The ferrule diameter of a patch cable and cannula is the key factor for physical compatibility with a mating sleeve. As shown in the figures, their connections are realized using  $\varphi 1.25\text{ mm}$  or  $\varphi 2.5\text{ mm}$  ferrules respectively.



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## Rotary Joint and Patch Cable

Please contact us for detailed information.



Cat no. 12-2001



SGL Patch Cable



Dual Patch Cable



ex Patch Cable

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## Stereotaxic Syringe Pump, Elite100

The combination of stereotaxic instruments plus microinjection pump, the most classical and widely used microinjection solutions for mice, rats and other animals, has the common applications for the delivery of virus, dyes, neurotransmitters, cells, drug, proteins and other molecules. The Elite100 Syringe Pump, with high accuracy, repeatability and stability of liquid distribution, could achieve the injection level of picoliter(pl), nanoliter(nl) and microlite(ul).

The combination operation of touch screen interface and push-button enables the user to quickly create configurations and recall them for easy use.

Multiple indicator lights on the front panel make it easy to see the working status of the pump. can clearly confirm its working status. The password feature prevents accidental configuration changes ensuring the programs integrity is retained. Programs can also be set to be started on a time delay for unattended operation.

The Elite100 Syringe Pump offers complete flexibility with the user being able to use most manufacturer's syringes with sizes ranging from 0.5 ul to 100ul.

Especially, the red capillary glass holder (Cat no. 32-2004) could be optionally purchased to use with the Elite100 pump.



Cat no. 20-0100  
(Syringe not included)



Cat no. 32-2004

<b>Software</b>	LF-Touch-GUI	<b>Display</b>	4.3"color LCD Touch Screen
<b>Syringe</b>	0.5ul-100ul	<b>Operation Mode</b>	LD Touch Screen plus Keys
<b>Flow Range</b>	0.005nl/min(0.5ul)-152.456ul/min(100ul)	<b>Power-off Memory</b>	Reserved Parameters before Power-off
<b>Working Mode</b>	Infuse only, Withdraw only, Infuse/Withdraw, Withdraw/Infuse, Continuous	<b>Communication</b>	RS485 and Support Modbus Protocol
<b>Maximum Distance</b>	70mm	<b>External Control</b>	External Signal Control ON/OFF
<b>Distance Resolution</b>	0.1905um/microstep	<b>Power Supply</b>	AC 90-264V 50Hz/60Hz
<b>Stepping Rate</b>	0.6096um/min-91.44mm/min	<b>Consumption Power</b>	20W
<b>Rate Accuracy</b>	0.6096um/min	<b>Working Environment</b>	4-40°C, RH<80%
<b>Volume Accuracy</b>	Error < 0.5%	<b>Main Controller Size</b>	245*205*100mm
<b>Maximum Force</b>	> 10N	<b>Pump Head Size</b>	173*24.4*52mm
<b>Adjustable Force</b>	1-100%	<b>Main Controller Weight</b>	2.0kg
<b>Syringe Selection</b>	Built in or User Defined	<b>Pump Head Weight</b>	0.245 KG

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## Stereotaxic Syringe Pump, Elite100 Pro

This injection pump is an upgraded version of the Elite100 injection pump, which has similar functions to the Elite100, but it adopts a full touch screen operation mode and allows loading a syringe capacity of up to 1000uL.



Cat no. 20-0240  
(Syringe not included)

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## i-Star300 Programmable Nanoliter Injector

The HUAYON i-Star300 Nanoliter Injector offers a number of state-of-the-art features to provide easy setup and operation as well as more accurate injection volumes down to 0.2nL repeatably, and could be customized to pair with a variety of glass micropipette sizes ranging from 0.2-1.5mm in diameters. Any O-rings are not required to secure the glass micropipette. With a few steps on the touchscreen, users can program the state of the art unit to do single manual injections, as well as multiple multiple steps injections. The excellent features of programmability, the lower injection volume capability and the injection rate setup widens the potential range of low volume injection applications in subjects such as Xenopus oocytes, rats, mice, mosquitoes, shrimps, insects, Drosophila, Zebrafish embryo etc.

The foot pedal as the standard is included to perform the FILL and EMPTY actions.

The i-Star300 could be easily mounted on any micromanipulators or stereotaxic frames. The standard configurations includes main unit, one foot pedal, one set of consumables (100 pieces glass micropipette  $\varnothing 0.53 \times 1.14$ mm, 3 pieces plungers and 3 pieces seals), one V-connector for the stereotaxic instruments, one power supply and one tools kit.

### Features

- User-Friendly Programmable Touchscreen Operation.
- High precision enables low volume injection down to 0.2nL.
- Do single manual injections and multiple steps injections.
- Latency time is available for each working modes.
- No O-rings is required.
- Power-off memory function enables automatically saving the set parameters.
- Manual or foot pedal for the Fill and Empty actions.
- Easy and fast replace the seal components, plunger and glass micropipette.
- Could be easily mounted on any micromanipulators or stereotaxic frames.

### Technical Specifications

- Total Sample Volume - 4.4  $\mu$ L
- Fill / Empty Volume Speed - 0.2 - 200 nL/sec
- HOME Speed - 10-100% adjustable.
- Injection Volume Range - 0.6 - 999.9 nL
- Injection Rate - 1 - 200 nL/sec
- Plunger Travel - 24.8mm
- Latency Time - 0-999 sec.
- Glass Micropipette Sizes- OD 0.045" (1.14 mm), ID 0.021" (0.53 mm)
- Screen Brightness - 10-100% adjustable.
- Time and Date setup - be available.
- Physical Dimensions - 160\*136\*104mm.
- Power Source - 100/240 volt input, 24V1A output, 50/60 Hz.

### Order Information

No.	Cat no.	Description	Remarks
1	20-0190	Programmable Nanoliter Injector, 90-264V, 24V1A	
2	32-3009	Capillary Glass, $\varnothing 1.14$ MM, pk of 100.	Consumables
3	20-3301	Plunger Needle, $\varnothing 0.5$ MM, pk of 3.	Consumables
4	20-3302	Green Rubber Seals, pk of 3.	Consumables
5	20-3304	Black Rubber Seals, pk of 3.	Consumables



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## Manual Oil Microinjector

The pencil type oil hydraulic injector, accommodating with any manipulators or three-dimensional stereotaxic instruments, is designed for accurate injection in-vivo and in-vitro experiments. It uses the unique design to ensure the sealability and accuracy and provides easy setup and operation as well as more accurate injection volumes down to 2nL repeatably. The excellent feature shows no electronic vibration interference while working. The digital module with delicate size is employed for space saving and precise operation, and gives the real-time view of the travel distance of the plunger corresponding to the injection volume calculated by the formula. The travel distance ranges 15mm with 0.01 resolution, plus the 0.53mm glass micropipette, and then the total volume gets to about 3.3ul.



Cat no. 20-0210

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## Puller

The HUAYON PUL-1000 Puller, designed specifically for pulling  $\varnothing 0.8\text{mm}\sim 12\text{mm}$  O.D. borosilicate glass capillaries, applies free fall by gravity as its pulling force (or descending by the action of a weight) and enables the user to produce many kinds of pipettes with a tip ranging from less than 0.5um to a few micrometers (generally, the common range of needle tips required for scientific research is between 0.3um and 10um). Various kinds of micropipettes enables the PUL-1000 suitable for applications in electrophysiology, microinjection technology, microfluidic chips, printed circuits, 3D printing, cell capture, microprobe, and electrochemical electrode fabrication. In terms of producing pipettes with a wide variety of shapes and tips, the puller provides one-stage and two-stage pulling modes and gives the individual heating values. Once the value has been determined, the researcher could batch produce the micropipette with same specifications. In addition, four weights (two light types and two heavy types) are provided to adjust the pulling force and then produce different sizes of micropipettes.



Cat no. 33-0000

### Features

- Simple set-up and easier to use than ever.
- Digital display clearly shows parameters setting and working status.
- Heating value can be real-time adjusted as needs, even after the needle is placed in the heater coil.
- Transparent acrylic cover to protect the researchers and reduce the impact of wind speed, humidity, dust, etc.
- Two types of weights and two pulling modes available to accommodate the production of tips with different shapes and sizes.
- Improved slider unit is protected from dust and debris and ensures the smooth operation and durability.
- Quick replacement of heating wire components.

### Technical Specifications

- Borosilicate glass capillaries size:  $\varnothing 0.8\text{mm}\sim 12\text{mm}$  O.D.
- Pulling modes: one-stage and two-stage.
- Heating wire: alloy.
- Heating value setup: 20-100.
- Heating Power: about 75W.
- Free-falling Weights: two pieces 30g and two pieces 65g.
- Power supply: 110V/220V, 50/60Hz.
- Physical Dimensions: 215\*185\*210mm, about 3.95kg.

## &gt;&gt;&gt; Manual Injector, F1

The device that uses the micro-divider to manually drive the syringe and the screen to display the travel distance of the syringe plunger, make it easy to use and is an economic substitute of motorized syringe pump. It can be also equipped with stereotaxic apparatus or micromanipulators for microinjection of viruses, cells, drugs etc.

## \*\*\*Technical Features\*\*\*

- ✓ The innovative clamping method for the syringe make the syringe plunger not bend and damaged, and easy to install and disassemble.
- ✓ Multiple manufacturer's syringes within the diameter of barrel 6.5-13mm could be installed.
- ✓ Manual Infuse and withdraw and the rate is controlled by yourself.
- ✓ Number micro-divider can zero at any time, real-time display the distance of piston advance (inject) or retreat (withdraw) of syringe plunger.
- ✓ Minimum inject/withdraw volume 0.0083 nl (for 0.5ul syringe) - 16.7nl (for 1000ul syringe).
- ✓ After the inject/withdraw is completed, the micro-divider can be locked, and the plunger position is no longer changed to prevent misoperation.
- ✓ Especially, the red capillary glass holder (Cat no. 32-2004) could be optionally purchased to use with this injector.



Cat no. 20-0110  
(Syringe not included)



Cat no. 32-2004

## &gt;&gt;&gt; Micro Syringe Pump

The SP series infusion pump can simultaneously accommodate 1-4 syringes ranging from 10ul to 60ml, and is suitable for high accuracy and small flow rate liquid transferring.

## \*\*\*Technical Features\*\*\*

- ✓ Number of Channel: 1, 2, 4, 10.
- ✓ Syringe: 10ul-140ml, 10ul-140ml.
- ✓ Infuse only, Withdraw only, Infuse/Withdraw, Withdraw/Infuse, Continuous.
- ✓ Max. Distance: 110mm.
- ✓ Distance Resolution: 0.156um/ustep.
- ✓ Linear Speed: 1um/min-150um/min.
- ✓ Linear Speed Resolution: 1um/min.
- ✓ Travel Control Accuracy: error <±0.35%.
- ✓ Max. Linear Force: >16kgf.
- ✓ Driving Force: 1-100% adjustable.
- ✓ Syringe Definition: Built in or User Defined.
- ✓ Display: 4.3"color LCD Touch Screen , 480\*272 resolution.
- ✓ Operation Mode: LCD Touch Screen plus Keys.
- ✓ Power-off Memory: Reserved Parameters before Power-off.
- ✓ Other Functions: Pause, Stop, Touch Tone, Lock, Fast forward and backward.
- ✓ Communication: RS485, MODBUS Protocol.
- ✓ Power: AC90-264V/20W.
- ✓ Working Environment: 5-40°C, <80%RH.
- ✓ Dimensions: 245×195×133mm.
- ✓ Weight: about 3.2kg.



Cat no. 20-0119



Cat no. 20-0120



Cat no. 20-0121



Cat no. 20-0122

## &gt;&gt;&gt; Peristaltic Pump

This intelligent peristaltic pump is mainly suitable for precise flow transmission in laboratorial and industrial application.

**\*\*\*Technical Features\*\*\***

- ✓ Flow range: 0.00016-720ml/min.
- ✓ Color LCD display and plus key operation.
- ✓ Start, stop, forward and reverse rotate, full speed, speed regulation, power-off memory and other functions.
- ✓ Speed range 0.1-150RPM, and resolution 0.1 rpm.
- ✓ Flow accuracy error: <0.5%.
- ✓ Flow display, control, accumulation, and correction.
- ✓ Exclusive "simple subpackage" to realize repeated fixed time and quantitative subpackage and save time controller.
- ✓ The streamlined plastic shell design of the driver, the product appearance patent protection, beautiful and practical.
- ✓ Different pump heads can be installed to realize the combination of different pump heads and drivers.
- ✓ External foot switch or time distributor optional to control the start and stop, and simple distribution filling.
- ✓ Power: less than 30W.
- ✓ Dimensions: 255mm x 181mm x 198mm.
- ✓ Weight: 4.5kg.



No.	Cat no.	Description
1	20-0150	Peristaltic Pump, SGL. Channel, 90-264V
2	20-0170	Peristaltic Pump, Dual Channel, 90-264V
3	20-0180	Peristaltic Pump, Four Channel, 90-264V

## &gt;&gt;&gt;

## Single-axis Manipulator, eM1000

eM1000 is an ultra stable, low-noise, high-precision, and long working distance single axis electric micro manipulator widely used in live electrophysiology, microinjection, virus injection, and other experiments.

**\*\*\*Technical Features\*\*\***

- ✓ Ultra high stability: Drift less than 1um (within 2 hours), very suitable for long-term microinjection
- ✓ Low noise electronic devices: suitable for single channel electrophysiological recording
- ✓ Smooth movement: 0.1um step movement accuracy ensures precise positioning of electrodes or probes on cells
- ✓ Moving speed: 0.1um/s-1.8mm/s
- ✓ Long distance movement: With a working distance of 75mm, it is very suitable for tissue slicing and live materials
- ✓ panel control: with options for fast, slow, and continuous movement.
- ✓ Touch screen real-time display of position(Vertical and Tilt Angle), movement direction, step size.

**\*\*\*Technical Parameters\*\*\***

- ✓ Movement Distance: 75mm.
- ✓ Tilt Angle: 0-89.9°
- ✓ Step Distance: 0.1-100um.
- ✓ Movement Speed: 0.1-1.8mm/s.
- ✓ Movement Time: 1-999s.
- ✓ Latency Time: 0-999s
- ✓ With fast and fine movement.
- ✓ With Zero function.

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## Manual Micromanipulators



Cat no. 32-0020

(The Base and Holder not included)

The M3 micromanipulator is widely used in experimental occasions requiring high stability and accuracy. The three moving axes use a clever vertical superposition combination design to reduce the size and save much more space. The forward and backward control knobs for each axis are set vertically at the rear, making it easy to operate and convenient to adjust the positioning of the knobs under microscope.

While moving, there would be no drift, side clearance, migration and pasting. The key patented transmission technology is used to further ensure the smooth and fine adjustment of transmission.

For the X-axis, both coarse and fine moving adjustment are used.

\*\*\*\*\* **X axis (fine)**: moving 13mm, reading accuracy is 10um(0.01mm).

\*\*\*\*\* **X-axis (coarse)**: moving 45mm, reading accuracy 100um (0.1mm).

\*\*\*\*\* **Y axis (coarse)**: moving 22mm, reading accuracy 100um (0.1mm).

\*\*\*\*\* **Z axis (coarse)**: moving 27mm, reading accuracy 100um (0.1mm).

No.	Cat no.	Description
1	32-0010	Manual Micromanipulator, Left
2	32-0020	Manual Micromanipulator, Right

On the basis of the above M3 Micromanipulators, angle of pitch adjustment are added onto the following X2-axis and/or Base. The base angle of pitch is 0-70°, and the X2-axis is 0-50°. The stable base can be placed directly on an ordinary experimental table, or can be fixed on a magnetic base, or use with magnetic optical plates or vibration isolation tables.



Cat no. 32-0040  
(The Base and Holder not included)



Cat no. 32-0060  
(The Holder not included)

No.	Cat no.	Description
1	32-0030	Manual Micromanipulator, Left
2	32-0040	Manual Micromanipulator, Right

No.	Cat no.	Description
1	32-0050	Manual Micromanipulator, Left
2	32-0060	Manual Micromanipulator, Right

Please note that the core Micromanipulator, the Base and the Holder should be purchased individually.



Cat no. 32-2001



Cat no. 32-2002



Cat no. 32-2006



Cat no. 32-2003

No.	Cat no.	Description
1	32-2001	Micromanipulator Base- I , φ12MM
2	32-2002	Micromanipulator Base (Magnetic)- II , φ12MM
3	32-2006	Micromanipulator Base-III, φ12MM
4	32-2003	Capillary Glass Holder, clamping range 1-2MM
5	32-3009	Capillary Glass, φ0.53*1.14mm, pk of 100.



Cat no. 32-3009

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## Universal Micromanipulators

Two types of 360° universal rotating bracket are installed with the single-axis micromanipulators, and flexible positioning adjustment makes it easy to use in a wide range of micro experiments.

The solid magnetic base is directly fixed on the Vibration IsolationTable, Optical Plate or other Magnetic Metal Plate, which effectively ensures the stability of operation.

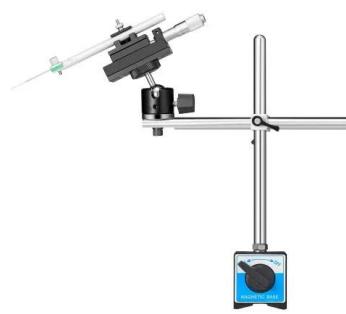
The universal bracket allows the user to rotate the single-axis micromanipulators flexibly, that reduces much more space and can be locked with one thumb screw at any time.

The Micro-driver with moving 13mm and reading accuracy 0.01MM is used for fine adjustment.

Multiple accessories are allowed to clamp for in vivo and in vitro microinjection and electrophysiological experiments, including capillary glass, syringe, electrodes, and syringe pump head etc.



Cat no. 32-0070  
(The Holder not included)



Cat no. 32-0080  
(The Holder not included)

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## Mini Micromanipulator

This Micromanipulator features the compact size and fine adjustment that makes it comfortable to use and save much more space, especially for microinjection under microscope. The standard capillary galss holder is available to used with micro syringe pumps by plastic tubings. The solid base ensures the micromanipulator very stable and allows to being placed the table directly, fixed with optical plate or vibration isolation table.

The micro-driver and angle of pitch design are also added onto the X2-axis for the needle tip to fine moving and angled ajustment.

\*\*\*\*\* **X-axis (fine):** moving 13mm, reading accuracy is 10um(0.01mm).

\*\*\*\*\* **X/Y/Z-axis (coarse):** moving 20mm each, reading accuracy 100um (0.1mm).

\*\*\*\*\* **X2-axis angle of pitch:** 0-50°.



Cat no. 20-0119



Cat no. 32-0120

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## Single-axis Micromanipulator

The single-axis micromanipulator can hold multiple accessories such as micro-driver syringes, glass syringes, electrode holders, etc. It is suitable for in vivo and in vitro injection and has the advantages of compact structure, flexible use, and fine control. The heavy-duty base, being placed the table directly, fixed with optical plate or vibration isolation table, allows to adjust angle of pitch 0-70° and 360° horizontal rotate. The standard one-axis micromanipulator is allowed to installed 0.53\*1.14mm capillary glass and then driven by one micro-driver with moving distance 25mm and reading accuracy 0.01mm.

The V-connector has been included to use with any stereotaxic instruments.



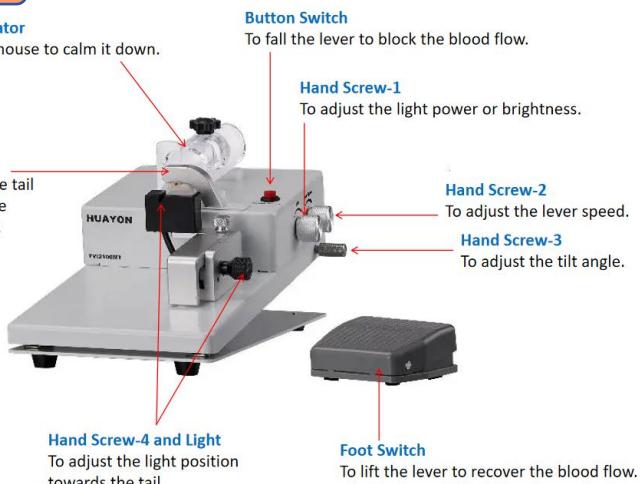
Cat no. 32-0130

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## Mouse Tail Vein Injection Equipment

**Acrylic Fixator**

To fix the mouse to calm it down.

**Features**

- ✓ Adjustable Infrared light illumination to the tail, suitable for injecting mice with different skin colors.
- ✓ The fixed position of the tail can be adjusted to adapt to injecting different positions (the injection point is usually selected from the tip to the root).
- ✓ being controller by two means of Manual and Foot-switch.
- ✓ Spacious operating space and adjustable injection angle allows to meet the different habits of researchers.
- ✓ operation steps: Power on → Fix the animal to fixators → Disinfect the tail → press lever to the tail to block the blood flow temporarily (Manual) → Adjust the brightness or power of the light → Insert the syringe needle → Loosen the tail (by Foot-switch) → Inject the drug → Leave the needle in the vessel for about 1 minute → End.

**Technical Specifications**

- (1) The standard transparent fixators (**Cat no. 18-7211**) allows to quick fix the animal ranging from 15 to 40g.
- (2) Adjustable 1W transmission light source.
- (3) One-key to press the lever and block the blood flow temporarily, and no need to continuously press the tail.
- (4) The tail press can be controlled by hand or foot
- (5) The light source with 0-35mm distance range that being capable of injecting the different positions of the tail.
- (6) Power supply: AC100-220V 50Hz Input, 12v 5A Output.
- (7) Power: < 10W.
- (8) Overall dimensions: 275 \* 160 \* 120mm.
- (9) Weight: about 2Kg.

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## Heart and Brain Perfusion System



This system is used for heart perfusion and brain extraction in rats and mice, and the main configurations includes gas anesthesia machine, surgical pad, perfusion pump etc.

Gas anesthesia is used for animal surgery during cardiac perfusion.

The ice bath infusion solution (such as physiological saline, PBS, polyformaldehyde) can be output independently or in mixture through switch valve, and the flow rate can be accurately adjusted by a peristaltic pump.

The infusion fluid from the peristaltic pump is connected to the consumable injection needle that pierces the heart through a hose.

The operating table for animal infusion is equipped with a sealed protective cover. The gas and anesthesia waste gas emitted by the infusion solution are absorbed by the exhaust system of the anesthesia machine and will not be released into the environment. No need for the fume hoods.

There is a waste liquid container at the bottom of the operating table, the infusion solution can flow directly into it and can be removed conveniently.

The entire system layout process is clear to make it simple and efficient operation.

## &gt;&gt;&gt; I-V Consumables

## »PE Tubings

No.	Cat no.	Description
1	20-3010	PE Tubings, PE10, 0.28MM*0.61MM, pk of 10m.
2	20-3020	PE Tubings, PE20, 0.38MM*1.09MM, pk of 10m.
3	20-3050	PE Tubings, PE50, 0.58MM*0.96MM, pk of 10m.
4	20-3090	PE Tubings, PE90, 0.86MM*1.27MM, pk of 10m.
5	20-3101	PE Tubings, 0.25*0.5MM, pk of 10m.
6	20-3102	PE Tubings, 0.2*0.32MM, pk of 10m.
7	20-3103	PE Tubings, 0.5*1.0MM, pk of 10m.
8	20-3104	PE Tubings, 0.3*0.6MM, pk of 10m.



Polyethylene Tubings (PE) are made of low-density polyethylene materials, which are non-toxic, easy to clean, good fluidity, high thermal stability, moderate soft hardness and other excellent characteristics. They are widely used in drug metabolism intubation, bile duct intubation, artery intubation, and self administration of jugular vein intubation.

## »new Feeding Needles

No.	Cat no.	Description
1	20-2020	New Feeding Needles for Neonatal Mice, Str, pk of 5.
2	20-2021	New Feeding Needles for Adult Mice, Str, pk of 5.
3	20-2022	New Feeding Needles for Adult Mice, Cvd, pk of 5.
4	20-2023	New Feeding Needles for Neonatal Rat, Str, pk of 5.
5	20-2024	New Feeding Needles for Neonatal Rat, Cvd, pk of 5.
6	20-2025	New Feeding Needles for Adult Rat, Str, pk of 5.
7	20-2026	New Feeding Needles for Adult Rat, Cvd, pk of 5.



Different from the traditional feeding needles, this new type of needles are designed to export the drug from the side of the tip, that keeps the tip of needle round and accordingly helps to reduce both the injury and choking probability of esophagus. Meanwhile, scales on the needle body allows visualization to the inserting depth of the needle.

## »Stainless Steel Feeding Needles

No.	Cat no.	Description
1	20-2001	Feeding Needles #6 for Neonatal Mice, Str, pk of 5
2	20-2002	Feeding Needles #8 for below 20g Mice, Str, pk of 5
3	20-2003	Feeding Needles #9 for 18-22g Mice, Str, pk of 5
4	20-2004	Feeding Needles #12 for Adult Mice, Str, pk of 5
5	20-2005	Feeding Needles #16 for Adult Rat, Str, pk of 5
6	20-2006	Feeding Needles #20 for Big Rat, Str, pk of 5
7	20-2014	Feeding Needles #12 for Adult Mice, Curved, pk of 5
8	20-2015	Feeding Needles #16 for Adult Rat, Curved, pk of 5
9	20-2016	Feeding Needles #20 for Big Rat, Curved, pk of 5



Be mainly used to delivery drugs to rodents, feed drugs or drop milk to ordinary pets. The tip of the needle is drop-shaped round to prevent the animals from being scratched while being administrated. Stainless steel as raw materials makes the need hard, wear-resistant and smooth.



## About HUAYON Gas Anesthesia System

Gas inhalation anesthesia has been generally accepted method for animal anaesthesia in pre-clinical research because of its excellent advantages: 1, Can offer an improved level of control over depth and duration of anesthesia, especially for prolonged procedures. 2, To be relatively insoluble and faster elimination in blood enables rapid recovery. 3, Be of rapid onset and offset with minimal side effects. 4, Have little or no toxic effects thanks to non-metabolism characteristic of sevoflurane and isoflurane. 5, Be more safer and efficient performance to reduce morbidity rates and increase the chance for successful outcomes.

**HUAYON** has been always dedicated to study and provide perfect and competitive inhalation anesthesia systems that have great practical value to the life science research community. Our anesthesia machines have remarkable and even exclusive advantages over existing system, for example:

- ☆ Multiple complete solutions to different surgical procedures in small animals like mice, rats, rabbits and cats have been set up.
- ☆ Precise and stable control of anesthetic agents output regardless of environmental changes like pressure, temperature and air flow within the specific limits.
- ☆ The miniaturized design like anesthesia machines and scavenging system helps to improve laboratory space utilization.
- ☆ Unique Stereotaxic Frame Nosecone Masks and Concentric Tubing Masks with tiny sizes satisfy more delicate surgeries like craniocerebral and ophthalmological surgery, and at the same time minimize harmful exposure to the research subjects while connecting to evacuation system.
- ☆ The Toggle Switch allows convenient and fast switch of gas flow between induction chamber and anesthesia masks (breathers).



## Anesthesia Machines

### »π3 Tabletop Anesthesia Machine, Basic

This basic anesthesia machine is designed to feature high performance to price ratio and suitable for almost all surgeries on the brain, chest, abdomen and limbs in small animals such as rats, mice, cats and rabbits.

The capacity of the vaporizer X60 is not less than 150ml, and the concentration range is 0-5%.

The flowmeter adjustment range for the gas supply is 0-4LPM that allows to meet multiple animals to breathe simultaneously.

Both the induction chamber and the anesthetic masks could be installed at the same time but controlled independently.

O2 Flush is reserved to quickly drain the anesthetic waste gas to the absorber before taking out the animal from the induction chamber.

The pagoda connector as the gas outlet allows to be compatible with any anesthesia accessories in the market.



Cat No. 10-0100

### »iA7 Tabletop Anesthesia Machine, Super

This anesthesia machine features the design of concentric connectors as the gas outlets for our tubing masks and induction chamber, that greatly save the table space, and the core vaporizer is from well-known MSS medical company, UK.

The flowmeter adjustment range for the gas supply is 0-4LPM that allows to meet multiple animals to breathe simultaneously.

One induction chamber and two anesthetic masks could be installed at the same time but controlled independently.

O2 Flush is reserved to quickly drain the anesthetic waste gas to the absorber before taking out the animal from the induction chamber.



Cat No. 10-0000

## »iAF10 Tabletop Anesthesia Machine, Premium



Cat No. 10-1030

This type of anesthesia machine has the revolutionary design that it integrates with the removal function of exhaust gas from mask(s). The well-known MSS vaporizer with excellent accuracy and stability is still chosen as the core component.

The two main functions of both the regulation of anesthetic output and the removal of anesthetic waste gas" are integrated into the same machine, and no more scavenger is additionally purchased, which leads to reduce the purchase cost and save the bench space.

The concentric connectors design also helps to save much more table space.

One induction chamber, two anesthetic masks of concentric tubing mask and stereotaxic mask could be installed at the same time but controlled independently.

O2 Flush is reserved to quickly drain the anesthetic waste gas to the absorber before taking out the animal from the induction chamber.

One group of 4 activated carbon column, followed by one negative pressure pump inside, is series connected to filter and absorb the anesthetic waste gas from masks, which leading to a higher absorption performance.

Built-in power supply for both internal negative pressure pump and external air pump to save the use of power supply devices, and DC power supply is provided to ensure the safety.

## »AT200 Anesthesia and Homeothermic Machine



Cat No. 10-0010

This machine is exclusively designed with the features of both gas anesthesia and warm keeping during the operations. That is, it has all the functions of the super anesthesia machine iA7, and also can measure and maintain the body temperature of the subjects at the same time. Compact design also brings simple connection of tubings, easy to use, low space occupancy and accordingly reduces the cost of purchase.

## »AV1500 Small Animal Anesthesia Ventilator



Cat No. 10-0020

The animals are required to maintain anesthesia and auxiliary respiration simultaneously for some surgical procedures such as myocardial ischemia model, endotracheal intubation etc.

This equipment is exclusively integrated into all-in-one machine according to the above requirements, the anesthesia gas and pure oxygen is supplied as the source to assist the respiration of animals, which not only maintains anesthesia, but also ensures the breathing of animals.

The researcher can optionally open or close the function of the ventilator by one-key switch according to their surgical procedures.

Compact design brings simple connection of tubings, easy to use, low space occupancy and accordingly reduces the cost of purchase.

## »MA1200 Mobile Anesthesia Machine

This vista anesthesia machine chooses one trolley to integrate with gas supply, flowmeter, vaporizer, induction chamber, waste gas scavenger, small drawer and storage basket, which makes it having the excellent characteristics of saving space, time, economy, and an ideal choice for small animal gas anesthesia.

While using, you just need to place the anesthesia machine next to the experimental table and take out the anesthesia mask from the storage basket, then you can start the anesthesia experiment.

Two activated carbon absorbers are directly placed into the canister, that makes the replacement very convenient and save much more time.

The concentric connectors design also helps to save much more table space.

One induction chamber, two anesthetic masks of concentric tubing mask and stereotaxic mask could be installed at the same time but controlled independently.

O2 Flush is reserved to quickly drain the anesthetic waste gas to the absorber before taking out the animal from the induction chamber.



Cat No. 10-1040

## »A7600 Large Animal Anesthesia Machine

This anesthesia machine with an integrated design that makes it compact and space-saving, is widely used in scientific research laboratories, pet clinics, pet clubs, pet hospitals, pet stray shelters and other institutions.

A recirculating and a non-recirculating breathing circuit are available. The former is suitable for cats, rabbits, dogs, monkeys, pigs and other animals weighing 0.5-200kg, while the latter is suitable for mice, rats and other animals. They could be conveniently switched with one click during use.

The Standard configurations include the core machine with trolley, 1 set of large and small breathing tubes, air source tubes, 1 set of 0.5-5L breathing bag, oxygen pressure reducing valve, calcium lime, 1 set of 2.0-10.0 tracheal intubation tubes, 1 set of laryngoscope, 1 set of respiratory mask with 6 sizes and 1 set of storage basket.

### Features

The features of temperature, flow and pressure compensation ensure the vaporizer precise and stable output.

The transparent CO2 absorption tank allows to intuitively observe the state, and also simply and fast replace the calcium lime absorbent.

The animal's respiration state could be intuitively judged.

Being equipped with storage basket and canister for the absorb of waste gas.

Being equipped with a quick feeding valve for quick rescuing the animal once required.

The standard complete solutions are ready to use, and no additional configurations required.

### Technical Parameters

1. Vaporizer features pressure, flow and temperature compensation, safety lock. Iso concentration range 0.2-5%, sevo concentration range 0.2-8%, flow rate range 0.2-15LPM, liquid capacity not less than 300ml.

2. Flowmeter: 0-5LPM adjustment.

3. Two working modes with a recirculating and a non-recirculating breathing circuit, are suitable for mice, rats, exotic pets, cats, rabbits, dogs, monkeys, pigs and other animals in a wide range of weighing 10g-200kg.

4. O2 Flush range: 25-75LPM.

5. Gas supply pressure: 0.25-0.65MPa.

6. Airway pressure monitoring range: -30-60cmH2O.

7. Calcium lime tank capacity: 500-750ml.

8. The visual ceramic inhalation and exhalation valves are durable and easy to observe the pet's breathing status.

9. The professional active pop-off pressure release valve could be connected to the exhaust gas recovery system, and also could provide continuous 2cmH2O negative pressure for the rebreathing air bag.



Cat No. 10-0111

## »Oxygen Generator, MOG700



Cat No. 10-0080

Only use with pre-clinical research, not use with human.

This medical grade molecular sieve oxygen generator uses the principle of pressure swing absorption to separate the oxygen in the air from nitrogen and other gases, that is provided for animals to breathe or as the air source of anesthesia machine. There are two advantages of using the oxygen generator as the air source of the anesthesia machine: ① replacing the oxygen cylinder or air pump (air source) available in the laboratory, pure oxygen is used for breathing during the anesthesia of the animal surgery, that excellently maintain the normal physiological indexes of the animal, improve the surgery success probability and the reliability of the experimental results; ② the oxygen generator is directly placed on the ground with the brake caster, which is convenient to move.

### Technical Specifications:

1. concentration range of oxygen: 93% ± 3% (V/V).
2. Flow output range: 0-5LPM.
3. Outlet pressure: 0.04-0.07MPa.
4. Noise: ≤55 dB.
5. Alarm: in the cases of power off, high and low pressure, temperature, low oxygen concentration (82% critical) etc.
6. External dimension: 280 \* 348 \* 510MM.

## »Air Pump



This type of air pump is mainly used together with the gas anesthesia machine. Its working principle is to continuously compress air through the power system to generate air pressure and provide air source to the anesthesia machine. It has the high-quality characteristics of stable conveying air flow, extremely low noise less than 24dB, small volume and space saving.

### Technical Specifications:

1. The air extraction force reaches 2.7 kPa.
2. Gas supply flow up to 15L/min, and 3.5L/min while using with anesthesia machine.
3. The maximum air supply pressure is 18 kPa.
4. Overall dimension: 163 \* 128 \* 111 mm.
5. Power: 17 watts.
6. Power supply: 220V and 110V are available.

## »Active Scavenger, GC3300



Cat No. 10-0072

This unit uses the principle of pump suction to continuously draw out and discharge the air in the closed space at the bottom of the absorber canister, that keeps the space in the state of "negative pressure". Then the anesthetic waste gas from the anesthesia mask, ventilator, or induction chamber will continuously flow towards the bottom of the absorber canister, and in the end the anesthetic gas will be exposed fully to the activated carbon in the canister, that greatly improve the absorption efficiency and provides one ideal and safe way to stop the anesthetic gas discharging into the environment and breathed by the experimental personnel. The adjustable speed allows the user to control the flow, adjusting it to the needs of their particular scenes, such as, the surgical procedures, the amounts of animals, the variable set-ups, and to achieve a balance between anesthesia and exhaustion. The unit can be interfaced with a wide variety of inhalation anesthetic delivery options including [nose cones](#), [induction chamber](#), [ventilators](#), and [stereotaxic devices](#). No noise pollution to affect the experiments.

### Technical Specifications:

1. Input: 22 mm OD.
2. Flow Speed: 1-15LPM adjustable.
3. Physical Dimensions: 21.5 x 20 x 18.5CM.
4. Power Supply: 90-264V input and 24V3A output.

## » Absorber Canister IV

This passive canister with one activated carbon absorber inside is usually used with induction chamber. The ingenious design allows you just remove the sealed cover and simply replace the absorber instead of unplugging or twisting the tubes. Most important of all, the canister body could be reused to reduce the environmental pollution.



Cat No. 10-3036

## » Activated Carbon Absorber IV

This passive and active absorber as the consumables for induction chamber, MA1200 anesthesia machine and GC3300 Scavenger is made of paper tubes for the body and filled with activated carbon inside.

It is convenient to use and weighs 800g before use and 1000g when full.

The design greatly reduces the plastic pollution to the environment after discarding in regular trash.

6pcs of activated carbon in one carton.



Cat No. 10-3037

## » Activated Carbon Absorber IV (Column)

Only used for iAF10 anesthesia machine.

4-level filter filling with activated carbon is series connected to absorb the anesthetic waste gas from anesthesia mask, which greatly improve the absorption efficiency and save the space of external air extraction pump or gas collector.

The replacement is also simple and only one step is required.

6pcs of activated carbon column in one carton.



Cat No. 10-3035

## » Calcium Lime

It is typically used to absorb CO2 waste gas from the euthanasia box and veterinary anesthesia machine system.

800g per bottle and 6 bottles per box is available.

**Cat No. 10-3031** contains one bottle, and **Cat No. 10-3032** contains 6 bottles.



Cat No. 10-3031

## » Gas Flowmeters

- ✓ Flow range 0.1-4L/min
- ✓ Types of Gas: Oxygen, Air, Nitrous Oxide, Carbon Dioxide
- ✓ Accuracy: 4.0 level or  $\pm$  10% FSC
- ✓ Indicating Floater: Rotating Floater
- ✓ Inlet pressure: 200kPa
- ✓ Leakage:  $\leq$  5ml/ min@200kPa
- ✓ Input/Output Connector: Female G1/8

No.	Cat no.	Description
1	10-2405	Air Flowmeter, 0.1-4LPM
2	10-2406	O <sub>2</sub> Flowmeter, 0.1-4LPM
3	10-2407	N <sub>2</sub> O Flowmeter, 0.1-4LPM
4	10-2408	CO <sub>2</sub> Flowmeter, 0.1-4LPM



## » Pressure Reducing Valve

This valve is typically used in laboratory, instrument analysis, semiconductor etc.

- ✓ Two Indicators range: 25MPa and 1.6MPa respectively.
- ✓ Input Connector: G5/8.
- ✓ Output Connector: Customized as your requirements.



Cat No. 10-2420

## »X7 Anesthesia Vaporizer



Cat No. 11-0001



Cat No. 10-2394

The X7 anesthesia vaporizer meets ISO08835-4 international standards. Stable output concentration with automatic temperature compensation function in case of any changes in the exterior conditions like flow, pressure and temperature, producing vaporizers of prescribed concentration. It has the excellent features of high precision, good sealing ability, stable and quick response in working. Four types of tanks for Enflurane, Soflurane, Haloflurane and Sevoflurane are available. Cagemount ( ISO 23mm tapers) mounting type and Pour-fill Filler type.

No.	Cat no.	Description
1	11-0001	X7 Anesthesia Vaporizer, ISO, Pour-fill, Cagemount
2	11-0002	X7 Anesthesia Vaporizer, SEVO, Pour-fill, Cagemount
3	10-2394	Vaporizer Cagemount, 23MM

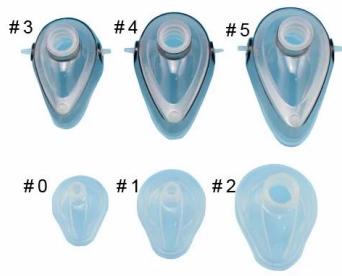
## »Cat and Dog Cone Masks (Bowl-type)



Be applicable to inhalation anesthesia, oxygen uptaking, 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.

No.	Cat no.	Description	Size			Ref. Animals
			Core Dia.	Outer Dia.	Depth	
1	10-2249	Cone Masks, #0-5				
2	10-2250	Cone Mask, #0	25mm	50mm	27mm	Small or Infants
3	10-2251	Cone Mask, #1	31mm	60mm	37mm	Small or Infants
4	10-2252	Cone Mask, #2	38mm	65mm	55mm	Cats, Rabbits, Birds
5	10-2253	Cone Mask, #3	38mm	90mm	80mm	Cats, Rabbits, Birds
6	10-2254	Cone Mask, #4	45mm	115mm	105mm	Dogs
7	10-2255	Cone Mask, #5	76mm	140mm	125mm	Pigs

## »non-Human Primate Masks



Cat no. 10-2260

This set of masks include 6 sizes and are suitable for animals of different sizes. The contour of the mask conforms to the shape of the primate monkey's face and has a good sealing effect. They are made from 100% medical grade silicone raw materials without latex components and have the ability of high temperature resistance up to 134 degrees Celsius. The standard 22 female/15MM male connector allows to being compatible with any inhalation tubing on the market.

## » Concentric Tubing Masks

### Masks:

This type of masks are widely used with multiple experiments like dissecting, imaging, i.p. injecting and tail-vein injecting in both rat and mice. They have the features of flexible and non-metal structures that allows you to randomly and precisely position the lab animals by vertical and angular adjustments.

The diaphragms on these masks seal the mask around the face of animals to ensure a tight fit and eliminate leakage of anesthetic gases into the room, and protect personnel from gas exposure. The competitive small sizes will not interfere with animal's [craniocerebral](#) and ophthalmological surgery.

### Brackets:

Surgical pad bracket and table-top bracket are available. The former is optionally to fix the tubing masks onto the surgical pads and the latter to fix the masks onto the small heavy base. The height for the masks are adjustable according to the position of the animal head.

### 2-ch Adaptor:

The adaptor allows to install two tubing masks simultaneously, and each channel could be independently controlled. The anesthesia machine provides the anesthetic gas supply, and the exhaust gas discharged from the two masks is collected together and absorbed by the scavenger system.

No.	Cat no.	Description
1	10-2151	Concentric Tubing Masks for Mice, Ø23MM
2	10-2152	Concentric Tubing Masks for Rat, Ø26MM
3	10-2159	Surgical Pad Bracket for Tubing Masks
4	10-2158	Table-top Bracket for Tubing Masks
5	10-2404	2-ch Tubing Mask Adaptor



Cat No. 10-2159



Cat No. 10-2158



Cat No. 10-2404

## » Stereotaxic Masks

This type of anesthetic masks, also called "active" masks, is specifically designed to fit any stereotaxic frame in the market and deliver anesthetic gases with minimal researcher exposure during stereotaxic surgery in rats or mice. They have the following three excellent and unique features:

- ☆ The inlet and the outlet end are not directly connected, which allows that the outlet end can be used with evacuation and scavenging system, so there is no need to worry about the release of anesthetic gas from the animal nose and mouth into the environment, and at the same time, the use of anesthetic gas can be saved greatly.
- ☆ For mice, a cross bar was added into the conical nostril cavity of the mask to fasten the top incisor of the animal, and plus one curved spring block to stabilize the whole head. For rat, the incisors are fastened into the square hole of the adaptor. Meanwhile, the cavity of the two masks holds down the nasal bridge of the animal, which makes the head more stable.
- ☆ The size of the masks is very small (28\*24\*20MM for mice, and 28\*30\*25MM for rat), which will not interfere with the surgery on the head.

No.	Cat no.	Description
1	10-2201	Stereotaxic Masks for Mouse (18-45g), M1
2	10-2206	Stereotaxic Masks for Mouse (below 18g), M1
3	10-2204	Stereotaxic Masks for Rat (<300g), M2
4	10-2202	Stereotaxic Masks for Rat (<300g), M1
5	10-2208	Stereotaxic Masks for Rat (>300g), M1



Cat No. 10-2201  
Cat No. 10-2206



Cat No. 10-2204



Cat No. 10-2202  
Cat No. 10-2208

## » Rat/Mouse Surgical Pads



The pads provide one ideal tool to do surgical procedures towards the surgical sites like chest, abdomen, leg and dorsum in mice and rats, which uses one ideal combination of spring snap button, bead chain and nylon cord to quick and safely fasten the legs and head of the experimental animals.

The anesthetizing concentric tubing masks together with brackets are **optional** to integrate into gas anesthesia system, its vertical height could be adjustable by easily rotating one thumb screw according to the operative position of the animal. The pad are made of non-metal materials that allows the optional heating blankets could be directly placed to warm the animal while operating.

The pad with one or two LED lights are also available, and the light color and brightness could be adjustable.

Non-slip silicone mat on the bottom to make the pad stable while using.

Water, alcohol, sope water is suggested to clean the pad after surgery.

No.	Cat no.	Description
1	10-2101	Surgical Pad w/o Light, 310* 290* 14MM
2	10-2102	Surgical Pad with One Light, 310* 290* 14MM
3	10-2108	Surgical Pad with two Lights, 310* 290* 14MM
4	10-2159	Surgical Pad Bracket for Tubing Masks
5	10-2151	Concentric Tubing Masks for Mice, Ø23MM
6	10-2152	Concentric Tubing Masks for Rat, Ø26MM

### Technical Specifications:

- ✓ Pad size: 310\* 290\* 14MM.
- ✓ Light color: 3000-6000K adjustable.
- ✓ Light brightness: adjustable.
- ✓ Power: rechargeable, and about 7hours lifetime in high-light status and 50hours in low-light status.
- ✓ Output voltage: DC 5V.

## » Cat/Rabbit Surgical Pads



The unique designed surgical pads with size 400\*600MM are used with 2-6kg cats and rabbits in supine or prone position. Several excellent features are shown.

The nylon woven belts uses the quick telescoping ring to fasten the four legs and the belt could be smoothly slided and positioned on the rails by one thumb screws. The U-bracket is designed to restrict the neck. One cone mask together with universal bracket are optional to connect the gas anesthesia system. The pad is made of non-metal materials that allows the optional heating blankets could be directly placed to warm the animal while operating. One LED light with adjustable light color and brightness is also optional to assist the operation.

No.	Cat no.	Description
1	10-2106	Surgical Pads, 400*600*115MM
2	10-2160	Universal Bracket for Cat or Rabbit Masks
3	10-2252	Cone Mask #2 for Cat/Rabbit (Ref.)
4	10-2253	Cone Mask #3 for Cat/Rabbit (Ref.)
5	16-0101	LED Light, 5V



Cat No. 16-0101

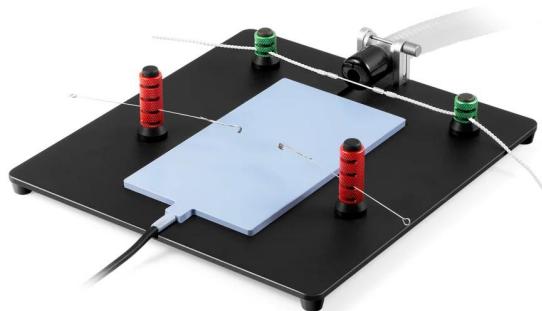
## » Small Animal Retraction System

This Small Animal Retraction System, which mainly consists of Base Plate, Magnetic Fixators and Retractors, simplifies set-up procedure and provides the examiner with an excellent overview of the operative site.

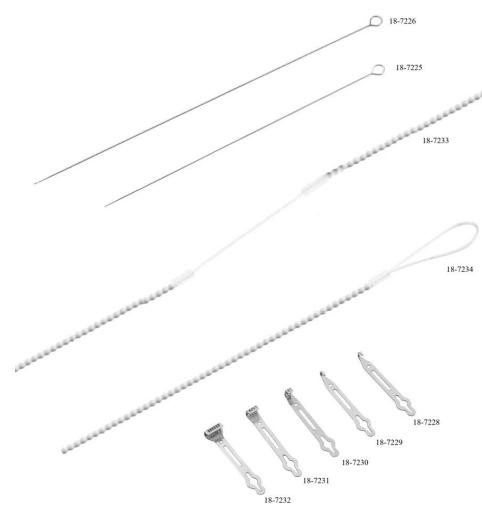
The complete configurations for Cat no. 18-7220 includes:

- 1\*Base Plate
- 2\*Short Fixators (Cat no. 18-7221)
- 2\*Tall Fixators (Cat no. 18-7222)
- 4\*Blunt Retractors, 2.5MM tip (Cat no. 18-7230)
- 4\*Short Retractor Wires, 14CM (Cat no. 18-7225)

The **Base Plates** with size 310\*290MM are made from magnetic stainless steel and could be customized as your requirements. The surface is nonreflective and have a plastic rectangle plate in the center which allows the animal direct contact gently and also being added heating pads optionally to keep the animal body temperature. The central plate sizes are 12 x 20.5cm. Meanwhile, the front allows to set up one optional bracket for our concentric masks for gas inhalation anesthesia during operation.



The **Retractors** with 5 size tips available are interchangeable and also could be customized as your requirements. The Retractor Tips which attach to Retractor Wire for static retraction are light and atraumatic to delicate tissue or membrane. In addition, the optional Bead Chain Elastomer Retractors are also helpful to fix the four legs or retract the incisor.



The **Fixators** are movable anchors made from anodized aluminum with a surgical grade rare earth magnet in the base for attachment anywhere on the Base Plate. Two sizes in height are available for different animals and surgical sites. They incorporate pushbutton-activated spring locks that grip either the Wire or Bead Chain Elastomer Retractors.



No.	Cat no.	Description
1	18-7220	Small Animal Retraction System
2	18-7221	Magnetic Fixators, Short, 4CM
3	18-7222	Magnetic Fixators, Tall, 6CM
4	18-7225	Retractor Wires, Short, 14CM, pk of 10.
5	18-7226	Retractor Wires, Long, 17CM, pk of 10.
6	18-7227	Base Plate, 310*290MM
7	18-7228	Retractors, Sharp, 1MM, pk of 10.
8	18-7229	Retractors, Blunt, 1MM, pk of 10.
9	18-7230	Retractors, Blunt, 2.5MM, pk of 10.
10	18-7231	Retractors, Blunt, 5MM, pk of 10.
11	18-7232	Retractors, Blunt, 7.5MM, pk of 10.
12	18-7233	Bead Chain Elastomer for Incisor, pk of 10.
13	18-7234	Bead Chain Elastomer for legs, pk of 10.
14	10-2159	Surgical Pad Bracket for Tubing Masks
15	10-2151	Concentric Tubing Masks for Mice, Ø23MM
16	10-2152	Concentric Tubing Masks for Rat, Ø26MM
17	36-0001	1-ch Temperature Controller, 90-264V

## » Gas Flowmeters

The following two flowmeters are exclusively designed to use with both gas anesthesia and scavenger system, the inlet end is connected to the anesthesia machine and the outlet to concentric tubing masks to satisfy the anesthesia of up to three or six animals at the same time. Each flowmeter ranging from 0.1 to 1LPM can distribute the required gas amount independently according to the size and state of the experimental subjects.



Cat no. 10-2402  
(Tubing Masks not Included.)



Cat no. 10-2403  
(Tubing Masks not Included.)

## » Induction Chamber

The induction chamber, the most popular choice for investigators, is used for initial quick anesthetization of animals before surgery, and that difficult to keep masked when awake, and euthanasia. The anesthetic gas is introduced into and routed chamber, and then exhausted trough one [corrugated plastic flexible tubing](#) to a charcoal canister.

### Features:

- ✓ Transparent plexiglass constructs for easy animal monitoring and powerful joints.
- ✓ Positive pressure of 11mm thick lid and seal strips eliminate chamber leakage.
- ✓ The repelling board to prevent the lid dropping- or breaking-off after opening.
- ✓ Unique design for Inlet and Outlet Connector to make the unit heavy-duty and durable.
- ✓ Multiple purposes allow to using as a fast anesthesia or an euthanasia chamber.

for the “coaxial I/O interface” design, the concentric inlet and out connector to reduce the table space and let the table top simple and beautiful.

No.	Cat no.	Description
1	10-2051	Induction Chamber for Mice only, 150*100*100MM.
2	10-2052	Induction Chamber for Mice and Rats, 240*120*150MM.
3	10-2053	Induction Chamber for Rabbits and Cats, 380*280*250MM.
4	10-2054	Induction Chamber for Large Animals, 500*300*300MM.



And for the “separate I/O interface” design, the difference is that the air inlet and exhaust interfaces are designed separately. It is suitable for cooperating with iAF10 anesthesia machine owned by HUAYON and any other anesthesia machine on the market.

No.	Cat no.	Description
1	10-2055	Induction Chamber for Mice only, 150*100*100MM.
2	10-2056	Induction Chamber for Mice and Rat, 240*120*150MM.
3	10-2057	Induction Chamber for Rabbits and Cats, 380*280*250MM.



## &gt;&gt;&gt; Complete Anesthesia Solutions

## » S-0 series, π3 Basic Anesthesia Systems

The π3 basic anesthesia system is designed for use with up to two animals using isofluorane. It utilizes one output directly from the vaporizer and then splits three channels directing to one induction chamber and two breathers. The three channels are controlled independently. The main anesthesia machine incorporates an oxygen flush that purges the induction chamber with pure oxygen, thereby eliminating personnel exposure to anesthesia gas when opening the chamber. The waste gases from the induction chamber and the masks are filtered by the activated charcoal in the separate canister and scavenger respectively.

The tubing mask is easily set up by one heavy bracket and the animal is placed onto the table. Of course, you could choose one tubing or stereotaxic mask for the other channel. It's a simple and economic anesthesia system that's safe for the animal and the laboratory personnel.



No.	Cat no.	Model	Description	
1	10-0040	AP-220	Air Pump, 220V	1
2	10-0100	π3	Table-top Anesthesia Machine, ISO, Cagemount and Pour-fill.	1
3	10-2056		Induction Chamber for Mice and Rat, I/O sep., 240*120*150MM.	1
4	10-2151		Concentric Tubing Masks for Mice, Ø23MM	1
5	10-2152		Concentric Tubing Masks for Rat, Ø26MM	1
6	10-2158		Table-top Bracket for Tubing Masks	1
7	10-3036		Absorber Canister IV	1
8	10-3037		Activated Carbon Absorber IV, pk of 6.	1
9	10-0072	GC3300	Active Scavenger, 24V3A	1
10	10-2355		Tubing and Connector Kit for π3	1

## » S-1 series, iAF10 Anesthesia Systems

The S-1 series advanced anesthesia system uses the iAF10 anesthesia machine as the core configuration that brings the system very stable, precise, compact and easy to use. We provides the following several complete solutions according the common experiments for your reference.

## &gt; S-1-01

This set of tabletop anesthesia system is the most popular configurations for one researcher to operate one animal in their chest, abdomen, limbs and other body parts under the head, which is applicable to surgical procedures such as anatomy, limb surgery, blood collection, injection, etc.



No.	Cat no.	Model	Description	
1	10-0041	AP-24	Air Pump for iAF10 only, 24V	1
2	10-1030	iAF10	Table-top Anesthesia Machine, Isoflurane, Cage mount and Pour-fill.	1
3	10-2056		Induction Chamber, INLET/OUTLET sep., 240*120*150MM.	1
4	10-2151		Concentric Tubing Masks for Mice, Ø23MM.	1
5	10-2152		Concentric Tubing Masks for Rat, Ø26MM.	1
6	10-2159		Surgical Pad Bracket for Tubing Masks	1
7	10-2357		Tubing and Connector Kit for iAF10	1
8	10-2102		Surgical Pad with One Light, 310* 290* 14MM.	1
9	10-3035		Activated Carbon Absorber IV for iAF10, Column, pk of 6.	1
10	10-3036		Absorber Canister IV for Induction Chamber.	1
11	10-3037		Activated Carbon Absorber IV, pk of 6.	1

## Basic Equipment

### >S-1-02

This set of enhanced system, integrating both anesthesia and body temperature maintenance fuctions, is suitable for the surgical procedures such as the modeling of cerebral infarction and myocardial infarction, self administration intubation, organ transplantation, etc.



No.	Cat no.	Model	Description	1
1	10-0041	AP-24	Air Pump for iAF10 only, 24V	1
2	10-1030	iAF10	Table-top Anesthesia Machine, Isoflurane, Cage mount and Pour-fill.	1
3	10-2056		Induction Chamber, INLET/OUTLET sep., 240*120*150MM.	1
4	10-2151		Concentric Tubing Masks for Mice, Ø23MM.	1
5	10-2152		Concentric Tubing Masks for Rat, Ø26MM.	1
6	10-2159		Surgical Pad Bracket for Tubing Masks	1
7	10-2357		Tubing and Connector Kit for iAF10	1
8	10-2102		Surgical Pad with One Light, 310* 290* 14MM.	1
9	10-3035		Activated Carbon Absorber IV for iAF10, Column, pk of 6.	1
10	10-3036		Absorber Canister IV for Induction Chamber.	1
11	10-3037		Activated Carbon Absorber IV, pk of 6.	1
12	36-0001	TC201	1-ch Temperature Controller, 90-264V	1

### >S-1-03

This set of enhanced system, integrating both anesthesia and body temperature maintenance fuctions, is also suitable for the surgical procedures such as the modeling of cerebral infarction and myocardial infarction, self administration intubation, organ transplantation, etc. Unlike "s-1-02", this solution uses the constant temperature water circulation heating for thermal insulation to the animal.



No.	Cat no.	Model	Description	1
1	10-0041	AP-24	Air Pump for iAF10 only, 24V	1
2	10-1030	iAF10	Table-top Anesthesia Machine, Isoflurane, Cage mount and Pour-fill.	1
3	10-2056		Induction Chamber, INLET/OUTLET sep., 240*120*150MM.	1
4	10-2151		Concentric Tubing Masks for Mice, Ø23MM.	1
5	10-2152		Concentric Tubing Masks for Rat, Ø26MM.	1
6	10-2159		Surgical Pad Bracket for Tubing Masks	1
7	10-2357		Tubing and Connector Kit for iAF10	1
8	10-2102		Surgical Pad with One Light, 310* 290* 14MM.	1
9	10-3035		Activated Carbon Absorber IV for iAF10, Column, pk of 6.	1
10	10-3036		Absorber Canister IV for Induction Chamber.	1
11	10-3037		Activated Carbon Absorber IV, pk of 6.	1
12	36-0041	WR700	Water Heating Therapy System for Rat and Mouse, 310*290MM, 220V.	1

## Basic Equipment

## S-1-04

This set of system is one ideal way to meet the surgery requirements for up to six animals at the same time. Each channel is allowed to independently control the switch and the rate of flow.



No.	Cat no.	Model	Description	1
1	10-0041	AP-24	Air Pump for iAF10 only, 24V	1
2	10-1030	iAF10	Table-top Anesthesia Machine, Isoflurane, Cage mount and Pour-fill.	1
3	10-2056		Induction Chamber, INLET/OUTLET sep., 240*120*150MM.	1
4	10-2151		Concentric Tubing Masks for Mice, Ø23MM.	6
5	10-2152		Concentric Tubing Masks for Rat, Ø26MM.	6
6	10-2159		Surgical Pad Bracket for Tubing Masks	6
7	10-2357		Tubing and Connector Kit for iAF10	1
8	10-2102		Surgical Pad with One Light, 310* 290* 14MM.	6
9	10-3035		Activated Carbon Absorber IV for iAF10, Column, pk of 6.	1
10	10-3036		Absorber Canister IV for Induction Chamber.	1
11	10-3037		Activated Carbon Absorber IV, pk of 6.	1
12	10-2403		6-channel Gas Flowmeter, 1LPM each.	1

## S-1-05

This set of solution is suitable for bioluminescence and fluorescence imaging for up to 6 mice or 3 rats simultaneously. The animal pads are customized according to the internal space of the imaging system in the market.



No.	Cat no.	Model	Description	1
1	10-0041	AP-24	Air Pump for iAF10 only, 24V	1
2	10-1030	iAF10	Table-top Anesthesia Machine, Isoflurane, Cage mount and Pour-fill.	1
3	10-2056		Induction Chamber, INLET/OUTLET sep., 240*120*150MM.	1
4	10-2151		Concentric Tubing Masks for Mice, Ø23MM.	1
5	10-2152		Concentric Tubing Masks for Rat, Ø26MM.	1
6	10-2159		Surgical Pad Bracket for Tubing Masks	1
7	10-2357		Tubing and Connector Kit for iAF10	1
8	10-2103		6-ch Surgical Pad for Imaging, 300*250*15MM	1
9	10-3035		Activated Carbon Absorber IV for iAF10, Column, pk of 6.	1
10	10-3036		Absorber Canister IV for Induction Chamber.	1
11	10-3037		Activated Carbon Absorber IV, pk of 6.	1

## Basic Equipment

## s-1-06

This set of system focuses on the medium animals like rabbit, cat etc.. The unique surgery pad allows the animal lying on it together with four legs binding. One anesthetic mask could be fixed from any angle to match the posture of supine or prone.



No.	Cat no.	Model	Description	1
1	10-0041	AP-24	Air Pump for iAF10 only, 24V	1
2	10-1030	iAF10	Table-top Anesthesia Machine, Isoflurane, Cage mount and Pour-fill.	1
3	10-2057		Induction Chamber for Rabbits and Cats, I/O sep., 380*280*250MM.	1
4	10-2357		Tubing and Connector Kit for iAF10	1
5	10-2106		Surgical Pad for Cat or Rabbit, 400*600MM	1
6	10-2160		Universal Bracket for Cat or Rabbit Masks	1
7	10-2252		Cone Mask #2 for Cat/Rabbit (Ref.)	1
8	10-2253		Cone Mask #3 for Cat/Rabbit (Ref.)	1
9	10-3035		Activated Carbon Absorber IV for iAF10, Column, pk of 6.	1
10	10-3036		Absorber Canister IV for Induction Chamber.	1
11	10-3037		Activated Carbon Absorber IV, pk of 6.	1

## s-1-07

This set of system especially for neuroscience research in mouse or rat is equipped with a stereotaxic mask onto the adaptor and then used with the gas anesthesia system.



No.	Cat no.	Model	Description	1
1	10-0041	AP-24	Air Pump for iAF10 only, 24V	1
2	10-1030	iAF10	Table-top Anesthesia Machine, Isoflurane, Cage mount and Pour-fill.	1
3	10-2056		Induction Chamber, INLET/OUTLET sep., 240*120*150MM.	1
4	10-2357		Tubing and Connector Kit for iAF10	1
5	30-1030		Rat Stereotaxic, SGL M., Digital 0.01MM	1
6	10-2204		Stereotaxic Masks for Rat (<300g), M2	1
7	30-2031		Mouse Adaptor, G1	1
8	10-2201		Stereotaxic Masks for 18-45g Mouse, M1	1
9	10-3035		Activated Carbon Absorber IV for iAF10, Column, pk of 6.	1
10	10-3036		Absorber Canister IV for Induction Chamber.	1
11	10-3037		Activated Carbon Absorber IV, pk of 6.	1

## Basic Equipment

### » Small Animal Ventilators

The SuperV series ventilator, with high performance, low noise, precise control and long service life span, is specially designed for volume-controlled ventilation multiple kinds of animals such as mice, rats, hamsters, guinea pigs, rabbits, cats etc., and could be run separately with air or pure oxygen as the gas source, or used with anesthesia machine for improving the anesthetic effect.

5 pieces Tracheal Cannulaes as the standard configurations are included.

#### Technical Specifications:

- ☆ Tidal Volume: 0.1 ~ 10ml and 10-100ml available, 0.1ml resolution.
- ☆ Respiration Rates: 1 ~ 200BPM.
- ☆ Inspiration to expiration ratio (I:E): 1:5 ~ 5:1, 0.1 resolution.
- ☆ Pure oxygen, air, or anesthetic gases as gas supply.
- ☆ No high-pressure gases are required, which makes it very convenient to use.
- ☆ Automatic pressure-release protection while exceeding the limit pressure of 6KPa.
- ☆ Real-time display the airway pressure for safe protection.
- ☆ Working parameters can be changed at any time while working.
- ☆ Low noise to reduce noise pollution and side effects on experiments.
- ☆ One exhaust joint is setup to connect the activated charcoal canister.
- ☆ Overall dimensions: 250 x 210 x 100MM.



1-ch Ventilators



2-ch Ventilators

No.	Cat no.	Model	Description
1	10-1000	SuperV	1-ch Small Animal Ventilator, 0.1-10ml
2	10-1010	SuperV100	1-ch Small Animal Ventilator, 10-100ml
3	10-1001	SuperV2	2-ch Small Animal Ventilator, 0.1-10ml
4	10-1011	SuperV200	2-ch Small Animal Ventilator, 10-100ml

### » Veterinary Anesthesia Ventilators

During clinical veterinary surgery, various factors such as surgical type, animal obesity, anesthetics, analgesics, surgical position etc. will lead to the insufficient active breathing or unable to breathe independently, so mechanical ventilation is required to provide the respiratory support, help animals improve ventilation quality and maintain respiratory circulation. Ruiwode provides universal pet ventilators and cross pet specific ventilators for veterinary clinical practice, ensuring anesthesia ventilation safety.

**HV560 Veterinary Anesthesia Ventilator by HUAYON** is a high-performance ventilation device that helps to automatically and precisely control the tidal volume, real-time display multiple respiration parameters and setup various alarm parameters to ensure animal safety. This Ventilator has excellent features of stable quality, easy to use and beautiful appearance and has been widely used and accepted by customers from pet clinic and research labs in China, the United States, Australia, Europe, etc.

The standard inlet/outlet connectors allows to fit any anesthesia machines.



#### Parameters Setup:

- Breathing Mode: VS, VCV, PCV, SIMV-VC, SIMV-PC, PSV, PRVC, SIMV-PRVC, Manual/SPONT.
- Tidal volume: 10 - 1500ml.
- Respiratory rate: 1 ~ 100 bpm.
- Inspiratory time: 0.1~10.0s.
- Respiratory rate: 0 ~ 100 bpm.
- Percentage of inspiratory pause: 0 to 60%.
- PEEP: OFF, 3 ~ 30 cmH2O.
- Pressure Support: 0 ~ 70 cmH2O.
- Pressure Control: 5 ~ 70 cmH2O.
- Flow trigger: 0.5 ~ 20L/min.
- Pressure Trigger: 0 ~ 20 cmH2O.
- PSV Insp Termination Level: 5 ~ 80%.

#### Parameters Monitor:

- Waveform Monitor: Pressure, Flow rate, Volume, Loop, PV loop, PF loop, FV loop.
- Inspiratory tidal volume: 0 ~ 3000 mL.
- Expiratory tidal volume: 0 ~ 3000 mL.
- Spontaneous minute ventilation: 0 ~ 60 L/min.
- Minute ventilation: 0 ~ 60 L / min.
- Respiratory ratio: 4:1 to 1:10.
- Spontaneous breathing frequency: 0 ~ 100 bpm.
- Compliance: 0 ~ 300 mL/cmH2O.
- Respiratory ratio: 30:1 to 1:150.
- Peak airway pressure: 0 ~ 100 cmH2O.
- Mean airway pressure: 0 ~ 100 cmH2O.
- PEEP: 0 ~ 100 cmH2O.
- Inspiratory plateau pressure: 0 ~ 100 cmH2O.

#### Alarm Setup

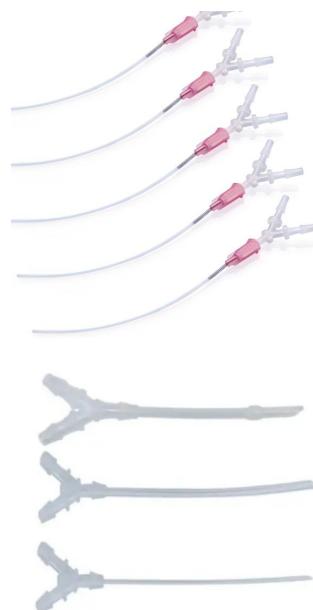
Tidal Volume, Minute Ventilation Volume, Respiratory Rate, Airway Pressure, Apnea alarm, Main Power Failure, Battery Low, Battery Discharged, O2 supply Failure, Circuit Occlusion.

## Basic Equipment

### » Mouse and Rat Tracheal Cannula

This type of tracheal cannulae for mouse or rat is used to being inserted into the animal mouth or neck, and then air, fresh oxygen or anesthesia gas from the ventilator is provided for the animal to breathe smoothly.

No.	Cat no.	Description
1	10-2501	Tracheal Cannul for Neonatal Mice, 0.5mm OD, 10CM, pk of 5.
2	10-2502	Tracheal Cannul for Neonatal Mice, 0.7mm OD, 10CM, pk of 5.
3	10-2503	Tracheal Cannul for 10-25g Mice, 1.0mm OD, 10CM, pk of 5.
4	10-2504	Tracheal Cannul for 25-40g Mice, 1.5mm OD, 10CM, pk of 5.
5	10-2505	Tracheal Cannul for 100-300g Rats, 1.8mm OD, 10CM, pk of 5.



### » Cat, Rabbit and Dog Tracheal Cannula

No.	Cat no.	Description
1	10-2506	Tracheal Cannul for 300-400g Rats, 2.5mm OD, 10CM, pk of 5.
2	10-2507	Tracheal Cannul for Cats or Rabbits, 4mm OD, 10CM, pk of 5.
3	10-2508	Tracheal Cannul for Dogs, 5.0mm OD, 7.5CM, pk of 5.

### » Mouse and Rat Tracheal Cannula by Oral Implantation

This type of tracheal cannulae for mouse or rat is designed with blunt and smooth tips and to deliver the gas from the side of the stainless steel tube to the animals, and still to be inserted into the animal mouth, and then air, fresh oxygen or anesthesia gas from the ventilator is provided for the animal to breathe smoothly.

No.	Cat no.	Description
1	10-2509	Tracheal Cannul for 15-35g Mice, 1.2mm OD, 10CM, pk of 5.
2	10-2510	Tracheal Cannul for 150-300g Rats, 1.8mm OD, 10CM, pk of 5.



### » Veterinary Tracheal Cannula

Only use with pre-clinical research, not use with human.

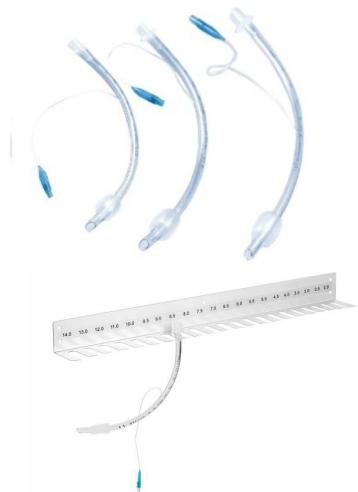
Those cannulae are generally integrated with gas anesthetic machine and ventilator to assist the breathing of animals including cats, rabbits, dogs, monkeys and other large and medium-sized animals.

They are made of medical grade non-toxic PVC, which is suitable for animal throat obstruction, respiratory dysfunction and non-smooth breathing, also has the characteristics of smooth end of the tube, firmly fixation, comfortable feeling after intubation.

ISO standard interface (outer diameter: 15mm) allows to directly using with various anesthesia and respiratory circuits in the market.

17 sizes Cannulas ranging from 2.0 to 10.0MM and Cannulas Bracket with 21 seats are available.

No.	Cat no.	Description
1	10-2511	Veterinary Cannulas with Balloon, Ø2.0-10.0MM
2	10-2531	Veterinary Cannulas without Balloon, Ø2.0-10.0MM
3	10-2358	Cannulas Bracket, 21 seats for 2.0 to 14.0MM Cannulas.



## » Rebreathing Bags

Only use with pre-clinical research, not use with human.

Those **Rebreathing Bags** are generally integrated with gas anaesthetic machine and ventilator for active and passive breathing.

ISO standard 22MM femal quick connector ensures a tight fit.

Latex material greatly reduces the influence on breathing.

Disposable use is suggested to avoid cross-contamination.

No.	Cat no.	Description
1	10-2549	Rebreathing Bags for 0-60KG , 0.5L, 1L, 2L and 3L
2	10-2550	Rebreathing Bags for 0-5KG, 0.5L only
3	10-2551	Rebreathing Bags for 5-10KG, 1L only
4	10-2552	Rebreathing Bags for 10-20KG, 2L only
5	10-2553	Rebreathing Bags for 20-60KG, 3L only



Cat no. 10-2389

## » Ventilator-Anesthesia Connection Kits

This kit is used to directly connect anesthesia to ventilator for appropriate delivery to intubated or tracheotomized small animals. The standard breathing bag is setup to firstly reduce the pressure of the pressurized gas from the anesthesia system or any pressurized gas source, and then deliver to ventilator. The standard sizes available to work with all HUAYON ventilators and we also could provide the customized sizes as your requirements.

## » Intubation Stands

The two stands for mouse and rat Tracheal Intubation Stands is designed to assist experimental personnels in tracheal intubation, drug infusion, and other operations, that greatly helps to reduce the animal damage and improve the efficiency and accuracy of experiments. The angle could be adjusted to meet different requirements.



Cat no. 10-2162



Cat no. 10-2163

## » Small Animal Laryngoscope

This Laryngoscope with 3MM blades for mice, rats, and guinea pigs is designed to use the LED lighting system to easily observe the animal throat and epiglottis structures, that helps personnels find a good field of view and quickly finish the intubation. Additionally, it could be also used in conjunction with aerosol and dry powder administration kits for quantitative administration through the trachea.

The USB head allows the common chargers 5V could be used.



Cat no. 10-2164

## » Intelligent Oxygen Monitor

This product uses the delicate sensors as the core elements and is suitable for monitoring the oxygen content in environments such as ventilators, anesthesia machines, hyperbaric oxygen chambers and incubators, that allows to being an indispensable tools in higher education institutions, research institutions, physical and chemical labs and so on.

- ☆ Monitoring Range: 0-100%,  $\pm 1\%$ FS accuracy, and 0.01 resolution.
- ☆ Response Time: 5seconds ( $\geq 90\%$ ).
- ☆ Sampling Methods: Manual Pinch and Aspiration.
- ☆ Alarm: Sound and Light Alarm.
- ☆ Environment:  $-20^{\circ}\text{C}$ - $50^{\circ}\text{C}$ ,  $<90\%$ RH.
- ☆ Power: 9V Battery rechargeable.



## »1-ch Temperature Controller



The **TC201** Hemeothermic Blanket System, also called Temperature Controller, is designed to maintain a constant temperature of a subject. The proportional DC power supply slowly varies its output to the heating element based on the resistance of the monitoring thermistor. Electrical noise and switching transients common in AC-based devices is eliminated.

You could choose the temperature of the blanket or probe as the target.

It has an easy-to-read three digit LED display on the front panel indicating the subject or liquid temperature in tenths of a degree Celsius.

The Rectal Thermistor Probe is small enough ( $\varnothing 1.5\text{mm}$  and  $\varnothing 2.0\text{mm}$  diameter) to maintain the body temperature of a range of mammals (mouse, rat, cat etc.). Heating blankets are available in sizes suitable for any application.

**The standard configurations include Main Unit, one 120\*205MM Blanket and one  $\varnothing 1.5\text{mm}$  probe.**

No.	Cat no.	Description	No.	Cat no.	Description
1	36-0001	1-ch Temperature Controller, 90-264V	6	36-2005	Customized Blanket, 150*250MM, 12V15W, 2-pin
2	36-2013	Blanket, 70*100MM, 12V8W, 5-pin	7	36-2006	Customized Blanket, 400*600MM, 12V15W, 2-pin
3	36-2014	Blanket, 120*205MM, 12V35W, 5-pin	8	36-2007	Customized Blanket, 200*350MM, 12V40W, 2-pin
4	36-2001	Rectal Probe for Mice, $\varnothing 1.5*15\text{MM}$	9	36-2008	Customized Blanket, 300*500MM, 12V50W, 2-pin
5	36-2002	Rectal Probe for Rat, $\varnothing 2*30\text{MM}$	10	36-2009	Customized Blanket, 120*400MM, 12V40W, 2-pin

## »4-ch Temperature Controller



For intraoperative and postoperative surgery, it is often necessary to maintain the animal body temperature and monitor changes in rectal temperature in real-time to ensure stable vital signs. The **TC204** Animal Warming Device is an ideal solution for this need, particularly suitable for small and medium-sized animals such as mice, rats, rabbits, and cats. It is widely used in universities, medical schools, and research institutions. The device features an LCD touch-display, high precision, stable temperature monitoring, a compact and elegant design, and space-saving.

**The standard configurations include Main Unit, two 120\*205MM Blankets and two  $\varnothing 1.5\text{mm}$  probes.**

- ★ Simultaneously displays the heating pad set temperature and rectal temperature feedback.
- ★ Automatic feedback heating function to maintain animal body temperature.
- ★ Can control and monitor 1-4 channels, warming 1-4 animals independently.
- ★ Offers two control modes: heating pad (Pad) and temperature probe (Probe), allowing flexible selection based on experiments.
- ★ Supports both  $^{\circ}\text{C}$  and  $^{\circ}\text{F}$  units to meet different customer needs.
- ★ Allows setting upper and lower temperature limits.
- ★ Includes heating pad and temperature probe detachment monitoring.
- ★ Target Temperature Setup: 10-50 $^{\circ}\text{C}$ , 0.1 $^{\circ}\text{C}$  Resolution.
- ★ Power Supply: 90-264V 50.60Hz input, 24V8.3A output

No.	Cat no.	Description
1	36-0004	4-ch Temperature Controller, 90-264V
2	36-2013	Blanket, 70*100MM, 12V8W, 5-pin
3	36-2014	Blanket, 120*205MM, 12V35W, 5-pin
4	36-2001	Rectal Probe for Mice, $\varnothing 1.5*15\text{MM}$
5	36-2002	Rectal Probe for Rat, $\varnothing 2*30\text{MM}$

## »Water Heating Therapy System (intraoperative)

This warming system with high-performance is available to warm the animal during surgery and post-surgical recovery. The stainless Steel surgical pad with high-performance in thermal conduction is continuously heated by recirculating water, which makes the surface temperature stable, uniform and comfortable.

The surgical pad can be optionally installed concentric or cone masks to integrate into gas anesthesia system.

### Features:

- ☆ High-resolution display provides real-time water temperature readings.
- ☆ Water temperature setting from room temperature to 60°C.
- ☆ Intelligent and comfortable keys for easy to operate, simple and intuitive.
- ☆ Alarm and off-power due to water depletion and over temperature protection assure safety.
- ☆ Surgical Pad Size: 310\*290MM and 240\*240MM available.
- ☆ Power: 110 or 220v, 50/60Hz.



No.	Cat no.	Description
1	36-0040	Water Heating Therapy System for Mouse, 240*240MM.
2	36-0041	Water Heating Therapy System for Mouse and Rat, 310*290MM.
3	36-0030	Water Recirculating Pump, RT-60°C adjustable.
4	36-2011	Mouse Warming Surgical Pad, 240*240MM.
5	36-2012	Rat and Mouse Warming Surgical Pad, 310*290MM.
6	10-2159	Surgical Pad Bracket for Tubing Masks, Height Adjustable
7	10-2151	Concentric Tubing Masks for Mice, Ø23MM
8	10-2152	Concentric Tubing Masks for Rat, Ø26MM

## »Water Heating Therapy System (intraoperative)

This system is another warming solution for mouse in neuroscience research. The platform below the "body" is heated by the circulating water from the pump, that shows several advantages of rapid, constant and uniform warming. At the same time, the platform could be quickly rised and lowered to fit the head to keep the head and body at the same level and then ensure smooth and comfortable breathing for the mouse during surgery.

No.	Cat no.	Description
1	36-0042	Water Heating Therapy System for Mouse.
2	36-0030	Water Recirculating Pump, RT-60°C adjustable.
3	30-2036	Mouse Adaptor, G6



## »Water Heating Therapy System (postoperative)

This system for mouse and rat after surgery is mainly composed of one nurse chamber and one water circulating pump. The bottom baseplate is made of stainless steel material and heated by circulating water, combined with a ventilated transparent lid, that makes the chamber having the characteristics of fast heating, constant temperature, uniformity, and smooth airflow, providing a comfortable recovery environment for postoperative animals.

The baseplate could be layed padding and surgical pads to absorb animal urine and feces. The lid could be fixed, disassembled and locked, ensuring safe care and quick and efficient cleaning of the box.

The chamber can accommodate at least 3 rats or 20 mice.



No.	Cat no.	Description
1	36-0051	Water Heating Therapy System for Rat and Mouse, 310*290*150MM.
2	36-0031	Water Recirculating Pump, 20-65°C.
3	36-2010	Warming Chamber for Mouse and Rat, 310*290*150MM

## »Autofocus Video Microscopes

In brain science research, the brain area is required to locate accurately. However, the heads of commonly used animals, such as mice and rats, are small and the operation space is limited. Therefore, the cooperation of microscope and light source is strongly needed. The surgical pad can be optionally installed concentric or cone masks to integrate into gas anesthesia system.



Cat no. 16-0150, eVM-III



Cat no. 16-0200, eVM100

The above two types of video microscopes perfectly solve the above problems in terms of structural design, performance and use experience, and they have excellent features as follows:

1. When the working distance is approximately adjusted in place, the camera can focus automatically without manual operation, which simplifies the cumbersome adjustment of the microscope. The position, field of view and definition can be adjusted to the best position with a simple one or two steps, which is very efficient;
2. The configuration of digital microscope, with tens of millions of high-definition and real-time visual surgery, reduces eye use and physical fatigue, and has higher surgical accuracy;
3. Innovative and simple structural design, the integration of shooting CCD and dual LED cold light sources reduces the occupation of table top;
4. The use of integrated power supply box for monitor, cold light source and camera to eliminate the "messy" placement of multiple power lines on the table, and thus save much space and also show more normalization;
5. The monitor show the surgical field of vision real-time, and let the adjust of the spatial position higher efficiency.

### eVM-III Technical Parameters:

1. Image sensor: CMOS color sensor.
2. Camera pixels: about 2 million pixels.
3. Target surface size: 1/1.8 "(i.e. diagonal 8.9mm).
4. Output Interface: HDMI.
5. Storage function: Supports USB storage.
6. Magnification ratio: 1:7.
9. Total magnification: 24-172x.
10. Field of view range: 22.7-3.18mm.
11. Working distance: 100mm and 0.5X auxiliary objective lens is optional to increase the working distance to 170MM.
12. Monitor: 21.5-inch widescreen, 1920x1048 resolution and 24V power supply.
13. Camera power supply: DC12V.
14. Focusing mechanism: The large handle has a focusing and lifting range of 50MM, and the handwheel can be comfortably adjusted for tightness.
15. Standard configurations includes 0.4x eyepiece, 0.7-5x objective lens, dual fiber LED cold light, auto-focus Camera, Monitor and Power.

### eVM100 Technical Parameters:

1. Camera: snake-shaped tube camera: 12.5mm diameter and 5 million pixels.
2. Working distance: about 3-10cm auto-focus.
3. Monitor: 7-inch high-definition screen, no need to install software.
4. Magnification factor: 2-6 times.
5. Power: a 3000mAH high-capacity high-performance polymer lithium battery for charging. Type-C charging port, DV5A/2A power adapter charging, 4-5 hours of usage time, 2-3 hours of charging time, and 1 month of standby time.
6. Storage: a 32GB storage card as standard for photos and videos saved automatically, and the data can be copied to the computer by connecting to a data cable.
7. autofocus snake-shaped tube camera and one 360 ° universal bracket allows to quickly focus the observed objects, saving more time and improve your working efficiency.

## »Tabletop Stereo Microscopes

The following two microscopes are widely used in basic scientific experiments like small animal stereotaxic and dissecting experiments, and electronic industry for the detection, assembly, and repair of micro parts, and education, criminal investigation and medical.



Cat No. 16-0000, SM100B



Cat No. 16-0010, SM100T

### Technical Parameters:

1. Lens: Two eyepieces with 45° inclination, adjustable interpupillary distance from 55mm to 75mm and ±5 dioptre.
2. Working Distance: 165mm (other auxiliary lens are optional to change the working distance and magnification times).
3. Eyepieces: standard WF10X/20.
4. Object Lenses: 0.7-4.5X and 0.5X auxiliary lens.
5. Zoom Ratio : 1:6.4.
6. Magnification Times: 7-45.
7. Method of Focusing: by handwheel ranging from 0 to 49mm.
8. One LED ring-shaped light is also available to adjust the brightness.

No.	Cat no.	Model	Description
1	16-0000	SM100B	Tabletop Stereo Microscope, Binocular
2	16-0010	SM100T	Tabletop Stereo Microscope, Trinocular

## »Swing-arm Stereo Microscopes

This two types of microscopes are also specially designed for brain stereotaxic and dissecting experiments. They are widely accepted because of its flexible angle rotation to save much more time. About the lens, they have the same technical parameters as the SM100 series microscopes. The standard configurations include one 360° universal stands, binocular or trinocular lens, LED O-ring Light, one pair of 10x eyepieces and 0.5x auxiliary lens.



Cat No. 16-0020, SM200B



Cat No. 16-0100, SM200T



Cat No. 16-0120, SM400B



Cat No. 16-0160, SM400T

No.	Cat no.	Model	Description
1	16-0020	SM200B	Swinging-arm Stereo Microscope, Heavy Base Plate, Binocular
2	16-0100	SM200T	Swinging-arm Stereo Microscope, Heavy Base Plate, Trinocular
3	16-0120	SM400B	Swinging-arm Stereo Microscope, Table-clip, Binocular
4	16-0160	SM400T	Swinging-arm Stereo Microscope, Table-clip, Trinocular

## »Stereotaxic Microscopes

This microscope features an open U-type base design, the stereotaxic device could be directly placed the inside of the base, that makes it very suitable for brain stereotaxic experiments. The stable sliding rail allows to quickly move the lens to the front of the stereotaxic to focus the objects, and then remove it to the other side to wait for the next experiments.

The lens could be tilt adjusted and locked at anyone position of the rail by one thumb screw.

Similarly, the lens have the same technical parameters as the stereo microscopes. The standard configurations include one sliding rail stands, binocular or trinocular lens, LED O-ring Light, one pair of 10x eyes pieces and 0.5x auxiliary lens.



Cat no. 16-0170, SM500B



## »Universal Surgical Microscopes

This microscope features an open base with inner width 300mm and height 70mm, which allows for direct placement of various observation objects such as biological specimens, experimental animals, and surgical pads on the inside of the base. It meets a wide range of applications, including specimen research, animal modeling (such as MCAO cerebral ischemia, myocardial ischemia, etc.), animal anatomy, inspection, tool maintenance, and so on.

For the above requirements, we could provide complete configurations including microscopes, surgical pads, anesthesia system, body temperature maintenance system.

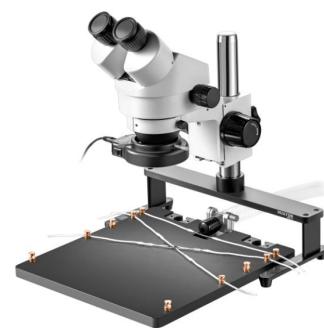
The post with 32mm diameter and 230mm height allows the lens moving about 160mm up and down.



Cat no. 16-0180, SM700B



Cat no. 16-0190, SM700T



No.	Cat no.	Model	Description
1	16-0180	SM700B	Universal Surgical Microscope, Binocular
2	16-0190	SM700T	Universal Surgical Microscope, Trinocular
3	10-2101		Surgical Pad w/o Light, 310*290*14MM.
4	10-2159		Surgical Pad Bracket for Tubing Masks
5	10-2151		Concentric Tubing Masks for Mice, Ø23MM
6	10-2152		Concentric Tubing Masks for Rat, Ø26MM



## » Small Base Stereo Microscopes

This microscope features one small base and allows for specimen testing, biological research, surgical practice, animal anatomy on the white or black background plate.



Cat no. 16-0220, SM600B



Cat no. 16-0110, SM600T

## » Trolley Surgical Microscopes

The SM300 series Operation Microscope with coaxial illumination and binocular or trinocular lens is very suitable to meet the requirements of ophthalmic microsurgery due to its excellent characteristics of compact and lightweight body, high flexibility, etc.

### <Features>

- ✓ The lens adopts multi-layer coating technology to enhance transmittance and prevent the growth of .
- ✓ Foot control focusing, three-step magnifications, depth of field and binocular fusion is good, can meet the needs of cataract surgery.
- ✓ The arm is equipped with a spring balance system, allowing the surgical microscope to move up and down freely.
- ✓ The use of apochromatic technology, so that different wavelengths of light in the lens behind the focus of close, the surgeon's field of vision more clear.
- ✓ The weight of the whole machine is only 41kg, the whole machine is light and compact, especially suitable for mobile medical treatment.



Cat no. 16-0030, SM300B

### <Technical Specifications>

<b>Model</b>	SM300B (Binocular) and SM300T (Trinocular)
<b>Eyepiece Magnification</b>	12.5×16B
<b>Objective</b>	200mm
<b>Working Distance</b>	190mm
<b>Total Magnification</b>	5.3×、8×、12×
<b>Vision Field</b>	F37mm、F25mm、F16.7mm
<b>Diopter adjustment range</b>	±6D
<b>Adjustment Range of Pupil Distance</b>	50mm~80mm
<b>Resolution</b>	100 Line Pair/mm
<b>Light Source</b>	12V/100W Cold Reflection, Medical halogen tungsten bulb
<b>Type of Illumination</b>	6° +0° Cold Light, Coaxial illumination
<b>Surface illuminance</b>	≥30000lx
<b>Maximum stretching radius of arm</b>	870mm
<b>Vertical movement range</b>	700mm~1100mm
<b>Fine Tuning Distance</b>	30mm
<b>Voltage</b>	AC220V±22V/ 50Hz±1Hz
<b>Power</b>	≤120VA
<b>Fuse</b>	AC250V T1.25A、AC125V T2.5A
<b>Electrical Safety Standards</b>	GB9706.1-2007, Class I
<b>Package Volume</b>	80*70*50cm, 46kg, 1 box
<b>Net Weight</b>	41kg

## »Animal Endoscope

This product mainly consists of an integrated light source, camera system, bluetooth foot pedal and mirror, and allows for surgical experiments on animal ears, nose, throat, rectum, joints, and other parts. It has many excellent advantages of lightweight, portable, high-resolution, wireless foot switch, high quality visuals, high display LED etc.



### Technical Specifications

Mirror	Camera	LED Light	Size/Weight	Work Station
<ul style="list-style-type: none"> <li>Diameter: 2.7mm and 3mm available.</li> <li>Angle: 0° and 30° available.</li> <li>Length: 110mm.</li> </ul>	<ul style="list-style-type: none"> <li>Sensor: Sony IMX178</li> <li>Target Size: 1/1.8"</li> <li>Resolution: 3088×2064 (6.3MP)</li> <li>Frame Rate: 100fps@2560×1440</li> </ul>	<ul style="list-style-type: none"> <li>Power: 5W.</li> <li>Intensity of illumination: 40,000lx.</li> <li>Color Temperature: 4,500K.</li> <li>Rendering Index: 90.</li> <li>Lifetime: about 50,000h.</li> </ul>	<ul style="list-style-type: none"> <li>Size: 140*40*40mm</li> <li>Weight: 300g</li> </ul>	<ul style="list-style-type: none"> <li>System: Windows 7 or higher</li> <li>USB Interface: 3.0+</li> <li>Monitor: 2K, 1080P</li> </ul>

## »Dual Optical Fiber Cold Light

This two types of dual optical fiber cold lights are designed to adopt advanced filter infrared techniques leading to high color temperature and have no heat effect, that makes them the best choice for laboratory lighting require



Cat No. 16-0040, FOI302



Cat No. 16-0050, FOI304

### Technical Specifications

Model Specifications	FOI302 Halogen Cold Light	FOI304 LED Cold Light
Light Source	21V, 150W Halogen	10W LED
Spectrum	450nm-700nm, 550nm peak	
Color Temperature	3200K	6000K
Bulb Life	About 200 hours	About 30000-50000 hours
Length of Fiber	55cm	55cm
Max. Power	200W	35W
Method of Dimming	Dimmer Wheel, Continuous	Dimmer Wheel, Continuous
Method of Cooling	Fan Cooling	Fan Cooling
Overall Sizes	250*95*156mm	250*95*156mm
Weight	3.5KG	3.5KG
Working Temperature	5-40°C	5-40°C
Storage Temperature	10-45°C	10-45°C
Power	110/220V, AC 50/60Hz	110/220V, AC 50/60Hz

## » Small Animal Gait Analysis System

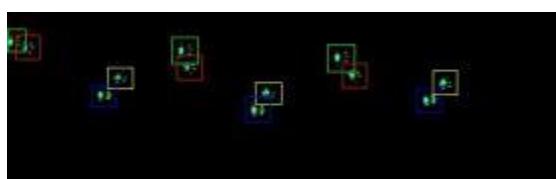
Gait refers to the behavioral characteristics of walking. Gait analysis is an examination method for studying walking patterns, aiming to uncover the key aspects and influencing factors of gait abnormalities through biomechanical and kinematic means, thereby guiding rehabilitation assessment and treatment. It is also useful for clinical diagnosis, efficacy evaluation, and research on injury mechanisms. As a complete gait analysis system, the Top-Gait Analysis System can automatically and quantitatively assess the gait of rats and mice. It is commonly used for the evaluation of diseases and conditions such as neurotrauma, neurotropy, Alzheimer's disease, ALC, spinal cord injury, neuropathic pain, arthritis, stroke, Parkinson's disease, ataxia, brain injury, peripheral nerve injury, and arthritis.

### Features

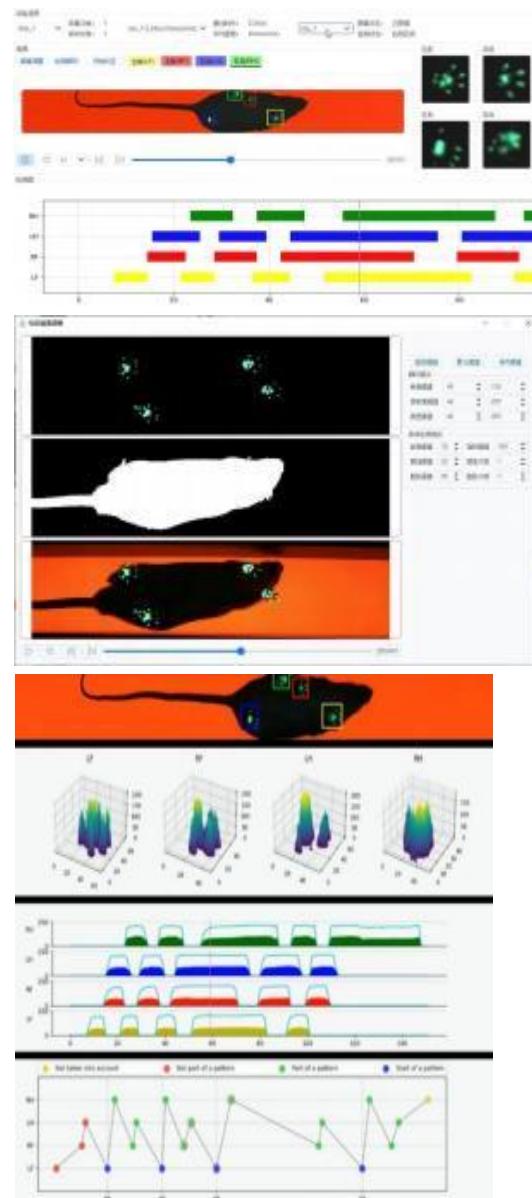
- **Intelligent Acquisition Module:** It features both automatic and manual acquisition modes, supports bidirectional information retrieval, and can intelligently identify and record the entry and exit of animals.
- **Efficient Paw Print Classification System:** It can quickly and accurately identify and classify paw prints, with an initial detection accuracy rate of up to 96%.
- **Gait Data Analysis Platform:** It covers over 70 gait parameters and is accompanied by detailed graphical representations for easy and intuitive understanding.
- **Multidimensional Data Comparison Tool:** It allows users to flexibly compare data from different groups and conduct in-depth analysis of trends in gait characteristics.
- **Dual-Track Design:** Supports simultaneous training and experimentation or dual-track parallel experiments, significantly enhancing work efficiency.
- **Gas Guiding System:** Provides adjustable airflow within the range of 0 to 0.8 MPa, enabling rapid posture training of animals on the runway.
- **Video Editing Function:** After acquisition, invalid or poor-quality segments can be conveniently edited out to ensure the authenticity and validity of the data.
- **Paw Print Enhancement Tool:** Optimizes image quality and improves recognition accuracy by adjusting parameters such as hue, saturation, and brightness of the image.
- **Visualization of Experimental Parameters:** Integrates various chart display methods, including footprint pattern diagrams, time sequence diagrams, 2D/3D pressure distribution maps, and footprint heatmaps.
- **Flexible Operation Process:** The system design balances a high degree of operational freedom with simplicity, greatly enhancing the user experience.



Paw PrintS Heatmap



Paw Prints Diagram



3D and 2D Pressure Map, Real-time Display of Pressure Changes, Maximum and Average Pressure Values During Landing for Different Paws.

## »Rota-rod



The RotaRod as a simple test is designed to assess motor function, coordination, endurance and fatigue resistance in rodents, and so provides an easy way to test the effects of drugs, brain damage, or diseases. Motor coordination or fatigue can be evaluated by measuring the time the animal stays on a rotating rod before falling. The Rod can rotate at constant, accelerating, rocking (back and forth) or through complex acceleration/deceleration ramps.

The animal is placed on the rotating lane of the Rota Rod and the timer is started. When the animal drops safely into its own lane, the time latency to fall and rotation speed at that time point are automatically recorded.

The Rota Rod is controlled by an 7-inch touch screen which provides precise timing control and ultra-accurate speed regulation. Rotation can be electronically set at a constant speed (2 to 90 rpm). Alternatively, acceleration rate may be selected at a defined time (2 to 5999 sec, 1 sec increments).

The touchscreen graphic user interface allows clear visualization of timing and speed for each lane. Change modes, adjust speed, and create protocols right from the main screen for greater flexibility with maximum functionality and usability. The data can be read on the screen and/or exported to the SEDACOM software for saving the data in table form by lanes/trials.

For the rat Rota-rod, a removable upper separator is included to prevent interference between animals running in adjacent lanes.

Parameters	Values
Number of Channels	6 channels for mice and 4 channels for rats
Control Unit	7-inch touch-screen to set and monitor the test data
Speed	Adjustable in the range 3 to 100m/min, in steps of 1m/min
Working Mode	Constant, Ramp (accelerating), Multi-step personalized ramp.
Detection Time Point	When the subjects fall occurs
Results	Time Elapsed, Revolutions, Distance, Speed, Mode for each lane
Data Out	Exported to .cvs formats
Rod Diameter	3cm for Mice and 6cm for Rats
Rod Width	5-8cm for Mice and 7-8cm for Rats
Fall Height	Fall Height
Power Requirement	Universal input 100-240 VAC, 50-60Hz, 150W max
Total Weight	27Kg
Shipping Weight	40Kg
Dimensions	56(w)x67(d)x35(h)cm
Packing Dimensions	82x71x57cm

### Order Information

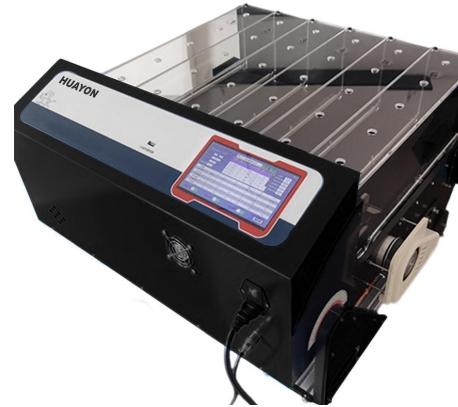
No.	Cat no.	Description
1	26-0001	Rota Rod for 4 Rats
2	26-0002	Rota Rod for 6 Mice

## » Treadmill

Basically, the Treadmill is designed for measure endurance, distance and speed, and for studying behavioral, physiological, biochemical, and molecular responses to both acute exercise stress and chronic exercise training.

### Technical Specifications

1. Display mode: 7-inch touchscreen.
2. Touchscreen resolution: 800X600.
3. Number of channels: 6 channels.
4. Single channel dimensions: 500×90×160mm.
5. Overall dimensions of the treadmill: 623×380×680mm.
6. Applicable animals: rats and mice.
7. Adjustable speed range: 1-60m/min.
8. Motion modes: acceleration, constant speed, and deceleration.
9. Speed parameters: speed, acceleration, and running time.
10. Cycle mode allows flexible settings for motion patterns such as continuous acceleration or acceleration at a certain speed for a certain period.
11. Experimental time range: 1 second to 3000 minutes.
12. Internal electric clock with a lifespan of 10 years.
13. Hourly error ≤0.0828 seconds.
14. Maximum internal storage: >1000 sets of data.
15. Electric tilt adjustment range: 0°-30°.
16. Tilt adjustment method: electric adjustment.
17. Adjustment signals: acoustic, optical, and electrical.
18. Stimulation mode: DC pulsed.
19. Stimulation action: step change stimulation.
20. Electric shock range: 0.3-5.0mA.
21. Stimulation tolerance range: 0-99 seconds, with a step length of 1 second.
22. Acquisition indicators: experimental time, distance traveled, exhaustion time, exhaustion speed, number of electric shocks, first electric shock time, and speed.
23. Data export function: USB interface for exporting data to a U disk.



### Order Information

No.	Cat no.	Description
1	26-0026	Treadmill for 6 Rats
2	26-0036	Treadmill for 6 Mice

## » GS720 Grip Strength Meter

The Grip Strength Meter determines the maximum force (skeletal muscle function) displayed by an animal in the forelimb, hind-limb or all four limbs. The techniques exploits the instinctive resistance of rodents to backward movements and their consequence tendency to grasp (grip) against the pull-back movement that the operator applies.

Because of its simplicity and economy, the grip strength meter is the most commonly used *in vivo* test for monitoring impaired limb strength (fore and/or hind limb) caused by pathology progression and/or chronic exercise in rodents. Because this test is non-invasive and does not damage the muscle, it can be performed over time, being a useful tool to assess the effect of either a short or long-term treatment. When the test is performed in a fashion that maintains rigorous timing, the animals do not lose interest in the test over time.



Cat no. 26-0085

The device has a self-calibrating and auto-zeroing force sensor, amplifier and peak detector, embedded in the 5-inch touch screen controller. For the results, the controller could simultaneously display the real-time value, peak value and curved graph, and record the peak value when confirming the data by foot pedal or click the button on the screen.

The force value units are available in gf, N and kg.

The grasp accessories for rats and mice include 5 stainless-steel trapeze bars and 2 stainless-steel grasping grids. Also, foot pedal and U-disc are included.

The measured data could be exported to U-disc in csv. format.

### Technical Specifications:

1. Force Ranges 0-50N (0-5KG) and accuracy 0.1g.
2. The grasp accessories angle adjustment range:  $\pm 12.5^\circ$ .
3. Sampling Rate 1000Hz.
4. Peak value retention function.
5. Strength Unit : N, gf and lbf available.
6. Zero calibration could be performed before measurement.
7. Touch screen operation, peak force, real-time change value, change curve graph, and saved peak data are shown on the same screen.
8. Manually or foot pedal to confirm the collected data and save it.
9. Can store 99 sets of x20 test data per set (That is, the peak strength data of 99 animals).
10. Data saving can be exported through a USB flash drive, maintaining the format of xls/csv.
11. The screen brightness can be adjusted from 10-100%.
12. Time and date can be set.
13. Power supply: 100-240V wide voltage input.
14. Physical dimensions: 250 \* 196 \* 123mm.

## » Voluntary Running Wheel

The rodent Running Wheel provides a very convenient and clever method for measuring rodent spontaneous motor activity over long periods of time in its home cage environment. The use of this high throughput tool is particularly used for research on circadian rhythms, phenotyping, drug testing, motor function, aging, energy balance, obesity, recovering and pain related exercise.

Basically the animals are housed individually in the home cages equipped with the running wheel. The total number of wheel rotation made by the animal is displayed on the 7-inch touch screen.

Data can be collected from up to 12 wheels simultaneously.



## » Sleep Deprivation System

The HUAYON SD2000 Automated Sleep Deprivation System, a unique solution for sleep deprivation and sleep fragmentation studies, is designed to gently restrict sleep without unnecessary exercise and direct human intervention in rodents. This is achieved by a rotating bar placed a short distance above the cage floor, lightly nudging the animal from sleep and encouraging low levels of activity until the animal maintains wakefulness on its own. Multiple running parameters such as speed, direction, experiment duration, intervention time, intermittent time are fully customized according to your experimental protocols.

### Key Features

- ☆ 4.3-inch high resolution touch screen operation.
- ☆ Simulates gentle handling.
- ☆ No necessary exercise and direct human intervention.
- ☆ Accommodates water, food, and bedding.
- ☆ Provides flexible scheduling controls.
- ☆ Several bar rotation modes are available.
- ☆ Reserved interface for external TTL signal triggering (optional).
- ☆ Supports lighting illumination at regular time.
- ☆ Supports Data export in xls/csv format for future analysis.
- ☆ Optional brackets to integrates with the third-party EEG/ECG, optogenetics system.



Cat no. 24-0090

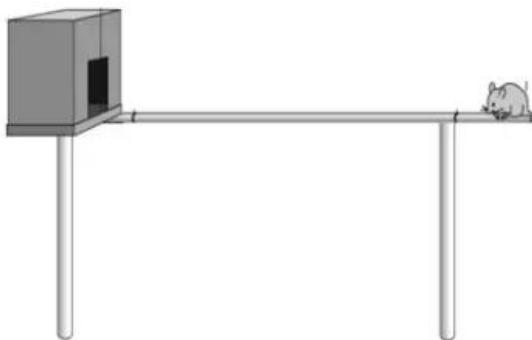
### Typical Applications

- ☆ Neuroplasticity study: Using transgenic mouse models and in vivo imaging techniques, analyze the effects of acute sleep deprivation on microglia activation and synaptic structure.
- ☆ Drug development: used to construct animal models of sleep disorders and evaluate the effectiveness of anti fatigue drugs or health supplements.

### Technical Specifications

1. 4.3-inch capacitive touch screen with 800\*480 high resolution.
2. Bar rotation modes: clockwise rotation (CW), counterclockwise rotation (CCW), alternative rotation, random direction rotation, random direction and deprivation time rotation.
3. Built in lighting system, supporting timed on/off of lighting fixtures.
4. Supports Start/Stop at regular time like the alarm clock.
5. Intervention time/Depriving time: 1~99999 sec.
6. Intermittent time: 0~99999 sec.
7. Experiment duration: 1~99999 min (about 1666 hours).
8. Bar rotation speed: 0.1-100 r/min.
9. Date and Time could be setup.
10. Support language switching between Chinese and English.
11. Support data viewed playback and deletion on demands.
12. Supports U-disk data export in xls/csv format for future analysis.
13. Physical Dimensions for the bottom chassis:
14. Bar Sizes: 8mm.
15. Transparent cylinder: 35cm in diameters and 50cm in height.

## » Beam Balance Test Device



Cat no. 24-0072, Mouse  
Cat no. 24-0073, Rat

The beam balance test (or beam walking assay) is used to assess fine motor coordination and balance in rodents, especially in experimental models associated with an alteration of the motor skills (brain injury, genetic manipulations, and/or pharmacological treatments...).

The goal of this test is for the subject to stay upright and walk across an elevated narrow beam to a safe box or platform. This test usually takes several consecutive days of test: several days of training and 1 day of testing. Performance on the beam is quantified by measuring the time it takes for the subject to cross the beam and the number of paw slips that occur in the process. This task is particularly useful for detecting subtle deficits in motor skills and balance that may not be detected by other motor tests, such as the Rotarod.

## »Basic Surgical Kit, 18-8000

This kit is mainly used for general operative procedures such as cutting, dissecting, isolating and suturing and so on.

No.	Cat no.	Model	Qty
1	18-0400	Surgical Scissors, Str, Sh/Sh, 12.5CM	1
2	18-0110	Eye Scissors, Str, Sh/Sh, 10CM	1
3	18-1240	Eye Tweezers, Str, 0.8mm Tips, 10CM	1
4	18-1241	Eye Tweezers, 30°Curved, 0.8mm Tips, 10CM	1
5	18-1300	Dissecting Tweezers, Str, 2.2mm Tips, 12.5CM	1
6	18-2000	Mosquito Forceps, Str, 1.2mm Tips, 12.5CM	1
7	18-2001	Mosquito Forceps, Curved, 1.2mm Tips, 12.5CM	1
8	18-2240	Needle Holders with Tungsten Carbon Jaws, 13CM	1
9	18-5034	Suture Needles, ▲3/8 4*10, pk of 10	1
10	18-5941	Sutures #4-0, non-absorbable, 15 x 60CM	1
11	18-5961	Sutures #6-0, non-absorbable, 20 x 60CM	1



Cat No. 18-8000

## »Spinal Cord Surgical Kit, 18-8040

This kit is mainly used for delicate procedures with spinal cord in small animals such as mice, rats, cats, rabbits etc.

No.	Cat no.	Model	Qty
1	18-0753	Surgical Handle with ruler, 3#, 12CM	1
2	18-0811	Surgical Blades 11#, pk of 100.	1
3	18-0400	Surgical Scissors, Str, Sh/Sh, 12.5CM	1
4	18-0110	Eye Scissors, Str, Sh/Sh, 10CM	1
5	18-0111	Eye Scissors, Curved, Sh/Sh, 10CM	1
6	18-1080	Micro Tweezers, Str, 0.3mm Tips, 13CM	1
7	18-1240	Eye Tweezers, Str, 0.8mm Tips, 10CM	1
8	18-1300	Dissecting Tweezers, Str, 2.2mm Tips, 12.5CM	1
9	18-3000	Bone Cutters, 12mm Cutting Edge, 12.5CM	1
10	18-3101	Bone Rongeurs, Curved, 0.5mm Cup, 14.5CM	1
11	18-3121	Bone Rongeurs, Curved, 1.0mm Cup, 14.5CM	1
12	18-4140	Retractors, 2x2 Blunt, Spread 10MM, 2CM	1
13	18-4160	Retractors, Single Arc Blade, Spread 25mm, 8CM	1
14	18-2240	Needle Holders with Tungsten Carbon Jaw, 13CM	1
15	18-5034	Suture Needles, ▲3/8 4*10, pk of 10.	1
16	18-5941	Sutures #4-0, non-absorbable, 15 x 60CM	1
17	18-5961	Sutures #6-0, non-absorbable, 20 x 60CM	1



Cat No. 18-8040

## » Brain Surgical Kit, 18-8010

This kit is mainly used for general brain surgery in small animals, such as single-use cannula implantation, optical fiber implantation, drug microinjection, EEG signal acquisition and so on.



Cat No. 18-8010

No.	Cat no.	Model	Qty
1	18-0753	Surgical Handle with ruler, 3#, 12CM	1
2	18-0811	Surgical Blades #11, pk of 10	1
3	18-0400	Surgical Scissors, Str, Sh/Sh, 12.5CM	1
4	18-0110	Eye Scissors, Str, Sh/Sh, 10CM	1
5	18-1240	Eye Tweezers, Str, 0.8mm Tips, 10CM	1
6	18-1300	Dissecting Tweezers, Str, 2.2mm Tips, 12.5CM	1
7	18-0890	Surgical Knives, Str, 2mm Blades, 11.5CM	1
8	18-4140	Retractors, 2x2 Blunt, 10mm Spread, 2CM	1
9	18-4120	etractors, 1x1 Blunt, 10MM Spread, 2CM	1
10	18-2240	Needle Holders with Tungsten Carbon Jaw, 13CM	1
11	18-5034	Suture Needles, ▲3/8 4*10, pk of 10.	1
12	18-5941	Sutures #4-0, non-absorbable, 15 x 60CM	1
13	18-5961	Sutures #6-0, non-absorbable, 20 x 60CM	1

## » Micro Surgical Kit, 18-8020

This kit is mainly used for delicate procedures under microscope with micro blood vessels, neuros, and so on.



Cat No. 18-8020

No.	Cat no.	Model	Qty
1	18-0000	Vannas Scissors, Str, 0.1mm Tips, 5mm Cutting Edge, 8.5CM	1
2	18-0001	Vannas Scissors, Curved, 0.1mm Tips, 5mm Cutting Edge, 8.5CM	1
3	18-0110	Eye Scissors, Str, Sh/Sh, 10CM	1
4	18-1240	Eye Tweezers, Str, 0.8mm Tips, 10CM	1
5	18-1241	Eye Tweezers, 30° Curved, 0.8mm Tips, 10CM	1
6	18-1010	Micro Tweezers #5, 0.1mm*0.06mm Tips, 11CM	1
7	18-1050	Micro Tweezers #5/45, 0.1mm*0.06mm Tips, 11CM	1
8	18-0890	Surgical Knives, Str, 2mm Blades, 11.5CM	1
9	18-5021	Blood Vessels Clips, Str, 0.7CM Jaw, 1.8CM, pk of 10.	1
10	18-5020	Blood Vessels Clip Forceps, 10CM	1
11	18-2240	Needle Holders with Tungsten Carbon Jaw, 13CM	1
12	18-5034	Suture Needles, ▲3/8 4*10, pk of 10.	1
13	18-5941	Sutures #4-0, non-absorbable, 15 x 60CM	1
14	18-5961	Sutures #6-0, non-absorbable, 20 x 60CM	1

## »Cerebral Ischemia Surgical Kit, 18-8050

This kit is mainly used for cerebral ischemia development in mice and rats.

No.	Cat no.	Model	Qty
1	18-0400	Surgical Scissors, Str, Sh/Sh, 12.5CM	1
2	18-0110	Eye Scissors, Str, Sh/Sh, 10CM	1
3	18-1242	Eye Tweezers, 45° Curved, 0.8mm Tips, 10CM	2
4	18-1071	Micro Tweezers, Curved, 0.15mm Tips, 13CM	1
5	18-1081	Micro Tweezers, Curved, 0.3mm Tips, 13CM	1
6	18-0000	Vannas Scissors, Str, 0.1mm Tips, 5mm Cutting Edge, 8.5CM	1
7	18-0001	Vannas Scissors, Curved, 0.1mm Tips, 5mm Cutting Edge, 8.5CM	1
8	18-5021	Blood Vessels Clips, Str, 0.7CM Jaw, 1.8CM, pk of 10.	1
9	18-5020	Blood Vessels Clip Forceps, 10CM	1
10	18-4140	Retractors, 2x2 Blunt, Spread 10MM, 2CM	1
11	18-2240	Needle Holders with Tungsten Carbon, 13CM	1
12	18-5034	Suture Needles, ▲3/8 4*10, pk of 10.	1
13	18-5941	Sutures #4-0, non-absorbable, 15 x 60CM	1
14	18-5961	Sutures #6-0, non-absorbable, 20 x 60CM	1



Cat No. 18-8050

## »Myocardial Ischemia Surgical Kit, 18-8060

This kit is mainly used for myocardial ischemia development in mice, rats.

No.	Cat no.	Model	Qty
1	18-0400	Surgical Scissors, Str, Sh/Sh, 12.5CM	1
2	18-0110	Eye Scissors, Str, Sh/Sh, 10CM	2
3	18-0111	Eye Scissors, Curved, Sh/Sh, 10CM	2
4	18-1240	Eye Tweezers, Str, 0.8mm Tips, 10CM	2
5	18-1242	Eye Tweezers, 45° Curved, 0.8mm Tips, 10CM	4
6	18-2000	Mosquito Forceps, Str, 1.2mm Tips, 12.5CM	4
7	18-2001	Mosquito Forceps, Curved, 1.2mm Tips, 12.5CM	4
8	18-2240	Needle Holder with Tungsten Carbon, 13CM	1
9	18-5021	Blood Vessels Clips, Str, 0.7CM Jaw, 1.8CM, pk of 10.	1
10	18-5020	Blood Vessels Clip Forceps, 10CM	1
11	18-4140	Retractors, 2x2 Blunt, Spread 10MM, 2CM	1
12	18-5034	Suture Needles, ▲3/8 4*10, pk of 10	1
13	18-5054	Suture Needles, ●1/2 4*10, pk of 10	1
14	18-5941	Sutures #4-0, non-absorbable, 15 x 60CM	1
15	18-5961	Sutures #6-0, non-absorbable, 20 x 60CM	1



Cat No. 18-8060

## » Dissection Surgical Kit, 18-8030

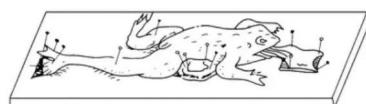
This kit is mainly used with small animals for general dissection with heart, liver, spleen, kidney, tumor, body fat etc.



No.	Cat no.	Model	Qty
1	18-0000	Vannas Scissors, Str, 0.1mm Tips, 5mm Cutting Edge, 8.5CM	1
2	18-0001	Vannas Scissors, Curved, 0.1mm Tips, 5mm Cutting Edge, 8.5CM	1
3	18-0110	Eye Scissors, Str, Sh/Sh, 10CM	1
4	18-1240	Eye Tweezers, Str, 0.8mm Tips, 10CM	1
5	18-1241	Eye Tweezers, 30° Curved, 0.8mm Tips, 10CM	1
6	18-1010	Micro Tweezers #5, 0.1mm*0.06mm Tips, 11CM	1
7	18-1050	Micro Tweezers #5/45, 0.1mm*0.06mm Tips, 11CM	1
8	18-0890	Surgical Knives, Str, 2mm Blades, 11.5CM	1
9	18-5021	Blood Vessels Clips, Str, 0.7CM Jaw, 1.8CM, pk of 10.	1

Cat No. 18-8030

## » Frogs Research Surgical Kit, 18-8070



Cat No. 18-8070

No.	Cat no.	Model	Qty
1	18-0110	Eye Scissors, Str, Sh/Sh, 10CM	1
2	18-1240	Eye Tweezers, Str, 0.8mm Tips, 10CM	1
3	18-1241	Eye Tweezers, 30° Curved, 0.8mm Tips, 10CM	1
4	18-1300	Dissecting Forceps, Str, 2.2mm Tips, 12.5CM	1
5	18-1301	Dissecting Forceps, Str, 1x2 Teeth, 2.2mm Tips, 12.5CM	1
6	18-0753	Surgical Handle with Ruler #3, 12CM	1
7	18-0811	Surgical Blades #11, pk of 10	1
8	18-0881	Surgical Knives, 5mm Blade, 11CM	1
9	18-4190	Retractors, Arc-sharp, 50mm spread, 7.5CM	1
10	18-9001	Frog Heart Clamps	1
11	18-9003	Frog Mouth Clip / Frog Leg Clips	1
12	18-9004	Frog Hooks	1
13	18-9005	Arterial Hemostatic Clips	1
14	18-5021	Arteriovenous Hemostatic Clips	1
15	18-9006	Frog Heart Tube Clamps	1
16	18-9007	Frog Artery Catheterization	1
17	18-9008	Venous Cannula	1
18	18-9009	Frog Heart Catheterization	1
19	18-9010	Frog Heart Perfusion Device	1
20	18-9013	Frog Nails	1
21	18-9014	Spinal Cord Destruction Needles	1
22	18-9015	Glass Minute Hand	1
23	18-9016	Endotracheal Intubation	1
24	18-9017	Zinc Copper Bow	1

## »Feline and Canine Surgical Kit, 18-8080

This kit is mainly used for routine surgeries in pet hospitals, clinics, feline and canine departments etc.

No.	Cat no.	Model	Qty
1	18-0753	Surgical Handle #3 with Ruler, 12CM	1
2	18-0811	Surgical Blades, #11, pk of 10	1
3	18-1300	Dissecting Tweezers, Str, 2.2mm Tips, 12.5CM	1
4	18-1301	Dissecting Tweezers, Str, 1x2 Teeth, 2.2mm Tips, 12.5CM	1
5	18-1520	Adson Forceps, Str 7x7 Teeth, 12CM	1
6	18-0410	Surgical Scissors, Str, Sh/Sh, 14CM	1
7	18-0450	Surgical Scissors, Str, Sh/Bl, 14CM	1
8	18-0600	Bandage Scissors, 14CM	1
9	18-2000	Mosquito Forceps, Str, 1.2mm Tips, 12.5CM	2
10	18-2001	Mosquito Forceps, Curved, 1.2mm Tips, 12.5CM	2
11	18-2030	Hemostatic Forceps, Str, 2mm Tips, 16CM	2
12	18-2031	Hemostatic Forceps, Curved, 2mm Tips, 16CM	2
13	18-2040	Rocca Hemostatic Forceps, Str, Vertical Teeth, 16CM	1
14	18-2041	Rocca Hemostatic Forceps, Curved, Vertical Teeth, 16CM	1
15	18-2240	Needle Holders with Tungsten Carbon, 12.5CM	1
16	18-2510	Towel Forceps, Sharp Tips, 11CM	4
17	18-4050	Ovarian Hooks, SGL.Ball Tip, 16CM	1
18	18-3050	Bone Shears, Str, 20MM Cutting Blades, 15CM	1
19	18-3131	Bone Rongeurs, Curved, 2.0MM Jaws, 14.5CM	1

Cat No. 18-8080

## »Mouse Self-administration Surgical Kit, 18-8120

No.	Cat no.	Model	Qty
1	18-0150	Eye Scissors, Str, Sh/Sh, 11CM	1
2	18-1242	Eye Tweezers, 45° Curved, 0.8mm Tips, 10CM	2
3	18-1070	Micro Tweezers, Str, 0.15mm Tips, 13CM	1
4	18-0010	Vannas Scissors, Str, 0.1mm Tips, 5mm Cutting Edge, 8.5CM	1
5	18-2240	Needle Holders with Tungsten Carbon, 12.5CM	1
6	18-7504	Guide Catheter, 20G, pk of 10	1
7	21-3027	Syringes, 1ml, pk of 10	1
8	18-5941	Sutures #4-0, non-absorbable, 15 x 60CM	1
9	18-5961	Sutures #6-0, non-absorbable, 20 x 60CM	1
10	18-5034	Suture Needles, ▲3/8 4*10, pk of 10.	1
11	18-5044	Suture Needles, ●3/8 4*10, pk of 10.	1
12	20-3010	PE10 Tubings, Ø0.28*0.61mm, pk of 10m	1



Cat No. 18-8120

## » Rat Self-administration Surgical Kit, 18-8130



Cat No. 18-8130

No.	Cat no.	Model	Qty
1	18-0500	Surgical Scissors (Narrow), Str, Sh/Sh, 12CM	1
2	18-1242	Eye Tweezers, 45° Curved, 0.8mm Tips, 10CM	2
3	18-1080	Micro Tweezers, Str, 0.3mm Tips, 13CM	1
4	18-0010	Vannas Scissors, Str, 0.1mm Tips, 5mm Cutting Edge, 8.5CM	1
5	18-2240	Needle Holders with Tungsten Carbon, 12.5CM	1
6	18-7504	Guide Catheter, 20G, pk of 10	1
7	21-3027	Infusion Syringes, 1ml, pk of 10	1
8	18-5941	Sutures #4-0, non-absorbable, 15 x 60CM	1
9	18-5961	Sutures #6-0, non-absorbable, 20 x 60CM	1
10	18-5034	Suture Needles, ▲3/8 4*10, pk of 10.	1
11	18-5044	Suture Needles, ●3/8 4*10, pk of 10.	1
12	20-3010	PE10 Tubings, Ø0.28*0.61mm, pk of 10m	1

## » Mouse Brain Perfusion Surgical Kit, 18-8100



Cat No. 18-8100

No.	Cat no.	Model	Qty
1	18-0400	Surgical Scissors, Str, Sh/Sh, 12.5CM	1
2	18-0110	Eye Scissors, Str, Sh/Sh, 10CM	2
3	18-0111	Eye Scissors, Curved, Sh/Sh, 10CM	2
4	18-1240	Eye Tweezers, Str, 0.8mm Tips, 10CM	2
5	18-1242	Eye Tweezers, 45° Curved, 0.8mm Tips, 10CM	4
6	18-2000	Mosquito Forceps, Str, 1.2mm Tips, 12.5CM	4
7	18-2001	Mosquito Forceps, Curved, 1.2mm Tips, 12.5CM	4
8	18-2240	Needle Holder with Tungsten Carbon, 13CM	1

## » Rat Brain Perfusion Surgical Kit, 18-8110



Cat No. 18-8110

No.	Cat no.	Model	Qty
1	18-7502	Needle, Body Length 12MM body, 24MM, pk of 10	1
2	19-5023	Medical Tape, 1.25CM*9M	1
3	18-1300	Dissecting Tweezers, Str, 2.2mm Tips, 12.5CM	1
4	18-1301	Dissecting Tweezers, Str 1x2 Teeth, 2.2mm Tips, 12.5CM	1
5	18-0500	Surgical Scissors (Narrow), Str, Sh/Sh, 12CM	1
6	18-0400	Surgical Scissors, Str, Sh/Sh, 12.5CM	1
7	18-0110	Eye Scissors, Str, Sh/Sh, 10CM	1
8	18-3120	Bone Rongeurs, Str, 1.0mm Cup, 14.5CM	1
9	21-3029	Syringes, 20ml, pk of 10	1
10	18-7503	Brain Scoop, Double-end, 12MM and 14.5MM, 6CM	1

## »Mouse Tubal Ligation Surgical Kit, 18-8140



Cat No. 18-8140

No.	Cat no.	Model	Qty
1	18-0150	Eye Scissors, Str, Sh/Sh, 11CM	1
2	18-1300	Dissecting Tweezers, Str, 2.2mm Tips, 12.5CM	1
3	18-1240	Eye Tweezers, Str, 0.8MM, 10CM	1
4	18-1242	Eye Tweezers, 45° Curved, 0.8mm Tips, 10CM	1
5	19-6006	70% Alcohol Cotton Ball, 90 pieces.	1
6	19-6007	Iodine Cotton Ball, 25 pieces.	1
7	18-2240	Needle Holders with Tungsten Carbon, 12.5CM	1
8	18-5034	Suture Needles, ▲3/8 4*10, pk of 10.	1
9	18-5961	Sutures #6-0, non-absorbable, 20 x 60CM	1

## »Model Animal Surgical Kit, 18-8150

Used for dissection, isolation, and other operational experiments of common model animals such as fruit flies, zebrafish, insects, nematodes, toads, and mice, all of which are commonly used instruments with appropriate varieties and specifications, and finely crafted.



Cat No. 18-8150

No.	Cat no.	Model	Qty
1	18-0000	Vannas Scissors, Str, 0.1mm Tips, Bevel Blades, 8.5CM	1
2	18-0100	IRIS Scissors, Str, S/S, 9CM	1
3	18-1020	Micro Tweezers #5, Str, 0.15*0.10mm, 11CM	1
4	18-1040	Micro Tweezers #5 (Titanium), Str, 0.1*0.06mm, 11CM	1
5	18-1240	Ophthalmic Tweezers, Str, 0.8mm Tips, 10CM	1
6	18-0890	Surgical Knives, 2mm Blade, 11.5CM	1
7	18-0753	Surgical Handle with Ruler #3, 12CM	1
8	18-0811	Surgical Blades #11, pk of 10.	1
9	18-4201	Micro Curette, Ø2.5mm, 11CM	1
10	18-7320	Insect Pins #00, 40mm*Ø0.27mm, pk of 100.	1
11	18-9014	Spinal Cord Destruction Needle, 12.5CM, pk of 10.	1

## Animal Surgical Instruments

**Vannas Scissors 18-0000**

Blade Shape: Str, Sh/Sh, Bevel  
Cutting Edge: 5mm  
Tip Diameter: 0.1mm  
Total Length: 8.5CM

**Vannas Scissors 18-0001**

Blade Shape: Cvd, Sh/Sh, Bevel  
Cutting Edge: 5mm  
Tip Diameter : 0.1mm  
Total Length : 8.5CM

**Vannas Scissors 18-0010**

Blade Shape: Str, Sh/Sh, Triangular  
Cutting Edge : 5mm  
Tip Diameter : 0.1mm  
Total Length : 8.5CM

**Vannas Scissors 18-0011**

Blade Shape: Cvd, Sh/Sh, Triangular  
Cutting Edge : 5mm  
Tip Diameter : 0.1mm  
Total Length : 8.5CM

**Vannas Scissors 18-0020**

Blade Shape : Str, Sh/Sh, Triangular  
Cutting Edge : 2.5mm  
Tip Diameter : 0.075mm  
Total Length : 8CM

**Vannas Scissors 18-0030**

Blade Shape : Cvd, Sh/Sh, Bevel  
Cutting Edge : 8mm  
Tip Diameter : 0.1mm  
Total Length : 9CM

**Vannas Scissors 18-0040**

Blade Shape : Str, Sh/Sh, Triangular  
Cutting Edge : 5mm  
Tip Diameter : 0.1mm  
Total Length : 7.7CM

**Vannas Scissors 18-0012**

Blade Shape : Cvd, Sh/Sh, Triangular  
Cutting Edge : 5mm  
Tip Diameter : 0.1mm  
Total Length : 8.5CM

**Vannas Scissors 18-0080**

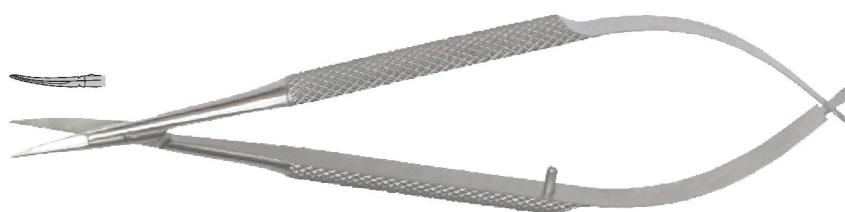
Materials: Titanium  
Blade Shape : Cvd, Sh/Sh, Bevel  
Cutting Edge : 5mm  
Tip Diameter : 0.1mm  
Total Length : 8.5CM

**Vannas Scissors 18-0081**

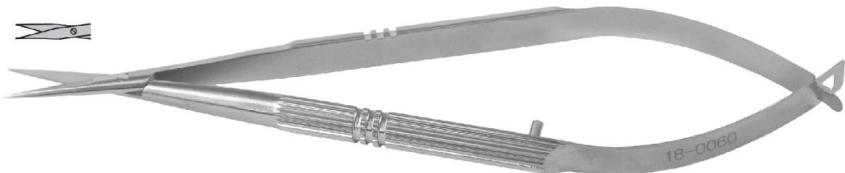
Materials: Titanium  
Blade Shape : Cvd, Sh/Sh, Bevel  
Cutting Edge : 5mm  
Tip Diameter : 0.1mm  
Total Length : 8.5CM

**Micro Scissors 18-0050**

Blade Shape : Str, Sh/Sh, Bevel  
Cutting Edge : 9mm  
Tip Diameter : 0.15mm  
Total Length : 11.5CM

**Micro Scissors 18-0051**

Blade Shape : Cvd, Sh/Sh, Bevel  
Cutting Edge : 9mm  
Tip Diameter : 0.15mm  
Total Length : 11.5CM

**Micro Scissors 18-0060**

Blade Shape : Str, Sh/Sh, Bevel  
Cutting Edge : 14mm  
Tip Diameter : 0.15mm  
Total Length : 11.5CM

**Micro Scissors 18-0061**

Blade Shape : Cvd, Sh/Sh, Bevel  
Cutting Edge : 14mm  
Tip Diameter : 0.15mm  
Total Length : 11.5CM

**Micro Scissors 18-0070**

Blade Shape : Str, Sh/Sh, Bevel  
Cutting Edge : 9mm  
Tip Diameter : 0.15mm  
Total Length : 11.5CM

**Micro Scissors 18-0071**

Blade Shape : Cvd, Sh/Sh, Bevel  
Cutting Edge : 9mm  
Tip Diameter : 0.15mm  
Total Length : 11.5CM

**IRIS Scissors 18-0130**

Material: Tungsten Carbide  
 Blade Shape : Str, Sh/Sh  
 Total Length : 11.5CM

**IRIS Scissors 18-0140**

Alloy / Material: Stainless Steel  
 Serrated: Yes  
 Blade Shape: Str, Sh/Sh  
 Total Length: 11.5CM



**18-0100** Str, 9CM  
**18-0110** Str, 10CM  
**18-0120** Str, 11.5CM

**IRIS Scissors**

Material: Stainless Steel  
 Blade Shape: Sh/Sh



**18-0101** Cvd, 9CM  
**18-0111** Cvd, 10CM  
**18-0121** Cvd, 11.5CM



**18-0150** Str, Sh/Sh



**18-0160** Str, Bl/Bl



**18-0161** Cvd, Bl/Bl

**IRIS Scissors**

Material: Ceramic Tungsten Carbon  
 Total Length: 10CM



**18-0190** Str, 10CM



**18-0191** Cvd, 10CM

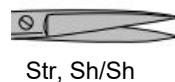


## Animal Surgical Instruments

**Surgical Scissors**

Material: Stainless Steel  
Blade Shape: Str

**18-0400** 12.5CM  
**18-0410** 14CM  
**18-0420** 16CM  
**18-0430** 18CM



**18-0401** 12.5CM  
**18-0411** 14CM  
**18-0421** 16CM  
**18-0431** 18CM



**18-0441** 12.5CM  
**18-0451** 14CM  
**18-0461** 16CM  
**18-0471** 18CM

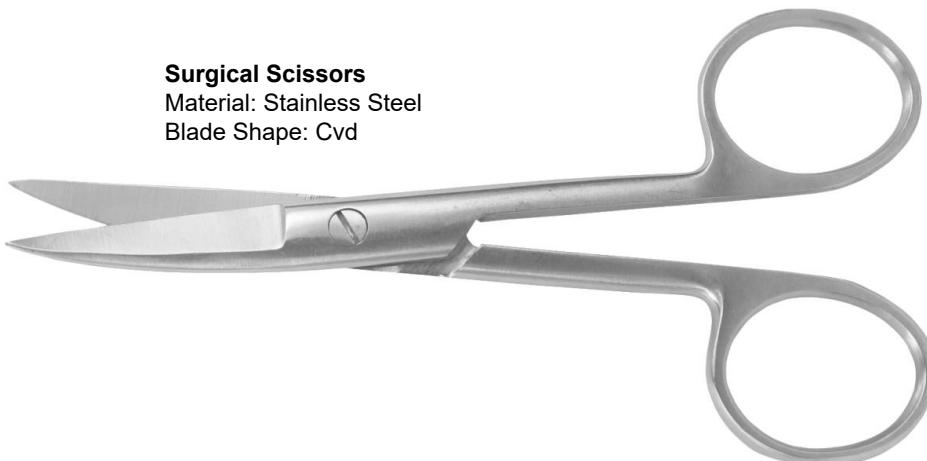


**18-0481** 12.5CM  
**18-0491** 14CM  
**18-0501** 16CM  
**18-0511** 18CM

**Surgical Scissors**

Material: Stainless Steel  
Blade Shape: Cvd

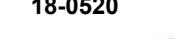
**18-0480** 12.5CM  
**18-0490** 14CM  
**18-0500** 16CM  
**18-0510** 18CM

**Surgical Scissors (Narrow-type)**

Material: Stainless Steel  
Blade Shape: Sh/Sh  
Total Length: 12CM



Str, Sh/Sh



Cvd, Sh/Sh



**18-0530** 11CM  
**18-0540** 14CM



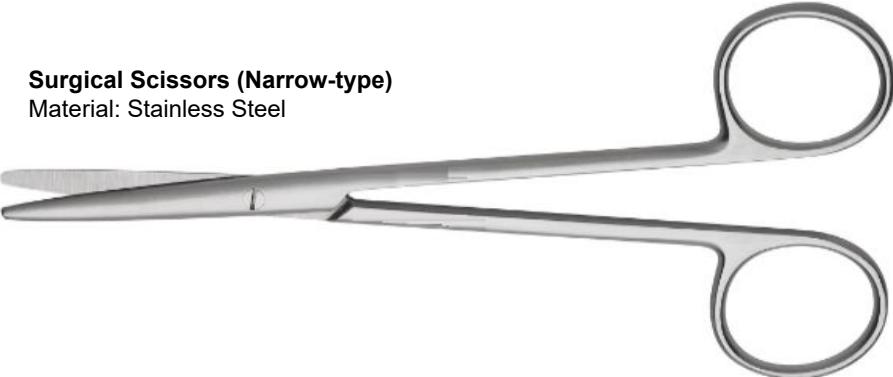
**18-0550** 14CM



**18-0551** 14CM

**Surgical Scissors (Narrow-type)**

Material: Stainless Steel



## Animal Surgical Instruments

18-0600

**Bandage Scissors**

Material: Stainless Steel

Total Length: 14CM



18-0610

**Spencer Ligature Scissors**

Material: Stainless Steel

Total Length: 11CM

Used for cutting stitches or suture.

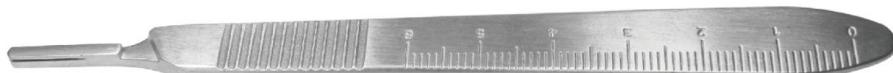


18-0753

**Surgical Handle with Ruler, #3**

Total Length: 12CM

Used for Blades #10, #11, #12, #15



18-0757

**Surgical Handle with Ruler, #7**

Total Length: 17CM

Used for Blades #10, #11, #12, #15



**19-0810**  
Surgical Blades, #10  
pk of 100.



**19-0811**  
Surgical Blades, #11  
pk of 100.



**19-0812**  
Surgical Blades, #12  
pk of 100.



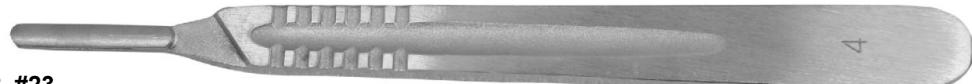
**19-0815**  
Surgical Blades, #15  
pk of 100.

18-0754

**Surgical Handle with Ruler, #4**

Total Length: 13CM

Used for Blades #20, #21, #22, #23



**19-0820**  
Surgical Blades, #20  
pk of 100.



**19-0821**  
Surgical Blades, #21  
pk of 100.



**19-0822**  
Surgical Blades, #22  
pk of 100.



**19-0823**  
Surgical Blades, #23  
pk of 100.

## Animal Surgical Instruments



**19-0923**  
**Disposable Surgical Knives #23**  
 pk of 100.



**19-0915**  
**Disposable Surgical Knives #15**  
 pk of 100.



**19-0911**  
**Disposable Surgical Knives #11**  
 pk of 100.



**19-0910**  
**Disposable Surgical Knives #10**  
 pk of 100.



**18-0880**  
**Surgical Knives**  
 Blade Shape: Str, Sharp  
 Cutting Edge: 5mm  
 Total Length: 13CM



**18-0881**  
**Surgical Knives**  
 Blade Shape: Str, Sharp  
 Cutting Edge: 5mm  
 Total Length: 11CM



**18-0890**  
**Surgical Knives**  
 Blade Shape: Str, Sharp  
 Cutting Edge: 2mm  
 Total Length: 11.5CM



**18-0891**  
**Surgical Knives**  
 Blade Shape: Str, Sharp  
 Cutting Edge: 2mm  
 Total Length: 11.5CM



**18-0900**  
**Surgical Knives**  
 Blade Shape: Curved,  
 Round Cutting Edge  
 Blade Width: 2.2mm  
 Blade Length: 4mm  
 Total Length: 12.5CM



**18-0900**  
**Surgical Knives**  
 Blade Shape: Curved,  
 Round Cutting Edge  
 Blade Width: 2.2mm  
 Blade Length: 4mm  
 Total Length: 12.5CM

## Animal Surgical Instruments

**18-1000** Tip size: 0.05mm \* 0.02mm  
**18-1010** Tip size: 0.10mm \* 0.06mm  
**18-1020** Tip size: 0.15mm \* 0.10mm



**Micro Tweezers #5**  
 Material: Stainless Steel  
 Tip Shape: Str  
 Total Length: 11CM

**18-1030** Tip size: 0.05mm \* 0.02mm  
**18-1040** Tip size: 0.10mm \* 0.06mm



**Micro Tweezers #5**  
 Material: Titanium  
 Tip Shape: Str  
 Total Length: 11CM

**18-1050**



**Micro Tweezers #5/45**  
 Material: Stainless Steel  
 Tip Shape: 45° Curved  
 Total Length: 11CM  
 Tip size: 0.1mm \* 0.06mm

**18-1060**



**Micro Tweezers #5/45**  
 Material: Titanium  
 Tip Shape: 45° Curved  
 Total Length: 11CM  
 Tip size: 0.1mm \* 0.06mm

**18-1110**



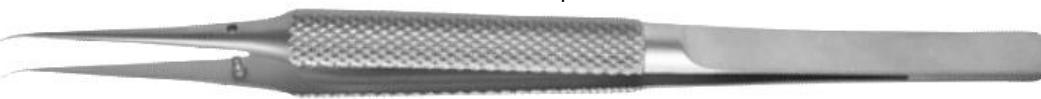
**Micro Tweezers #7**  
 Material: Stainless Steel  
 Tip Shape: Curved  
 Total Length: 11CM  
 Tip size: 0.07mm \* 0.03mm

**18-1070** Tip size: 0.15mm  
**18-1080** Tip size: 0.3mm



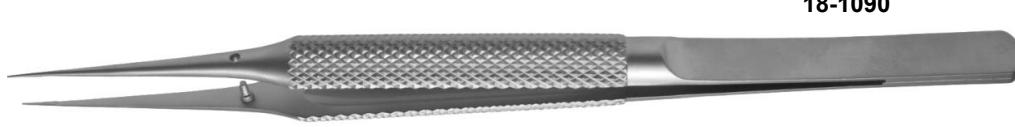
**Micro Tweezers**  
 Material: Stainless Steel  
 Tip Shape: Str  
 Total Length: 14CM

**18-1071** Tip size: 0.15mm  
**18-1081** Tip size: 0.3mm



**Micro Tweezers**  
 Material: Stainless Steel  
 Tip Shape: Curved  
 Total Length: 14CM

## Animal Surgical Instruments



18-1090

**Micro Tweezers**

Material: Stainless Steel  
 Tip Shape: Str with Platform  
 Tip size: 0.3mm  
 Total Length: 14CM



18-1091

**Micro Tweezers**

Material: Stainless Steel  
 Tip Shape: Curved with Platform  
 Tip size: 0.3mm  
 Total Length: 14CM



18-1040

**Micro Tweezers**

Material: Titanium  
 Tip Shape: Str  
 Tip size: 0.4mm  
 Total Length: 14CM



18-1041

**Micro Tweezers**

Material: Titanium  
 Tip Shape: Curved  
 Tip size: 0.4mm  
 Total Length: 14CM

**Carbon Fiber Tweezers**

This kind of tweezers is made of nylon plus carbon fiber material, which has high-quality anti-static safety, wear-resistant and anti-corrosion performance, as well as ultra-fine tips characteristics. It is usually used in electrophysiological experiments and very suitable for operating many "sensitive" materials in, such as electrode, optical fiber, electronic parts, micro mechanical parts, capillary glass, ceramic parts, etc.



18-1120

**Carbon Fiber Tweezers #5-CF**

Tip Shape: Str  
 Tip size: 0.5mm  
 Total Length: 13CM



18-1130

**Carbon Fiber Tweezers #304-CF**

Tip Shape: Str  
 Tip size: 0.6mm  
 Total Length: 13CM



18-1131

**Carbon Fiber Tweezers #7-CF**

Tip Shape: Curved  
 Tip size: 0.6mm  
 Total Length: 13CM



18-1840

**General Forceps #2AP**

Tip Shape: Round  
 Tip Width: 2mm  
 Total Length: 12CM

## Animal Surgical Instruments

18-1200

**Eye Tweezers**

Tip Shape: Str  
Tip Width: 0.6mm  
Total Length: 7CM



18-1201

**Eye Tweezers**

Tip Shape: Curved  
Tip Width: 0.6mm  
Total Length: 7CM



18-1210

**Eye Tweezers**

Tip Shape: Str 1\*2 Teeth  
Tip Width: 0.6mm  
Total Length: 7CM



18-1201

**Eye Tweezers**

Tip Shape: Curved 1\*2 Teeth  
Tip Width: 0.6mm  
Total Length: 7CM

**Eye Tweezers**

Tip Shape: Str, Serrated

Total Length: 10CM

Tip Width: 0.5mm **18-1220**

Tip Width: 0.8mm **18-1240**

**Eye Tweezers**

Tip Shape: 30° Curved, Serrated

Total Length: 10CM

Tip Width: 0.5mm **18-1221**

Tip Width: 0.8mm **18-1241**

**Eye Tweezers**

Tip Shape: 45° Curved, Serrated

Total Length: 10CM

Tip Width: 0.5mm **18-1222**

Tip Width: 0.8mm **18-1242**

**Eye Tweezers**

Tip Shape: Str, 1\*2 Teeth

Total Length: 10CM

Tip Width: 0.5mm **18-1230**

Tip Width: 0.8mm **18-1250**

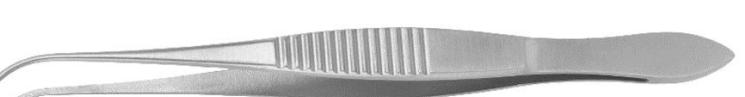
**Eye Tweezers**

Tip Shape: 30° Curved, 1\*2 Teeth

Total Length: 10CM

Tip Width: 0.5mm **18-1231**

Tip Width: 0.8mm **18-1251**

**Eye Tweezers**

Tip Shape: 45° Curved, 1\*2 Teeth

Total Length: 10CM

Tip Width: 0.5mm **18-1232**

Tip Width: 0.8mm **18-1252**

## Animal Surgical Instruments

**18-1550****Tying Tweezers**

Tip Shape: Str with platform

Tip Width: 0.5mm

Total Length: 10.5CM

**18-1551****Tying Tweezers**

Tip Shape: Curved with platform

Tip Width: 0.5mm

Total Length: 10.5CM

**18-1552****Tying Tweezers**

Tip Shape: Angled with platform

Tip Width: 0.5mm

Total Length: 10.5CM

**Dissection Tweezers**

Tip Shape: Str, Serrated

Tip Width: 2.2mm

Total Length: 12.5CM **18-1300**Total Length: 16CM **18-1310****Dissection Tweezers**

Tip Shape: Str, 1\*2 Teeth

Tip Width: 2.2mm

Total Length: 12.5CM **18-1301**Total Length: 16CM **18-1311****18-1321****Dissection Tweezers**

Tip Shape: Angled, Serrated

Tip Width: 1.6mm

Total Length: 12CM

**18-1500****Adson Tweezers**

Tip Shape: Str, Serrated

Tip Width: 0.8mm

Total Length: 12CM

**18-1510****Adson Tweezers (Titanium)**

Tip Shape: Str, Serrated

Tip Width: 0.8mm

Total Length: 12CM

**18-1501****Adson Tweezers**

Tip Shape: Str, 1\*2 Teeth

Tip Width: 0.8mm

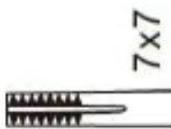
Total Length: 12CM

**18-1511****Adson Tweezers (Titanium)**

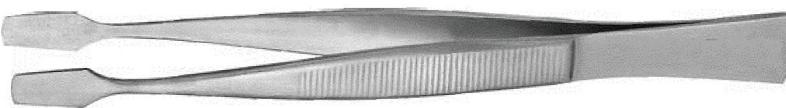
Tip Shape: Str, 1\*2 Teeth

Tip Width: 0.8mm

Total Length: 12CM



**18-1520**  
**Adson-Brown Tweezers**  
 Tip Shape: Str, 7\*7 Teeth  
 Tip Width: 2.2mm  
 Total Length: 12CM



**18-1800**  
**Cover Glass Forceps**  
 Tip Shape: Str  
 Tips Size: 4\*5\*10mm  
 Total Length: 10.5CM



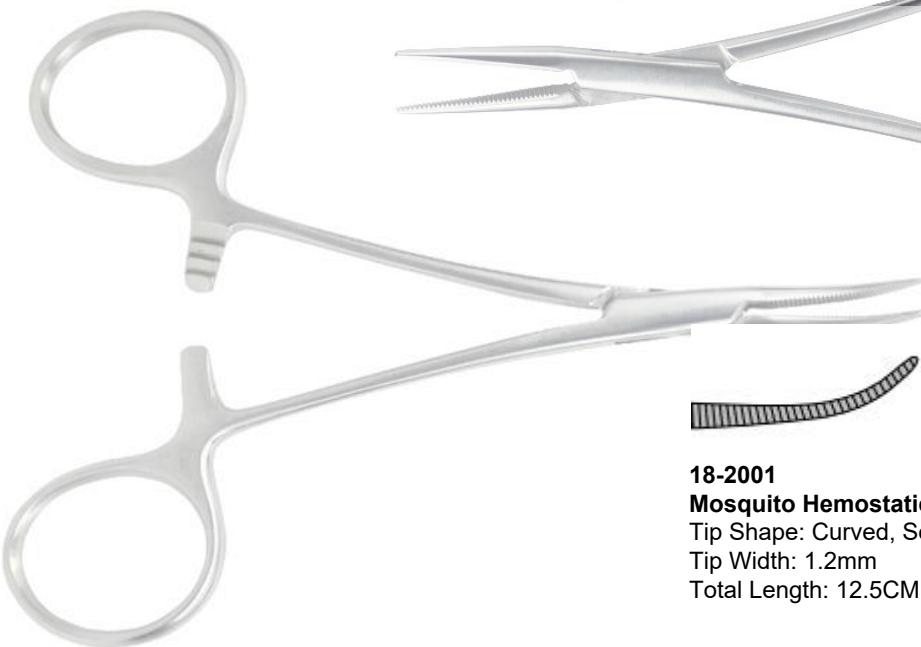
**18-1810**  
**Cover Glass Forceps**  
 Tip Shape: Angled  
 Tips Size: 4\*5\*10mm  
 Total Length: 10.5CM



**O-ring Forceps**

Cat No.	I.D.	O.D.	Total Length
18-1820	1.0mm	1.5mm	9CM
18-1821	2.2mm	3.0mm	9CM
18-1822	4.8mm	6.0mm	9CM

**18-2000**  
**Mosquito Hemostatic Forceps**  
 Tip Shape: Str, Serrated  
 Tip Width: 1.2mm  
 Total Length: 12.5CM



**18-2001**  
**Mosquito Hemostatic Forceps**  
 Tip Shape: Curved, Serrated  
 Tip Width: 1.2mm  
 Total Length: 12.5CM

**18-2010****Delicate Hemostatic Forceps**

Tip Shape: Str, Serrated

Tip Width: 0.8mm

Total Length: 12.5CM

**18-2011****Delicate Hemostatic Forceps**

Tip Shape: Curved, Serrated

Tip Width: 0.8mm

Total Length: 12.5CM

**18-2020****Micro Vessel Hemostatic Forceps with Light Handles**

Tip Shape: Str, Serrated

Tip Width: 0.8mm

Total Length: 12.5CM

**18-2021****Delicate Hemostatic Forceps with Light Handles**

Tip Shape: Curved, Serrated

Tip Width: 0.8mm

Total Length: 12.5CM



**18-2510**  
**Backhaus Towel Forceps**  
Materials: Stainless Steel  
Tip Shape: Round  
Total Length: 11CM



**18-2500**  
**Allis Tissue Forceps**  
Materials: Stainless Steel  
Tip Size: 4\*5 Teeth  
Total Length: 15.5CM



#### Micro Needle Holders

Materials: Titanium  
Tip Width: 0.5mm  
Total Length: 12.5CM  
**Tip Shape: Str 18-2210**  
**Tip Shape: Cvd 18-2211**



18-2210

18-2211

**Micro Needle Holders**  
Materials: Stainless Steel  
Tip Width: 0.5mm  
Total Length: 12.5CM  
**Tip Shape: Str 18-2250**  
**Tip Shape: Cvd 18-2251**



18-2250

18-2251

#### Micro Needle Holders with Lock

Materials: Stainless Steel  
Tip Width: 0.5mm  
Total Length: 12.5CM  
**Tip Shape: Str 18-2260**  
**Tip Shape: Cvd 18-2261**



18-2260

18-2261

**Needle Holders with Suture Cutter**

Jaw Materials: Tungsten Carbide

Tip Width: 1.5mm

Total Length: 12.5CM 18-2270

Total Length: 14CM 18-2280

**Needle Holders with Tungsten Carbide Jaws**

Tip Width: 2.0mm

Total Length: 12.5CM 18-2240

Total Length: 16CM 18-2290

**18-2200****Needle Holders**

Tip Width: 1.5mm

Total Length: 10CM

**18-2230****Needle Holders**

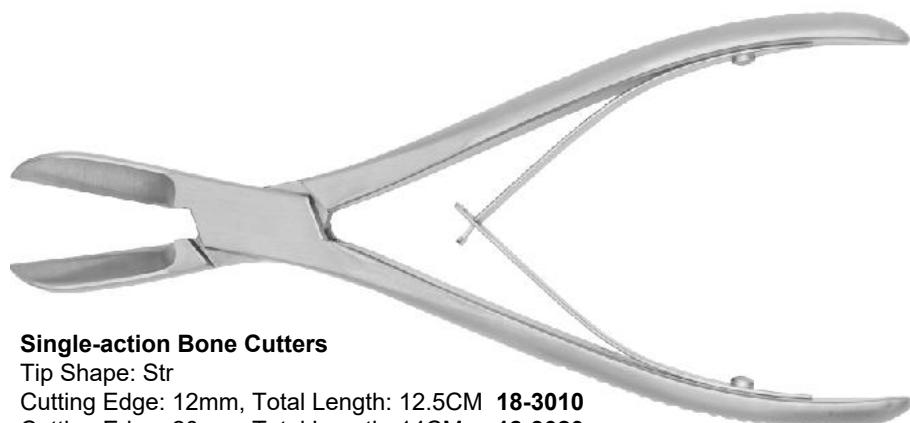
Tip Width: 1.5mm

Total Length: 13CM



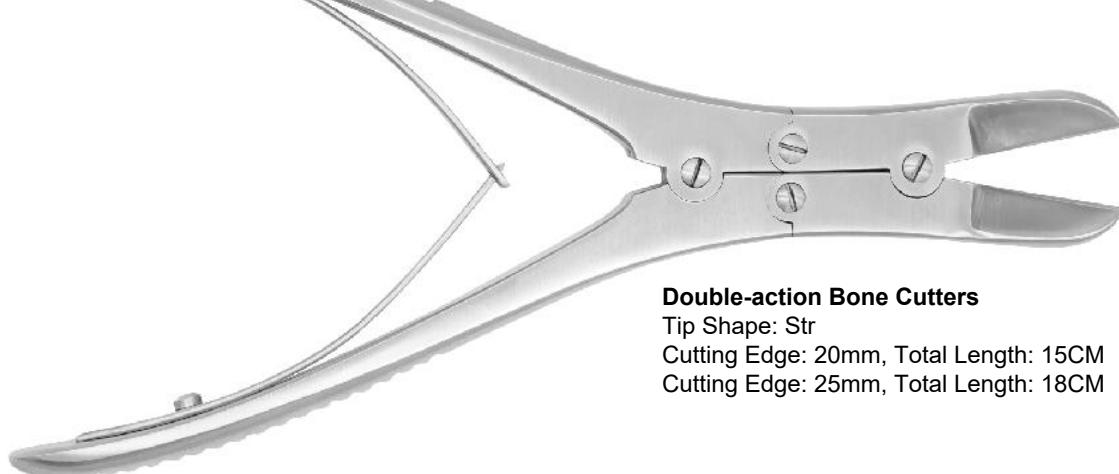


**18-3000**  
**Beebee Bone Cutters**  
Tip Shape: Str, Sharp  
Total Length: 10CM



**Single-action Bone Cutters**

Tip Shape: Str  
Cutting Edge: 12mm, Total Length: 12.5CM **18-3010**  
Cutting Edge: 20mm, Total Length: 14CM **18-3020**  
Cutting Edge: 23mm, Total Length: 17CM **18-3030**  
Cutting Edge: 25mm, Total Length: 19CM **18-3040**



**Double-action Bone Cutters**

Tip Shape: Str  
Cutting Edge: 20mm, Total Length: 15CM **18-3050**  
Cutting Edge: 25mm, Total Length: 18CM **18-3060**

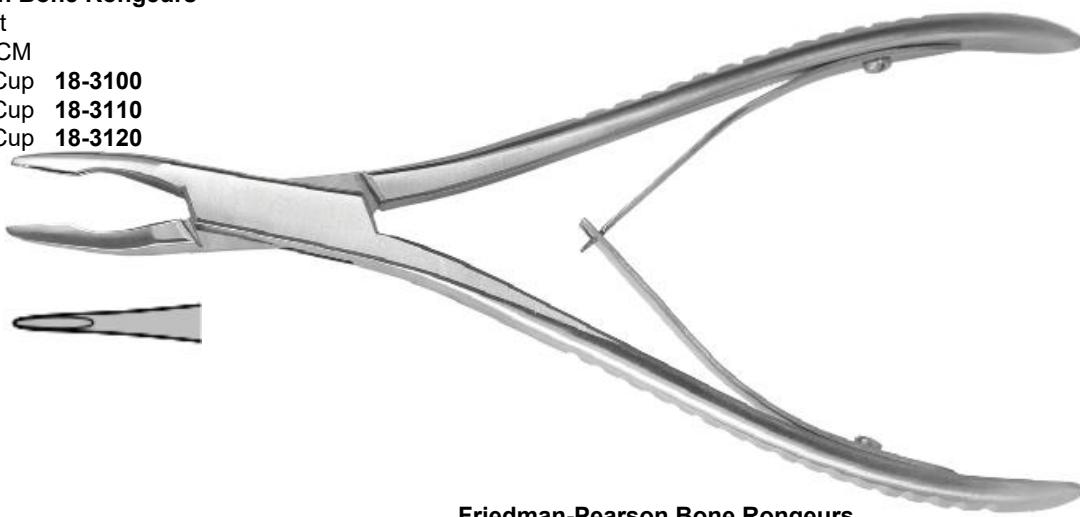
**18-3140**  
**Heavy Bone Rongeurs**  
Tip Shape: Light Curved  
Jaw Size: 2.0mm Cup  
Total Length: 14.5CM



## Animal Surgical Instruments

**Friedman-Pearson Bone Rongeurs**

Tip Shape: Straight  
 Total Length: 14.5CM  
 Jaw Size: 0.5mm Cup **18-3100**  
 Jaw Size: 0.7mm Cup **18-3110**  
 Jaw Size: 1.0mm Cup **18-3120**

**Friedman-Pearson Bone Rongeurs**

Tip Shape: Light Curved  
 Total Length: 14.5CM  
 Jaw Size: 0.5mm Cup **18-3101**  
 Jaw Size: 0.7mm Cup **18-3111**  
 Jaw Size: 1.0mm Cup **18-3121**

**Bone Plates**

This product is used for orthopedic related experiments or operations towards small animals such as rats, cats and rabbits in scientific research laboratories and animal hospitals. Total Length: Three sizes of 16, 21 and 26MM are available. Material: Stainless Steel. Thickness: 1.5MM. Width: 4MM.



Cat no.	Description
18-3204	Bone Plate, 16MM/3 holes
18-3205	Bone Plate, 21MM/4 holes
18-3206	Bone Plate, 26MM/5 holes

**18-3203****Nerve Root Exfoliation (3 pieces)**

It is mainly used in orthopaedic surgery, for stripping and separating nerves. Stainless steel materials, smooth surface, no sharp edge, burr or spot.

One end is hook-shaped with 7mm long, and the other end is thin, micro bend and round, and only 3mm or 5mm in width.

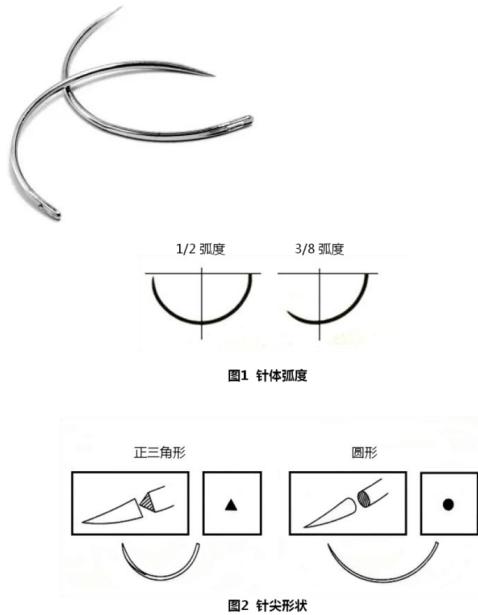
Total length: 25CM

**18-3202****18-3201****18-3200**

Cat no.	Description
18-3203	3 pieces, 25CM
18-3200	1x Hook and 1x Round Tips 5MM, 25CM
18-3201	2x Round Tips 3MM, 25CM
18-3202	2x Round Tips 5MM, 25CM

## Animal Surgical Instruments

## »Suture Needles



No.	Cat No.	Description		
		Shape	Dia. * Chord Length	Package
1	18-5034	▲3/8	4*10	pk of 10
2	18-5035	▲3/8	5*12	pk of 10
3	18-5036	▲3/8	6*14	pk of 10
4	18-5037	▲3/8	7*17	pk of 10
5	18-5044	●3/8	4*10	pk of 10
6	18-5045	●3/8	5*12	pk of 10
7	18-5046	●3/8	6*14	pk of 10
8	18-5047	●3/8	7*17	pk of 10
9	18-5053	●1/2	3*8	pk of 10
10	18-5054	●1/2	4*10	pk of 10
11	18-5055	●1/2	5*12	pk of 10
12	18-5056	●1/2	6*14	pk of 10
13	18-5057	●1/2	7*17	pk of 10

## »Sutures



Roll-type, non-absorbable

Bunch-type, non-absorbable

Thread-type, absorbable

No.	Cat No.	Description			
		Size, Diameter	Materials	Shape	Package
1	18-5102	#2, Ø0.55mm	Silk Braided, non-absorbable	Roll	5 Rolls, 17.5m
2	18-5101	#1, Ø0.45mm	Silk Braided, non-absorbable	Roll	5 Rolls, 17.5m
3	18-5100	#0, Ø0.37mm	Silk Braided, non-absorbable	Roll	5 Rolls, 17.5m
4	18-5120	#2-0, Ø0.32mm	Silk Braided, non-absorbable	Roll	5 Rolls, 17.5m
5	18-5130	#3-0, Ø0.22mm	Silk Braided, non-absorbable	Roll	5 Rolls, 17.5m
6	18-5140	#4-0, Ø0.17mm	Silk Braided, non-absorbable	Roll	5 Rolls, 17.5m
7	18-5150	#5-0, Ø0.12mm	Silk Braided, non-absorbable	Roll	5 Rolls, 17.5m
8	18-5160	#6-0, Ø0.08mm	Silk Braided, non-absorbable	Roll	5 Rolls, 17.5m
9	18-5902	#2, Ø0.55mm	Silk Braided, non-absorbable	Bunch	15x60CM each bunch, 10 bunches
10	18-5901	#1, Ø0.45mm	Silk Braided, non-absorbable	Bunch	15x60CM each bunch, 10 bunches
11	18-5900	#0, Ø0.37mm	Silk Braided, non-absorbable	Bunch	15x60CM each bunch, 10 bunches
12	18-5930	#3-0, Ø0.22mm	Silk Braided, non-absorbable	Bunch	15x60CM each bunch, 10 bunches
13	18-5940	#4-0, Ø0.17mm	Silk Braided, non-absorbable	Bunch	15x60CM each bunch, 10 bunches
14	18-5950	#5-0, Ø0.12mm	Silk Braided, non-absorbable	Bunch	15x60CM each bunch, 10 bunches
15	18-5960	#6-0, Ø0.08mm	Silk Braided, non-absorbable	Bunch	20x60CM each bunch, 10 bunches
16	18-5600	#0, Ø0.37mm	PGLA, absorbable	Thread	90CM each thread, 36 threads
17	18-5620	#2-0, Ø0.32mm	PGLA, absorbable	Thread	90CM each thread, 36 threads
18	18-5630	#3-0, Ø0.22mm	PGLA, absorbable	Thread	90CM each thread, 36 threads
19	18-5640	#4-0, Ø0.17mm	PGLA, absorbable	Thread	90CM each thread, 36 threads
20	18-5650	#5-0, Ø0.12mm	PGLA, absorbable	Thread	90CM each thread, 36 threads

## Animal Surgical Instruments

## »Wound Clips and Applicator



18-5011

This set of instruments are mainly used for the suture of wounds and incisions of mice, cats, dogs and other small animals, and other similar subjects.

**Using methods:** place the wound clips on the fixed position of tweezers, align the tip of the clip teeth towards the incision of the animal, press the tweezers with a little force, the sharp teeth of the clip can pass through the wound cortex, and thus suture the wound as shown in the following figures.



No.	Cat no.	Description
1	18-5009	Wound Clips for Mouse, 3*7mm, pk of 100.
2	18-5010	Wound Clips for Rat, 4*9mm, pk of 100.
3	18-5011	Wound Clip Applicator, 12.5CM
4	18-5013	New Wound Clip Remover, 9.5CM



18-5013

## »Micro Blood Vessel Clips &amp; Forceps



18-5021



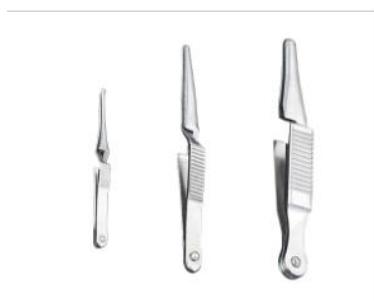
18-5020

18-5020, Blood Vessel Clips, 10CM

18-5021, Micro Blood Vessel Clips, Jaw Length 5MM, Total Length 16mm, pk of 10.



## »Blood Vessel Clips



No.	Cat no.	Description
1	18-5022	Str, With serrations 1.5CM, 4CM, pk of 5.
2	18-5023	Str, With serrations 1.8CM, 5CM, pk of 5.
3	18-5024	Str, With serrations 2CM, 6CM, pk of 5.
4	18-5025	Curved, With serrations 1CM, 3CM, pk of 5.
5	18-5026	Curved, With serrations 1.5CM, 3.7CM, pk of 5.
6	18-5027	Curved, With serrations 2CM, 5.7CM, pk of 5.
7	18-5028	Curved, With serrations 2.5CM, 6.5CM, pk of 5.
8	18-5029	Curved, With serrations 3CM, 7CM, pk of 5.



18-4000

**Hooks**

Tip Shape: Sharp  
Total Length: 12CM



18-4010

**Hooks**

Tip Shape: Sharp  
Total Length: 12CM



18-4020

**Hooks**

Tip Width: 8mm  
Total Length: 13CM

18-4030

**Hooks**

Tip Shape: two prolonged blunt tips  
Tip Width: 6mm  
Total Length: 16CM



18-4040

**Hooks**

Tip Shape: two prolonged ball tips  
Tip Width: 7.5mm  
Total Length: 16CM



18-4050

**Ovarian Hooks**

Tip Shape: single ball tips  
Total Length: 16CM

18-4100  
**Colibri Retractor**

Paw Shape: Wire-steel  
Maximum spread: 15mm  
Total Length: 4CM

18-4102  
**Retractor**

Material: Stainless Steel  
Paw Shape: V-shapte  
Maximum spread: 25mm  
Total Length: 3CM

18-4104  
**Retractor**

Paw Shape: V-shape  
Maximum spread: 6mm  
Total Length: 2CM

18-4103  
**Retractor**

Material: Titanium  
Paw Shape: V-shapte  
Maximum spread: 25mm  
Total Length: 3CM

18-4110  
**Retractor**

Paw Shape: atraumatic blades  
Maximum spread: 30mm  
Total Length: 5.5CM

18-4101  
**Colibri Retractor**

Material: Titanium  
Paw Shape: V-shape  
Maximum spread: 13mm  
Total Length: 2CM

## Animal Surgical Instruments



**18-4120  
Retractor**  
Paw: 1x1 Blunt Teeth  
Max spread: 10mm  
Total Length: 2CM



**18-4130  
Retractor**  
Paw: 3x3 Sharp Teeth  
Max spread: 5mm  
Total Length: 2CM



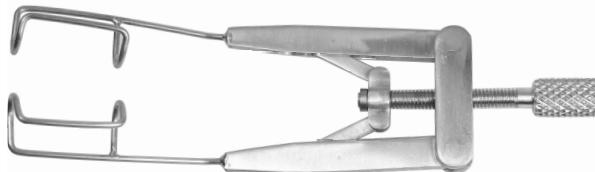
**18-4140  
Retractor**  
Paw: 2x2 Blunt Teeth  
Max spread: 10mm  
Total Length: 2CM



**18-4150  
Retractor**  
Paw: 3x3 Sharp Teeth  
Max spread: 18mm  
Total Length: 3CM



**18-4160  
Retractor**  
Paw Shape: Atraumatic blades  
Maximum spread: 25mm  
Total Length: 8CM



**18-4170  
Retractor**  
Paw Shape: wire-steel  
Maximum spread: 40mm  
Total Length: 8CM



**18-4180  
Retractor**  
Paw Shape: 3x3 Blunt Teeth  
Maximum spread: 20mm  
Total Length: 8CM



**18-4190  
Retractor**  
Paw Shape: Atraumatic blades  
Maximum spread: 50mm  
Total Length: 7.5CM



**Micro Curettes**  
Materials: Stainless Steel  
Total Length: 11CM

**18-4200** Tip Diameter: 1.5mm  
**18-4201** Tip Diameter: 2.5mm  
**18-4202** Tip Diameter: 3.5mm



**Micro Curettes**  
Materials: Titanium  
Total Length: 11CM

**18-4210** Tip Diameter: 1.5mm  
**18-4211** Tip Diameter: 2.5mm  
**18-4212** Tip Diameter: 3.5mm



**18-4250  
Micro Spatula**  
Tip width: 1.2mm  
Tip thickness: 0.3mm  
Total Length: 12.5CM

**18-4260****Tongue Depressor**

Tip Width: 10MM, 15MM

Total Length: 12.5CM

**18-4252****Micro Spatula**

Tip Shape: Double Curved

Tip Width: 2MM

Tip Thickness: 0.3MM

Total Length: 14CM

**18-4251****Micro Exfoliation**

Tip Shape: Double Curved

Tip Width: 4MM

Total Length: 18CM

### »Hot Bead Sterilizer



Cat no. 18-6060

GBS-100



Cat no. 18-6061

GBS-175

Cat no. 18-6070

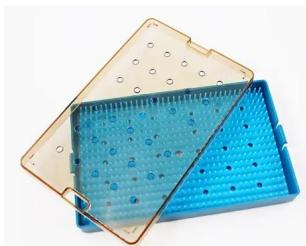
The sterilizer provides a safe, effective and convenient method for sterilizing your surgical instruments prior to and during surgery or tissue culture. Without using potentially dangerous gases, flames or chemicals, you can ensure that your instruments will be free of pathogens and microbial contaminants. The beads take 15–20 minutes to reach 240°C to 270°C (464°F to 518°F), and then the sterilizer is ready for use. The temperature is thermostatically maintained, and the unit can be left on all day. Instruments require approximately 20 seconds of contact with the beads for complete sterilization. The sterilizer is safe to use even in laminar flow hoods.

Available in 110V and 220V.

Cat no.	Description
18-6060	GBS-100 Hot Bead Sterilizer, 220v
18-6061	GBS-175 Hot Bead Sterilizer, 220v
18-6070	Replacement Glass Beads, pk of 250g

Para.	GBS-100	GBS-175
Well Size ( Dia.*Depth )	φ40mm*80mm	φ40mm*140mm
Hot Beads	150g	300g
Temp. Range	100°C-300°C	
Accuracy	≤±5°C	
Warming-up Time	≤25min	
Power	120W	250W
Net Weight	2kg	2.5kg
Overall Size ( D*W*H )	130*145*155mm	130*145*215mm

## Animal Surgical Instruments

**18-6005****Sterilization Container**

Material: aluminum alloy with silicone mat at the bottom.

Size: 225 \* 140 \* 23MM

**18-6006****Sterilization Container**

Material: aluminum alloy with silicone mat at the bottom.

Size: 240\*175\*55MM

**Sterilization Container**

Material: 304 Stainless Steel, Iodine Resistance

Comes with ventholes on both sides.

**18-6001** 240\*160\*50MM, #9

**18-6003** 210\*120\*50MM, #8



**18-6010**  
**Instruments Tray**

Material: 304 Stainless Steel, Iodine Resistance

Size: 260\*200\*30MM

**Sterilization Container**

Material: 304 Stainless Steel, Iodine Resistance

No ventholes on both sides.

**18-6002** 240\*160\*50MM, #9

**18-6004** 210\*120\*50MM, #8

**Waist Tray**

Material: 304 Stainless Steel, Iodine Resistance

**18-6011** 185\*110\*20MM

**18-6012** 198\*128\*25MM

**18-6013** 210\*138\*25MM

**18-6030****18-6031****»Silicone Mats**

This two silicone mats are used for safe placement of delicate instruments like micro scissors, forceps. Autoclavable. Cat no. 18-6030 comes with tentacles and ensures safe anti-slip placement. Size: 300 x 200MM.

**Disposable Surgical Wraps**

This two sizes of wraps are exclusively used for animals during operation. They are made of high polymer native wood pulp, PE film and paper, that allows them being resistant to tears and maintaining a breathable yet impervious barrier to airborne bacteria, saline, blood and water.

They have the excellent functions of absorbing urine and liquid, removing the smell, placing the defecation and preventing leakage.

Also, they could be used for wrapping your instrument case or instruments securely to ensure the sterility of your instruments until ready for use.

**18-6040** 45\*60CM, pk of 100.

**18-6041** 30\*45CM, pk of 100.

## » Microdrill



19-7010 Microdrill, 220V

19-7011 Microdrill, 110V

The Microdrill is made for cranial perforation function. It can be used by either a hand-held drill or fixed to the cranial drill holder of the stereotactic instrument, which makes it simple to operate and easy to master. The standard configurations include main controller, handle with one bracket, foot pedal, 5 pieces drill bits (round tips  $\phi 0.6\text{mm}$ ).

## Features:

- The speed is continuously adjustable from 0-38,000rpm.
- The direction of rotation can be switched between clockwise and counterclockwise.
- There are two control modes, manual or foot pedal.
- The handle could be fixed with the cranial drill holder (Cat no. 30-2072) and then installed to the brain stereotaxic device, the depth is easy to control.
- The range of 0.5-2.3mm for the drill bits can be selected according to the experimental requirements.
- Various specifications of Drill Bits, Trepines and Circular Saws (diameter= $\phi 2.35\text{mm}$ ) are available.

## » Drill Bits



Commonly used for skull perforation or polish the skull before implantation of cranial syringes, electrodes, microdialysis probes, etc.

Rod diameter: 2.35mm.

Rod length: 44mm.

Tip diameter: 0.5mm to 2.3mm.



18-7090

No.	Cat no.	Description
1	19-7049	Drilling Bit, Round 0.5MM, pk of 5.
2	19-7050	Drilling Bit, Round 0.6MM, pk of 5.
3	19-7051	Drilling Bit, Round 0.8MM, pk of 5.
4	19-7052	Drilling Bit, Round 1.0MM, pk of 5.
5	19-7053	Drilling Bit, Round 1.2MM, pk of 5.
6	19-7054	Drilling Bit, Round 1.4MM, pk of 5.
7	19-7055	Drilling Bit, Round 1.6MM, pk of 5.
8	19-7056	Drilling Bit, Round 1.8MM, pk of 5.
9	19-7057	Drilling Bit, Round 2.3MM, pk of 5.

No.	Cat no.	Description
1	18-7090	Bit Seat , 15holes
2	19-7080	Drilling Bit, Flat 0.6MM, pk of 5.
3	19-7081	Drilling Bit, Flat 0.8MM, pk of 5.
4	19-7082	Drilling Bit, Flat 1.0MM, pk of 5.
5	19-7083	Drilling Bit, Flat 1.2MM, pk of 5.
6	19-7084	Drilling Bit, Flat 1.4MM, pk of 5.
7	19-7085	Drilling Bit, Flat 1.6MM, pk of 5.
8	19-7086	Drilling Bit, Flat 1.8MM, pk of 5.
9	19-7087	Drilling Bit, Flat 2.3MM, pk of 5.

## Animal Surgical Instruments

## »Trephines



Commonly used in translational medicine experiments such as skull fenestration before modeling brain injury in experimental animals, and regeneration and reconstruction after bone removal. Rod diameter: 2.35mm. Rod length: 26mm. Tip Diameter: 3mm to 10mm.

No.	Cat no.	Description
1	18-7021	Trephine, Ø3.0MM
2	18-7022	Trephine, Ø3.5MM
3	18-7023	Trephine, Ø4.0MM
4	18-7024	Trephine, Ø5.0MM
5	18-7025	Trephine, Ø6.0MM
6	18-7026	Trephine, Ø7.0MM
7	18-7027	Trephine, Ø8.0MM
8	18-7028	Trephine, Ø9.0MM
9	18-7029	Trephine, Ø10.0MM

## »Circular Saws



Used for cutting bone and other hard substances.

No.	Cat no.	Description
1	18-7030	Circular Saw Kit, 3pieces
2	18-7031	Circular Saw, Ø7.0MM
3	18-7032	Circular Saw, Ø10MM
4	18-7033	Circular Saw, Ø13MM

## »Mice and Rat Restraints



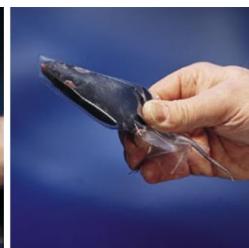
Material: transparent PC, alcohol resistance. Used for using with mice and rats in tail-vein injection, non-invasive blood pressure monitoring.

No.	Cat no.	Description
1	18-7211	Restraints for 15-35g Mice
2	18-7212	Restraints for 50-70g Rat
3	18-7213	Restraints for 150-350g Rat
4	18-7214	Restraints for 350-600g Rat

## »Mice and Rat Restraints



No.	Cat no.	Description
1	18-7200	Restraints, #XS, Cone, Clear, pk of 40.
2	18-7201	Restraints, #S, Cone, Clear, pk of 40.
3	18-7204	Restraints, #M, Cone, Clear, pk of 40.
4	18-7207	Restraints, #L, Cone, Clear, pk of 40.



### » Trocar Needle (Solid Tumor Inoculation Needle)

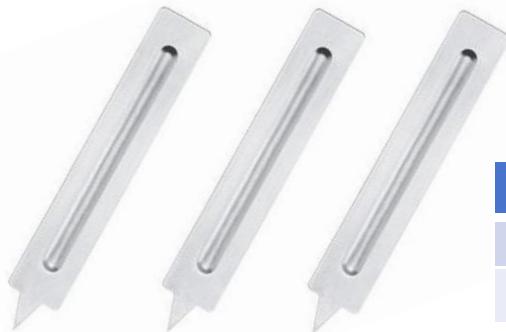
This product is mainly used for tumor models (animal solid tumor inoculation), consisting of an outer puncture needle and an inner solid needle, which can be sterilized by high-pressure steam and ethylene oxide, and could be reused.

- **Puncture Needle:** The needle tip has a sharp sloping angle that is easy to puncture, and the inner wall surface is smooth, which is conducive to pushing drugs and tissues; The tail is equipped with a standard syringe interface, which can be connected to a syringe to meet different usage purposes.
- **Solid Needle:** The end is flat, which facilitates the insertion of drugs and tissues into the inoculum.



No.	Cat no.	Description
1	18-9061	Trocar, 16G, Ø1.6*1.2MM, 50MM, pk of 5.
2	18-9062	Trocar, 15G, Ø1.8*1.4MM, 50MM, pk of 5.
3	18-9063	Trocar, 14G, Ø2.1*1.6MM, 50MM, pk of 5.
4	18-9064	Trocar, 13G, Ø2.4*2.0MM, 50MM, pk of 5.
5	18-9065	Trocar, 10G, Ø3.2*2.5MM, 70MM, pk of 5.
6	18-9066	Trocar, 7G, Ø3.8*4.5MM, 55MM, pk of 5.

### » Mandibular Blood Collection Needle



This product is suitable for blood collection from mouse mandibular vein and face. The needle tip is sharp and easy to puncture. Individual package for each needle ensures the safety to prevent animal cross infection and sample pollution.

No.	Cat no.	Description
1	18-9071	Mandibular Blood Collection Needle, 4MM, pk of 100.
2	18-9072	Mandibular Blood Collection Needle, 5MM, pk of 100.

### » Rapid Biopsy Sampler

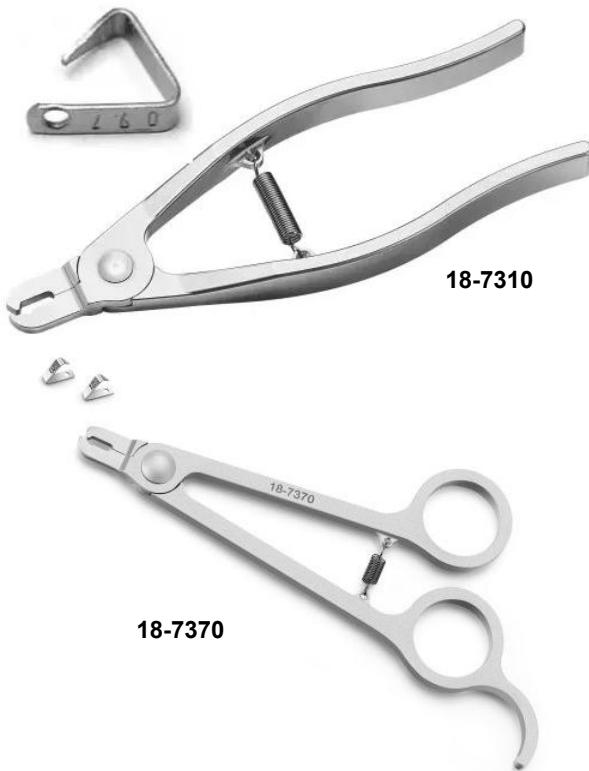
This product is suitable for rapid drilling and sampling of skin and tissue. The sampling bit is sharp, the handle with reticulate pattern design is non-slip, and it is easy to identify with specification marks. The handle is universal for all the consumable bits ranging from 1 to 8mm.



No.	Cat no.	Description
1	18-9040	Biopsy Sampler Handle
2	18-9041	Biopsy Sampler Bit, Ø1.0MM
3	18-9042	Biopsy Sampler Bit, Ø2.0MM
4	18-9043	Biopsy Sampler Bit, Ø3.0MM
5	18-9044	Biopsy Sampler Bit, Ø4.0MM
6	18-9045	Biopsy Sampler Bit, Ø5.0MM
7	18-9046	Biopsy Sampler Bit, Ø6.0MM
8	18-9047	Biopsy Sampler Bit, Ø7.0MM
9	18-9048	Biopsy Sampler Bit, Ø8.0MM

## Animal Surgical Instruments

## » Ear Tag and Forceps



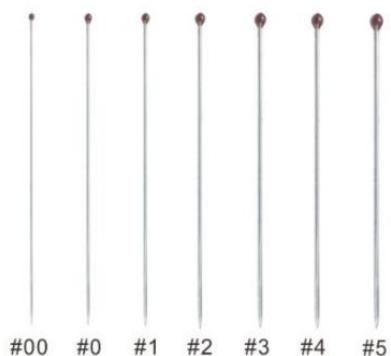
This set of marker combination is used for mice and rats. All of them are made of 304 stainless steel materials, which is corrosion-resistant, not easy to rust, and can be sterilized under high pressure steam to reduce the risk of animal infection.

The ear tags are marked with advanced laser on both sides, easy to observe and identify, and the contents could be numbers and/or letters.

Two types of Hand-held and Finger Pinch are available.

No.	Cat no.	Description
1	18-7310	Ear Tag Forceps, 13CM
2	18-7370	New Ear Tag Forceps, 13CM
3	18-7311	Ear Tags #1-100
4	18-7312	Ear Tags #1-500
5	18-7313	Ear Tags #1-1000

## » Insect Pins



No.	Cat no.	Description			
		Size	Diameter	Total Length	Package
1	18-7320	#00	0.27mm	4CM	pk of 100
2	18-7300	#0	0.29mm	4CM	pk of 100
3	18-7301	#1	0.32mm	4CM	pk of 100
4	18-7302	#2	0.38mm	4CM	pk of 100
5	18-7303	#3	0.45mm	4CM	pk of 100
6	18-7304	#4	0.56mm	4CM	pk of 100
7	18-7305	#5	0.71mm	4CM	pk of 100

## » Dissect Pins

Used for insect dissection, blood vessel separation, etc.

- Material:** Stainless Steel Tips and Plastic Handle
- Tip Size:** 0.4MM Sharp
- Handle Diameter:** 1.2MM
- Total Length:** 10CM

