Digital Stereotaxic Instrument

The Orchid's Stereotaxic Instrument is ideal for researchers in need of a versatile, reliable instrument for stereotaxic procedures with small animals. Precision alignment ensures accurate placement of electrodes, Syringe, cannula and other devices. The time-proven 'U'-Frame design concept, sturdy construction, and adaptability to most model species make this the best choice for a stereotaxic instrument.

Easily Readable Digital Scales:
External LCD display (AP axis, ML axis, DZ axis movement range 80mm, 0.01mm movement and positioning)

Smooth Movements:
The Orchid's exclusive, triple-lead screws allow for the fastest positioning possible, ensuring easy alignment of scales at a specific coordinate consistent with easy scale alignment at a given coordinate.

Versatility of Positioning:
The manipulator arm controls medio-lateral and vertical positioning via lead screws, and antero-posterior movement via dovetail slide movement, with 80 mm of travel possible in each direction. A universal joint allows the investigator to adjust the angle of the probe up to 90° in either the antero-posterior or medio-lateral planes.

Selection of Accessories:
Species adaptors are available to fit various animals, including rats, mouse, guinea pigs, and small birds. Additionally, users can select different accessories like probe holders, anesthesia mask and species adaptors.

Digital Stereotaxic Instrument (Single Arm):
Model: DS-S-L

Components :

- Display mode: LCD liquid crystal display with three-axis simultaneous display
- Digital display size: 100X160X120mm
- Reading accuracy: 0.01mm
- Display: External LCD display (AP axis, ML axis, DZ axis movement range 80mm, 0.01mm movement and positioning accuracy, consistent with brain map)
- Function key: Zero key
- Material: alloy material
- The operating arm rotates 360 degrees and swings 180 degrees
- Three-dimensional propulsion stroke: 80mm
- The ear bar (optional) adopts a spiral propulsion method to facilitate and quickly fix the skull.
- Working power supply: 1.5V
- Easy to be positioned up and down, left and right, front and back, and rotated.
- Good accuracy and flexibility can be maintained at different temperatures
- The specially treated material surface is easy to clean and maintains good cleanliness for a long time

Technical Parameters :

Parameters	Description
Display	Tri-axis simultaneous display via LCD screen
Display Unit Dimensions	100×160×120mm
Reading Precision	0.01mm
Display Details	External LCD screen (AP/ML/DZ axes: 80mm travel range, 0.01mm positioning accuracy; compatible with brain atlases)
Function Keys	Zero-setting button
Material	Alloy construction
Dimensions	400×255×340mm
Arm Rotation	360° rotation with 180° swing range
3D Feed Travel	80mm (vertical/lateral/horizontal)
Skull Fixation	Helical drive mechanism for ear bars (rapid cranial stabilisation)
Power Supply	1.5V DC
Positioning Capability	Precise positioning in vertical, lateral, horizontal, and rotational axes
Accessories Supplied	Single Arm Digital Stereotaxic Instrument comes with 3 axis digital manipulator (left). Accessories like ear bar, adaptors and holders are not supplied with the instrument, user needs to select the accessories as per the requirement.

Digital Stereotaxic Instrument (Dual Arm):

Model: DS-D-LR

Components :

- Suitable for different animal adapters, rats, mice and guinea pigs
- The moving range of the dual operating arms can reach 120mm up and down, left and right, and front and back
- The dual operating arms can move ±90 degrees in the front and back direction and ±90 degrees in the left and right direction.
- The horizontal direction can rotate 360 degrees and lock any position at any time
- The operating accuracy of the dual operating arms X-axis, Y-axis, and Z-axis: 0.01mm
- The ear rod adopts a spiral propulsion structure to facilitate the fixation of the skull.
- The upper and lower operating accuracy of the micro-propellant is 0.01mm
- The operating arm adopts a micrometre-level dial, which is more convenient to read.
- Can be used with optional accessories like microinjection pump, micro-camera, cranial drill, etc
- The floor adopts a honeycomb thread, which can be equipped with double operating arms or other equipment for various experimental operations
- Laser scale and open base design make reading more convenient
- Good accuracy and flexibility can be maintained at different temperatures
- The specially treated material surface is easy to clean and maintains good cleanliness for a long time

Technical Parameters :

Parameters	Description
Animal Compatibility	Adaptable to rats, mice, birds, and guinea pigs
Dual-Arm Mobility	Range: ±120mm (vertical, lateral, horizontal)
Rotation Range	- Front/Back: ±90° - Left/Right: ±90° - Horizontal: 360° (lockable)
Precision	0.01mm resolution (X/Y/Z axes)
Base Plate	450×300mm
Micro-Drive Precision	0.01mm vertical adjustment
Micrometer Scale	Vernier dials for easy reading
Compatibility	Works with microinjection pumps, microscopes, and cranial drills
Design Features	- Laser-etched scales - Open base design
Temperature Stability	Maintains precision and flexibility across temperatures
Material & Cleaning	Anti-stain surface for easy cleaning and durability
Weight	7kg approx
Accessories Supplied	The Dual Arm Digital Stereotaxic Instrument comes with two 3-axis digital manipulators- left and right. Accessories like ear bar, adaptors and holders are not supplied with the instrument, user needs to select the accessories as per the requirement.

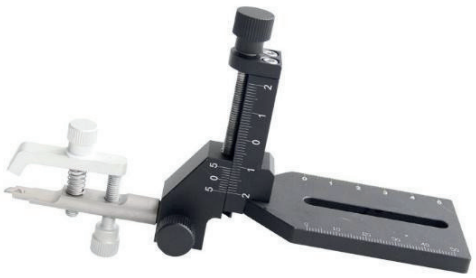
Neonatal Mouse Adapter With Ear Bars:

Model: S-NMA-01

The tip of the newborn mouse brain fixation adapter is appropriately tapered, which can not only firmly clamp the mouse head, but also avoids the damage to the mouse skull. New design of neonatal mouse adaptor helps to adjust height of the ear bars on both sides. Further, the height of the incisor clamp can be freely adjusted and has scales which are suitable for experiments at different angles. As the neonatal mouse do not have ear canals, a zygomatic bone fixation sleeve is added to replace the tip ear bar, providing a non-invasive and stable fixation method for the young mouse's head.

Applicable animals: neonatal mouse
Material: aluminium-magnesium alloy
Ear rod movement range: 20mm
Double ear rod support: taper and lotus serrations
Nose clip: movable up and down, front and back

Mouse Adaptor:
Model: S-M-01



Mouse adaptor is used to hold the mouse head by the palate and incisor and offers vertical regulation to make the head level or at a certain angle. The vertical adjustable range is from +10mm to -20mm, with 100µm resolution, a horizontal adjustable range of 43.5mm, horizontal rotatable range of 35 degrees. (Note: Ear bars need to be ordered separately)

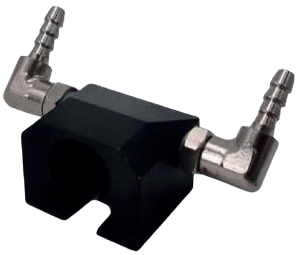
Rat Adaptor:
Model: S-R-01

Its useful for rat procedures on stereotaxic instruments. It holds the rat's head firmly through the nose clip, ear bars and incisors. This adaptor can be adjusted 30mm vertically along the dovetail, can slide with 100µm resolution and 50mm horizontally, which makes it applicable for rats of different weights.
(Note: Ear bars need to be ordered separately)

Anesthesia Mask:
Model: S-MA-A-01/ S-RA-P-01

Anaesthesia is required in conducting the experiment with the Stereotaxic Instrument; thus, the anesthesia mask is used to match the anesthesia machine, which prevents the researchers' exposure to the anaesthetic gas. It is installed on the adaptor. It is available for the mouse and the rat. Stereotaxic Anaesthesia Masks are available in passive and active types.The Rat Anesthesia Mask is a passive evacuation type, whereas the Mouse Anesthesia mask is an active evacuation type. The passive mask has a collinear inlet and outlet, and the Active mask has separate (non-collinear) inlets and outlets on both sides. The passive mask is used with a charcoal canister only, and the Active mask can be used withan evacuation apparatus.

Mouse Anesthesia Mask with tooth bar, Active evacuation type



Rat Anesthesia Mask, Passive Evacuation Type

Cannula Holder:

Model: S-CH-03

The three-in-one cannula holder has feature of holding 3 different sizes of cannula of size 3.5mm/ 1.25mm/ 2.5mm.

Syringe Holder:

Model: S-SH-01

A syringe holder is useful in microinjection applications by holding the syringe and needle simultaneously. It helps to clamp the syringe,e making it more stable. It holds the syringe barrel of 3mm to 14mm in diameter and the needle of 0.3mm to 1.5mm in diameter

Electrode Holder:

Model: S-EH-01

The electrode holder is suitable for holding syringe needles or electrodes. It has a V groove design and can hold the needles or electrodes with a diameter of 0.3mm to 1.5mm.

Large Tube Holder:

Model : S-LTH-01

A large tube holder is suitable for holding tubes of size 2.5 to 5mm

Drill Holder:

Model: S-DH-01

This Holder for Microdrill secures the microdrill to stereotaxic instruments. It controls the depth of drilling with the help of a manipulator. The easy and accurate operation protects the brain from damage caused by excessive drilling.

Ear Bar:

Orchid's ear bars have a scale of 3.5cm with 0.1cm resolution and square-shaped suitable for mouse, rat, cat, guinea pig, bird and other animals.

18 degree
(Model S-EB-18)

45 degree
(Model S-EB-45)

Animal Skull Drill:

Model: S-DR

This machine is equipped with a carbide twist drill head, which can be automatically tightened without slipping or axial movement. It adopts a hollow shaft machine head, a three-piece chuck body, and no vulnerable parts, so it will not malfunction or fail. The power switch has an indicator display, the speed knob can be used to adjust the speed of the cranial drill stepless, and the foot switch can be used to control the rotation of the cranial drill, which is flexible and convenient to operate.

- **Power supply: AC220V±10%50HZ**
- **Power: 65W**
- **Motor Speed: 1000-35000rpm**
- **Forward and reverse switch**
- **Motor allowable voltage: DC8-20V**
- **Maximum stall current: 3A**
- **Torque: ≥280gf.cm**
- **Equipment is supplied with 2 drills of 0.6mm and 2 drills of 1mm**

Model No	Drill Size	Pack
S-DR-0.6	0.6mm	Pack of 5pcs
S-DR-0.8	0.8mm	Pack of 5pcs
S-DR-1.0	1.00mm	Pack of 5pcs
S-DR-1.2	1.20mm	Pack of 5pcs

Free Fall Impactor:

Model: S-FFI-01

A free-fall impactor is used to create animal models of brain or spinal cord injury. This device is designed based on the principle of free fall and can simulate brain or spinal cord injuries caused by external forces in clinical practice, providing an effective experimental method for studying the pathological and physiological processes, pathogenesis, and treatment methods of these injuries. Free-fall impactor is supplied with weights of 20g, 35g, 60g, 80g and 100g.

High Precision Microinjection Pump:

Model: S-HP-MR-01

The micro-injection pump can be installed on the micromanipulators of Stereotaxic Instruments. It is a small, compact and easy to install and convenient to operate. In the operation of brain stereotaxic devices, it is often necessary to perform microinjection on animals. The syringe is directly installed on the gripper, and the precise movement of the syringe piston is controlled by the microcomputer control driving unit to directly inject liquids, avoiding errors caused by catheter methods and the preset stroke control and ultra-wide range of linear speed can meet the applications of different users.

Technical Parameter :

- Display screen: 5-inch touch screen
- Number of channels: 1 channel
- Working mode: 5 working modes: Perfusion, extraction, perfusion-extraction, extraction-perfusion, continuous
- Syringe installation specification range: 0.1~1000uL
- Actuator stroke: 70mm
- Flow range: 0.013nl~1.085ml
- Stroke resolution: 0.165um
- Rated linear thrust: 20N

- Dimensions: 175 x 120 x 60mm
- Actuator size: 160 x 25 x 50mm
- Clamping rod outer diameter: 8mm
- Control accuracy: When ≥30% full stroke, control error ≤0.5%
- External control interface: start-stop control, fast forward control, fast reverse control
- Dual working modes: injection pump mode, electric micro-manipulation mode
- Communication interface: RS485; Applicable power supply: AC220V±10%, 50HZ/60HZ, power consumption: <10W

Ordering Information:

Sr.No	Product Code	Model Number
1	Digital Stereotaxic Instrument- Single Arm, Left With: 3-axis digital manipulator- left Without: ear bar, adaptor, holder	DS-S-L
2	Digital Stereotaxic Instrument- Dual Arm, Left and Right With: Two 3-axis digital manipulators- left & right Without: ear bar, adaptor, holder	DS-D-LR
	Optional Accessories	
3	Neonatal Mouse Adaptor with Ear Bars	S-NMA-01
4	Mouse Adaptor	S-M-01
5	Rat Adaptor	S-R-01
6	Mouse Anesthesia Mask with tooth bar, Active Anesthesia	S-MA-A-01
7	Rat Anesthesia Mask with tooth bar, Passive Anesthesia	S-RA-P-01
8	Cannula Holder, 3 in one type, 3 size holder	S-CH-03
9	Syringe Holder	S-SH-01
10	Electrode Holder suitable for sizes 0.3 to 1.50mm	S-EH-01
11	Large Tube Holder Suitable for size 2.5-5mm	S-LTH-01
12	Ear Bar 45 degrees	S-EB-45
13	Ear Bar 18 degrees	S-EB-18
14	Dill holder	S-DH-01
15	Animal Skull Drill 65W with 1 drill of 0.6mm and 1 drill of 0.8mm, with foot switch	S-DR-01
16	Digital Stereotaxic Instrument- Single Arm, Left Spare Drills for Skull Drill Size 0.6mm/ 0.8mm/ 1mm/ 1.2mm pack of 5pcs each	S-DR-0.6/S-DR-0.8/S-DR-1/S-DR-1.2
17	Free Fall Impactor along with weights（20、35、60、80、100g） Without: ear bar, adaptor, holder	S-FFI-01
18	Animal Skull Drill 65W with 1 drill of 0.6mm and 1 drill of 0.8mm, with foot switch	S-DR-01

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