

# RWD

## PRODUCT CATALOGUE

*Diversified solutions for  
scientific researchers*

**12th Edition**



*Dedicated to providing remarkable quality  
RWD Life Science*

RWD not only focus on individual instrument, but also whole solution

we are all with you



Learn more about us at:  
[www.rwdstco.com](http://www.rwdstco.com)





## Introduction

Established in 2002, RWD Life Science has been dedicated to being a leading manufacturer in research and veterinary equipments worldwide. We specialize in anesthesia, physiological and surgical equipments, used by pre-clinical researchers and veterinarians. Our mission is to provide high quality products and integrated solutions for our customers with prompt and professional support.

For more information about our supplies, such as Laser Speckle Perfusion Imager, Anesthesia

Machine, Ventilator, Stereotaxic Instrument, Syringe Pump, Cannula System and Surgical tools, please check our website:

[www.rwdstco.com](http://www.rwdstco.com)

## RWD Life Science

Add: 6540 Lusk Blvd, San Diego, CA 92121, USA

Add: No.13 Hi Tech North Rd, Nan Shan Dist.,  
Shenzhen, P.R.China

Web: [www.rwdstco.com](http://www.rwdstco.com)

Email: [sales@rwdstco.com](mailto:sales@rwdstco.com)

Tel: +1-858-900-6602 (USA)

+86-755-86111286 (China)

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## Intelligent Optogenetic System

The Intelligent Optogenetic System integrates light source output and control together. Convenient operation with stable performance, it greatly simplifies the experimental process and the setting of parameters.

### Technical Parameters

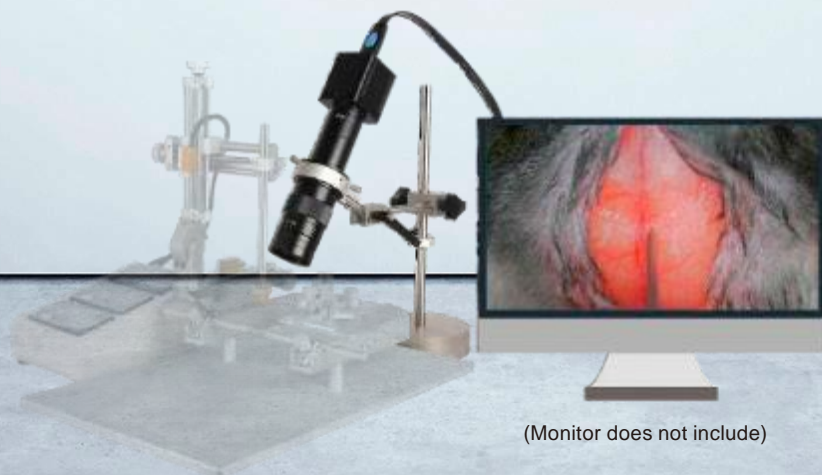
Category	Description
PowerTouch	0-80mw (Blue light), 0-100mw (Yellow light), 1mw resolution, adjustable power
screen pixels	7-inch capacitive touch screen, 1024PX * 600PX resolution
Stability	1%
Wavelength	473, 450, 488, 532, 589 and 650nm (optional)
TTL signal output	10mV-5V <sub>e</sub>
Light source interfac	FC/PC
Dimensions	258*220.5*147mm (L*W*H)



## 77001D Digital Microscope



RWD Digital Microscope 77001D Focus on Bregma or The Blood Vessels Precisely



(Monitor does not include)

The digital microscope 77001D provides an opportunity to improve stereotaxic or surgical operation. The digital microscope is a digital camera fitted with a parfocal zoom magnifying lens with fine focus and a working distance of 7.0 inches.

### Camera parameters

- 3.5MP, 1/2.3" CMOS sensor
- 20x - 120x magnification
- Shutter can be controlled manually or remotely
- Focusing range from 15 to 576mm<sup>2</sup>
- LED ring illuminator

### Photo/Video Capture, Memory, & Ports

- Streams 1080p videos via a mini-HDMI port at 60 fps
- Captures 60 fps AVI videos: HD 1080p, 1920 x 1080
- Saves visual data to a built-in microSD card
- Captures interpolated JPEG photos with resolution of up to 16.0 MP
- Mini-HDMI video out port for direct streaming to HDTV displays

## Cordless Microdrill

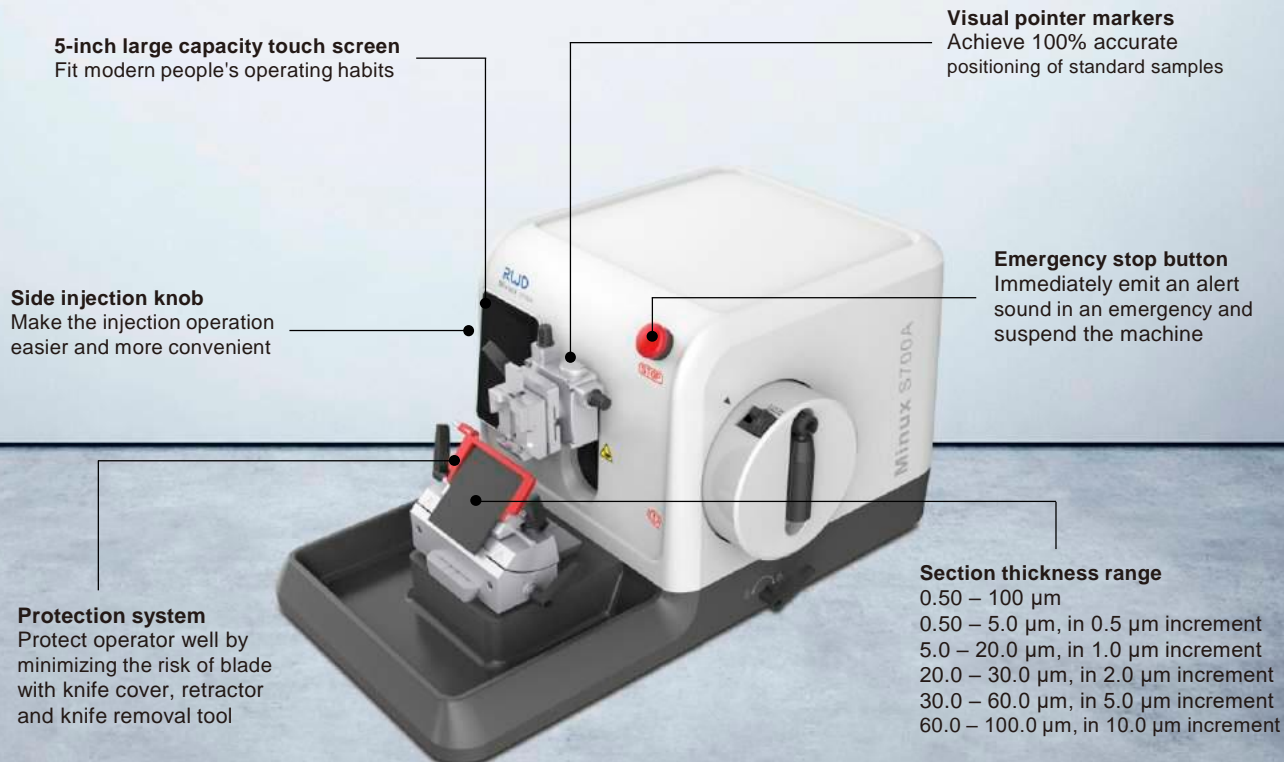


No need to connect the power supply, convenient, easy to operation, space saving Precisely

### Features:

- Cordless design, simple & controllable operation
- The double-bearing design is used at the joint of the drill bit, make drilling and grinding more stable
- 750mA lithium battery, can be used continuously for 45 mins after fully charged
- Wide range of applications, can be used with a 2.3mm diameter drill bit for drilling and polishing
- It can be equipped with a cranial drill holder (68228) fixed to Stereotaxic, free hands operation
- Speed: 12000rpm
- Stall torque: 1.25 oz./in
- Power: 100-240V
- Dimension: length 20cm, body diameter 19.5mm





## Paraffin Microtome coming soon...

The paraffin microtome is an auxiliary machine, which is wildly used in medicine and biological research, that combines tissue and wax for slicing. Slices prepared with a paraffin microtome can be used to detect a variety of clinical lesions to ensure that doctors can make more accurate judgments or assist researchers in tissue-level exploration.

### Technical Parameters

Paraffin Microtome	Semi-automated microtome: S700
	Automated microtome: S700A
Section Thickness Setting Range	0 – 100 $\mu\text{m}$
Maximum Specimen Size	55×50×30 mm (W×D×H)
Total Horizontal Specimen Stroke	28 ± 1 mm
Vertical Specimen Stroke	72 ± 1 mm
Specimen Retraction	40 ± 5 $\mu\text{m}$
Trimming Thickness	1 – 600 $\mu\text{m}$

## Inhalation Anesthesia Solutions

### Advantages of Inhalation Anesthesia:

- Can offer an improved level of control over depth and duration of anesthesia, especially for prolonged procedures.
- Relatively insolubility and faster elimination in blood enables rapid recovery.
- Be of rapid onset and offset with minimal side effects.
- Have little or no toxic effect thanks to non-metabolism characteristic of sevoflurane and isoflurane.
- Be safer and more efficient performance to reduce morbidity rates and increase the chance for successful outcomes.

### Small Animal Anesthesia Machines



Compact (see P07)



Tabletop (see P08)



Multi-output (see P09)



Portable (see P10)



Smart Wall-hung



VentStar Ventilator  
(see P20)

### Veterinary Anesthesia Machine



Portable  
(see P11)



Dual-Drug  
(see P12)



Intelligent  
animal ventilator  
(see P22)

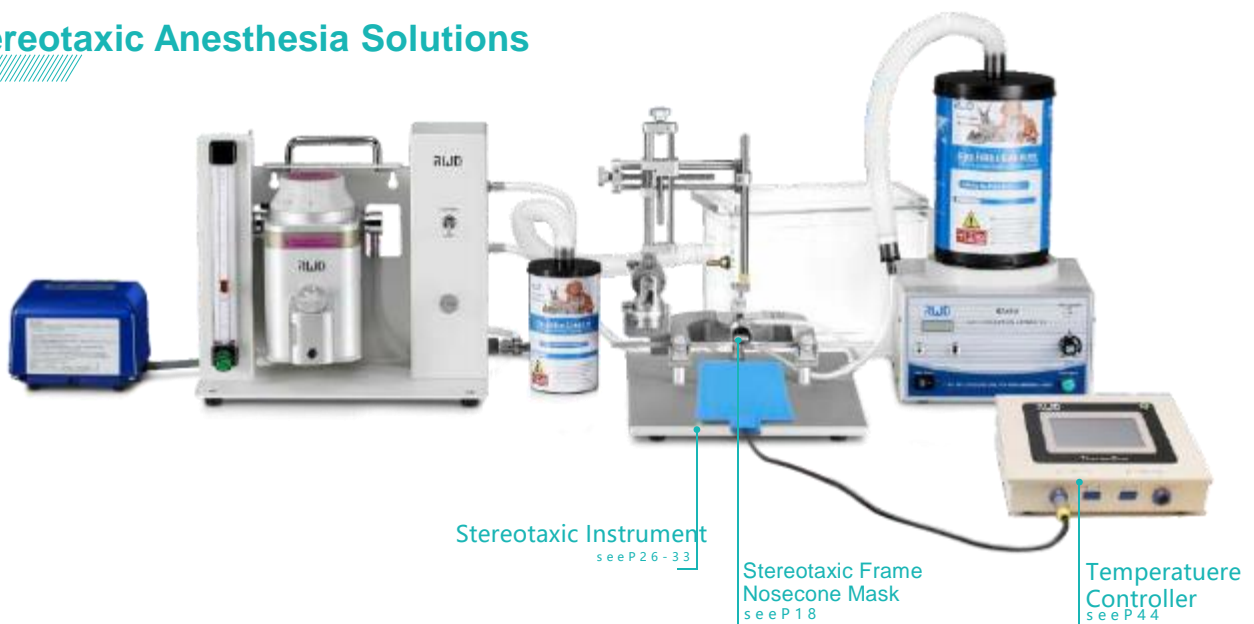
## Complete Anesthesia and Respiration Solutions

### Multi-function Anesthesia Solutions



The experimental system is equipped with a gas recovery system to provide a safe experimental environment to maximize the protection of the operator; by replacing different types of anesthesia machines and masks to meet the needs of animal experiments, such as cerebral ischemia and myocardial ischemia model, osteoporosis model, tail vein injection, abdominal aorta blood sampling, heart blood sampling, ventricular injection, tissue / organ removal and other animal surgery experiments.

### Stereotaxic Anesthesia Solutions



By changing the different types of stereotaxic instruments and adaptors to meet the needs of different animal experiments, such as the neurological disease models (such as Parkinson, Alzheimer's disease, craniocerebral injury, spinal cord injury, etc.), brain drug injection, Cannula Implantation (long term repeated administration), physiology experiment (such as nerve stimulation, signal recording, wireless telemetry, etc.), microdialysis experiments (probe implantation and short-term dialysis) and other experiments.



## Combination Solutions of Ventilator to Anesthesia System

### Small animals



This program is the combination of anesthesia machine and ventilator. While keeping the animal under anesthesia, it provides a certain volume (tidal volume) of oxygen and respiratory rate to support the normal breathing of animals.

It can meet the requirements of long surgeries or surgeries on animals suffering from certain diseases (such as cardiovascular and cerebrovascular diseases, hypertension, cerebral infarction, thrombosis), and suitable for mice, rats, rabbits, cats and other animals within 5KG.

### Large animals



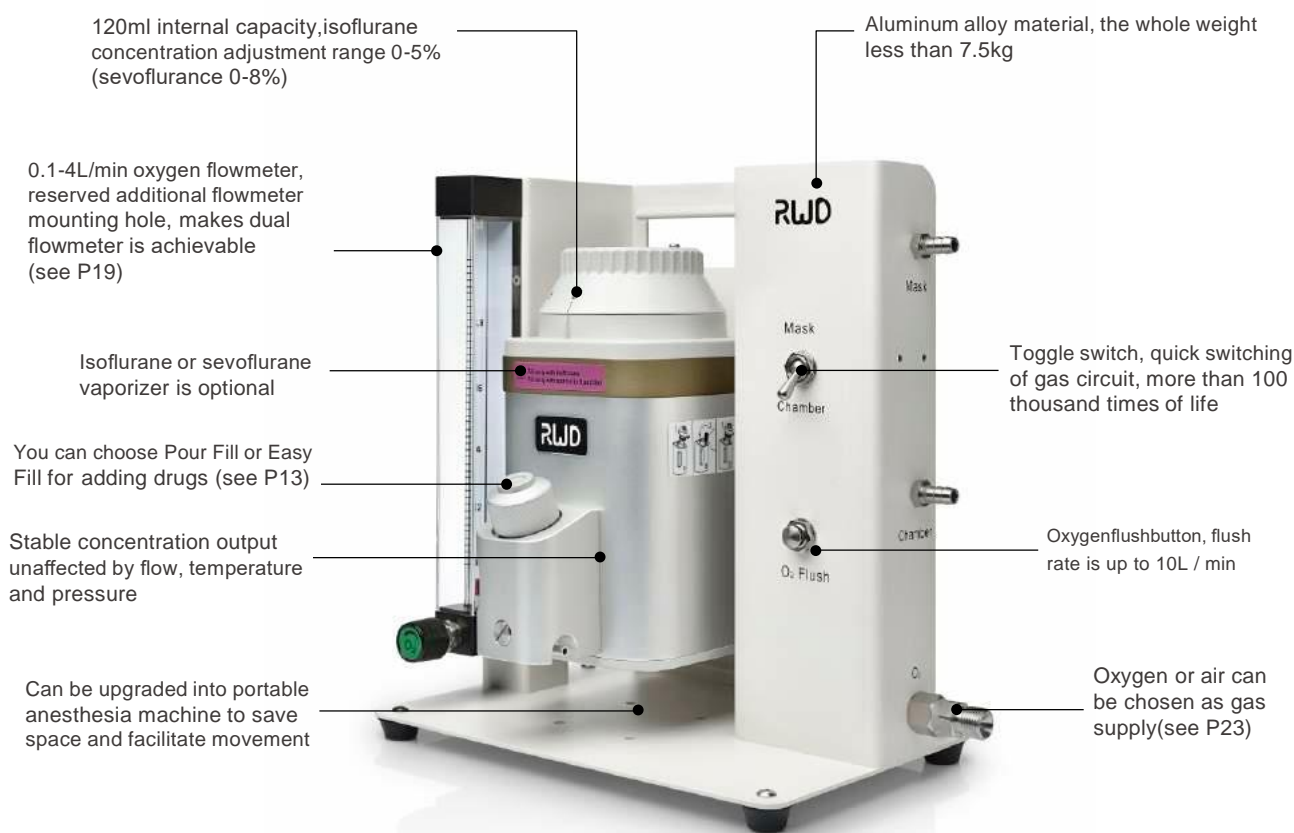
This program is suitable for the anesthesia and auxiliary respiration of animals within 50kg, such as pigs, monkeys, dogs and cats.

## Small Animal Anesthesia Machines

### R500 Compact Anesthesia Machine

Regular assembly (R500-A), vaporizer (R580), Inlet/Outlet End Caps (R580-IO) and tube accessory kit are included in the R500 anesthesia machine. Different air supply, induction chambers, small animal masks, filter canisters and gas evacuation apparatuses can be selected for anesthesia recovery of different animals.

Suitable for rats, mice, hamsters, guinea pigs, rabbits, cats and other animals within 7kg



Note: Oxygen flush is commonly used to flush out anesthetic gas to the filter canister before opening the induction chamber to avoid the escape of anesthetic gas into the personnel.

#### Order Information:

Cat No.	Product Description	Configuration	Remarks
R500IE	Compact Small Animal Anesthesia Device-Isoflurane, Easy Fill, 0-4L	●	Contains connection tubing for mask&induction chamber
R500IP	Compact Small Animal Anesthesia Device-Isoflurane, Pour Fill, 0-4L	●	
R500IK	Compact Small Animal Anesthesia Device-Isoflurane, Key Fill, 0-4L	●	
R500SE	Compact Small Animal Anesthesia Device-Sevoflurane, Easy Fill, 0-4L	●	
R500SP	Compact Small Animal Anesthesia Device-Sevoflurane, Pour Fill, 0-4L	●	
R500SK	Compact Small Animal Anesthesia Device-Sevoflurane, Key Fill, 0-4L	●	
R510-S	Portable Stand for R510 Series Anesthesia Machine	○	Upgrade to portable type

Note: ● Recommended configuration ○ Optional

## R540 Enhanced Anesthesia Machine

Regular assembly (R540-A), vaporizer(R580), Inlet/Outlet End Caps(R580-IO) and tube accessory kit are included in the R540 anesthesia machine. Different air supply, induction chambers, small animal masks, filter canisters and gas evacuation apparatuses can be selected for anesthesia recovery of different animals.

**Suitable for rats, mice, hamsters, guinea pigs, rabbits, cats and other animals within 7kg**



Note: Oxygen flush is commonly used to flush out anesthetic gas to the filter canister before opening the induction chamber to avoid the escape of anesthetic gas into the personnel.

### Order Information:

Cat No.	Product Description	Configuration	Remarks
R540IE	Enhanced Small Animal Anesthesia Device-Isoflurane, Easy Fill, 0-4L	●	Contains connection tubing for mask&induction chamber
R540IP	Enhanced Small Animal Anesthesia Device-Isoflurane, Pour Fill, 0-4L	●	
R500IK	Enhanced Small Animal Anesthesia Device-Isoflurane, Key Fill, 0-4L	●	
R540SE	Enhanced Small Animal Anesthesia Device-Sevoflurane, Easy Fill, 0-4L	●	
R540SP	Enhanced Small Animal Anesthesia Device-Sevoflurane, Pour Fill, 0-4L	●	
R500SK	Compact Small Animal Anesthesia Device-Sevoflurane, Key Fill, 0-4L	●	Upgrade to portable type
R510-S	Portable Stand for R510 Series Anesthesia Machine	○	

Note: ●Recommended configuration ○Optional

## R550 Multi-output Anesthesia Machine

Regular assembly (R550-A), vaporizer (R580), Inlet/Outlet End Caps (R580-IO) and tube accessory kit are included in the R550 anesthesia machine. Different air supply, induction chambers, small animal masks, filter canisters and gas evacuation apparatuses can be selected to form the experimental platform for anesthesia recovery of different animals.

With the latest design, it can be applied to simultaneous anesthesia of multiple mice, rats, cats, rabbits and other animals (1-5 small animals), and every channel can be controlled independently.



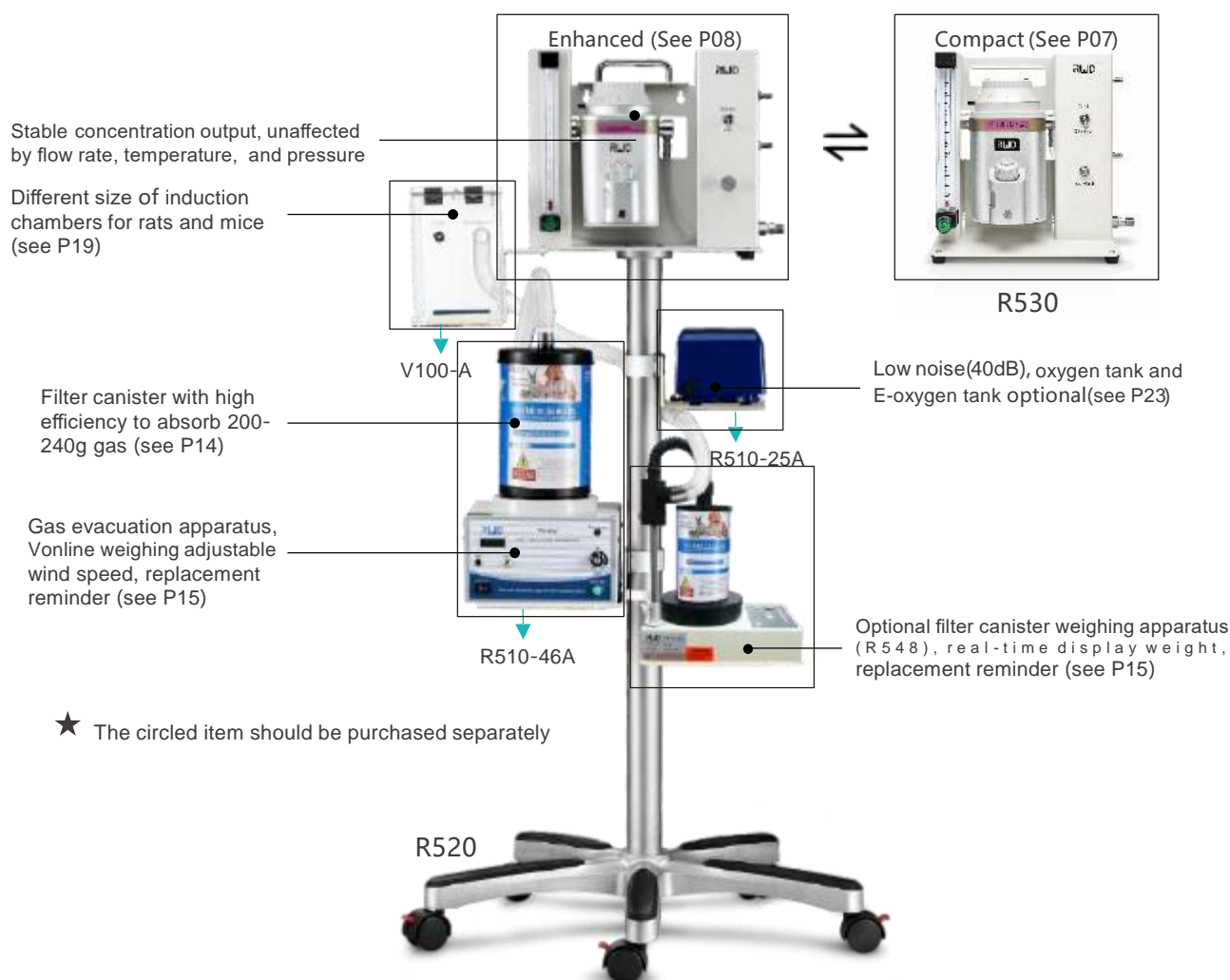
### Order Information:

Cat No.	Product Description	Configuration	Remarks
R550IE	Enhanced Small Animal Anesthesia Device-Isoflurane, Easy Fill, 0-4L	●	Contains connection tubing for mask & induction chamber
R550IP	Enhanced Small Animal Anesthesia Device-Isoflurane, Pour Fill, 0-4L	●	
R550IK	Enhanced Small Animal Anesthesia Device-Isoflurane, Key Fill, 0-4L	●	
R550SE	Enhanced Small Animal Anesthesia Device-Sevoflurane, Easy Fill, 0-4L	●	
R550SP	Enhanced Small Animal Anesthesia Device-Sevoflurane, Pour Fill, 0-4L	●	
R550SK	Compact Small Animal Anesthesia Device-Sevoflurane, Key Fill, 0-4L	●	
R510-S	Portable Stand for R510 Series Anesthesia Machine	○	Upgrade to portable type

Note: ●Recommended configuration    ○Optional

## R520/R530 Portable Anesthesia Machine

Regular assembly (R540-A), vaporizer (R580), Inlet/Outlet End Caps (R580-IO), induction chamber, fixed bracket for gas evacuation apparatus, air pump, and portable assembly (R510-S), tubing are included in the R520 anesthesia machine. Different air supply, induction chambers, small animal masks, filter canisters and gas evacuation apparatus should be purchased separately. The difference between R520 & R530 is only the anesthesia assembly.



### Order Information:

Cat No.	Product Description	Configuration	Remarks
R520IE	Movable Small Animal Anesthesia Machine-Isoflurane, Easy Fill, 0-4L	●	Including fixed bracket for induction chamber, evacuation apparatus, filter canister.
R520IP	Movable Small Animal Anesthesia Machine-Isoflurane, Pour Fill, 0-4L	●	
R520SE	Movable Small Animal Anesthesia Machine-Sevoflurane, Easy Fill, 0-4L	●	
R520SP	Movable Small Animal Anesthesia Machine-Sevoflurane, Pour Fill, 0-4L	●	
R530IE	Portable Anesthesia Machine, Isoflurane, Easy Fill, 0-4L	●	Including fixed bracket for induction chamber, evacuation apparatus, filter canister.
R530SE	Portable Anesthesia Machine, Sevoflurane, Easy Fill, 0-4L	●	

Note: ●Recommended configuration ○Optional



## Veterinary Anesthesia Machines

### R620-S1 Universal Veterinary Anesthesia Machine

R620-S1 universal veterinary anesthesia machine is applicable to clinical anesthesia of dogs, cats, pigs, monkeys, rodent, reptiles, birds etc. With minimal operation design, vets shall feel easy, safe and reliable to perform surgery on pets.

#### User-friendly design

Blocking bar design for breathing circuit, wheel brake for Universal wheel, and tray shelf for placing monitor

#### Rail-mounted CO<sub>2</sub> absorber

With simply 2 steps and one hand, one can install and disassemble the canister easily. Set your hand free, and save time and effort

#### Full inspection policy

Every single vaporizer is inspected to ensure they will arrive at customers' hands with high accuracy quality

#### Minimal operation design

Just press to close APL valve; turn the switch to shift between rebreathing and non-rebreathing circuit; with only one action to install and uninstall the vaporizer; With one switch to turn, the smart weighing canister start to work

#### Intelligent waste gas scavenging

The intelligent alarm design of weighing meter can prevent waste gas leakage due to overload of the filter canister, in turn avoid anesthesia gas pollution in operation room.

Item	Specification
Vaporizer	Output concentration: 0~5%(Isoflurane); 0~8%(Sevoflurane) Accuracy: $\pm 0.1$ (0~1%); $\pm 0.15$ (>1%) work temperature: 10~35°C Volume>120ML
Flowmeter	0.1-4L/min
CO <sub>2</sub> Absorber	2.1L
Filter canister	Self-weight is 800g, Maximum absorption capacity is 200g
Weighing device	Alarm range>1000g (R510-31 filter canister) ; Resolution:1g



#### Order Information:

Cat No.	Product Description	Configuration	Remarks
R620-S1-IEC	Veterinary Anesthesia Machine-Pole Mount, Isoflurane, Easy Fill, Cagemount	●	Basic package. One filter canister is included. And the isoflurane, gas supply, calcium lime, laryngoscope, masks should be purchased separately.
R620-S1-IPC	Veterinary Anesthesia Machine-Pole Mount, Isoflurane, Pour Fill, Cagemount	●	
R620-S1-SEC	Veterinary Anesthesia Machine-Pole Mount, Sevoflurane, Easy Fill, Cagemount	●	
R620-S1-SPC	Veterinary Anesthesia Machine-Pole Mount, Sevoflurane, Pour Fill, Cagemount	●	
R620-S1-IECS	Veterinary Anesthesia Machine-Pole Mount, Isoflurane, Easy Fill, Cagemount	●	Super package. Compared with the basic package, an additional oxygen valve, calcium lime, a bottle of trial isoflurane and an automatic Weighing Apparatus are included.
R620-S1-IPCS	Veterinary Anesthesia Machine-Pole Mount, Isoflurane, Pour Fill, Cagemount	●	
R620-S1-SECS	Veterinary Anesthesia Machine-Pole Mount, Sevoflurane, Easy Fill, Cagemount	●	
R620-S1-SPCS	Veterinary Anesthesia Machine-Pole Mount, Sevoflurane, Pour Fill, Cagemount	●	
R620-S1-IECP	Veterinary Anesthesia Machine-Pole Mount, Isoflurane, Easy Fill, Cagemount	●	Luxury package. Compared with the super package, an extra mask kit 68643, lamp laryngoscope C45001-00, an automatic Weighing Apparatus are included. (see P24)
R620-S1-IPCP	Veterinary Anesthesia Machine-Pole Mount, Isoflurane, Pour Fill, Cagemount	●	
R620-S1-SECP	Veterinary Anesthesia Machine-Pole Mount, Sevoflurane, Easy Fill, Cagemount	●	
R620-S1-SPCP	Veterinary Anesthesia Machine-Pole Mount, Sevoflurane, Pour Fill, Cagemount	●	

Note: ● Recommended configuration ○ Optional

## R630 Dual-Drug Veterinary Anesthesia Machine

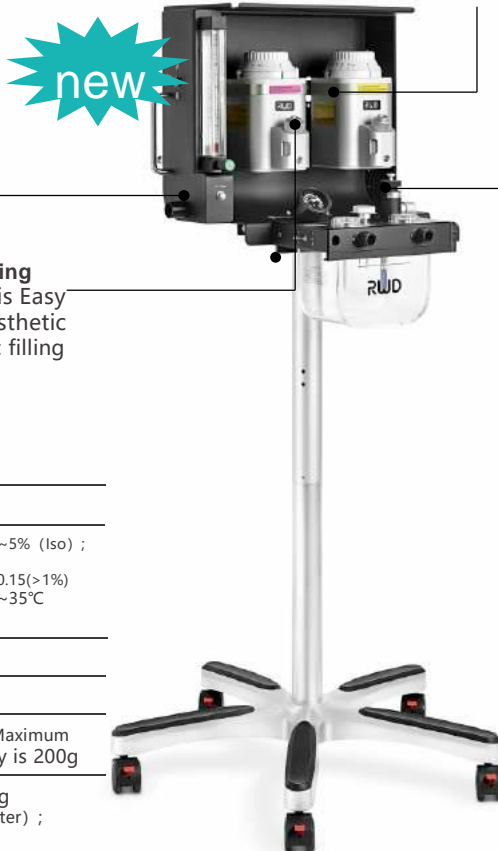
RWD develop a new Dual-Drug Veterinary Anesthesia Machine based on the veterinary clinic, which is suitable for clinical anesthesia of dogs, cats, pigs, monkeys, rodents, reptiles and birds.

### One Machine, Two Choices

Different cases use different anesthetic to improve the quality of anesthesia

### No anesthetic mixing

There is "Non-return" parallel structure to avoid anesthetic mixing



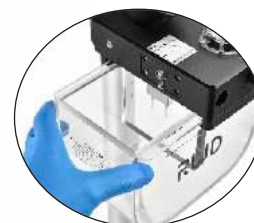
### No leakage and no wrong filling

The way to fill the vaporizer is Easy Fill to ensure there is no anesthetic leakage and wrong anesthetic filling

### Minimal operation

Quick occlusion of APL valve, circuit switch, rail-mounted CO<sub>2</sub> absorber

Item	Specification
Vaporizer	Output concentration: 0~5% (Iso) ; 0~8% (Sevo) Accuracy: $\pm 0.1$ (0-1%); $\pm 0.15$ (>1%) work temperature: 10~35°C Volume>120ML
Flowmeter	0.1-4L/min
CO <sub>2</sub> Absorber	2.1L
Filter canister	Self-weight is 800g, Maximum absorption capacity is 200g
Weighing device	Alarm range>1000g (R510-31 filter canister) ; Resolution:1g



### Rail-mounted CO<sub>2</sub> absorber

With simply 2 steps and one hand, one can install and disassemble the canister easily. Set your hand free, and save time and effort

### Order Information:

Cat No.	Product Description	Configuration	Remarks
R630-EC	Dual-Drug Veterinary Anesthesia Machine-Pole Mount, Sevoflurane, Easy Fill, Cagemount	●	Basic package. One filter canister is included. And the isoflurane, gas, calcium lime, laryngoscope, masks should be purchased separately.
R630-ECP	Dual-Drug Veterinary Anesthesia Machine-Pole Mount, Sevoflurane, Easy Fill, Cagemount	●	Luxury package. Compared with the basic package, an extra mask kit 68643, an additional oxygen valve, calcium lime, a bottle of trial isoflurane/sevoflurane are included. (see P24)

Note: ● Recommended configuration ○ Optional

## Anesthesia Machine Accessories

### (Anesthesia Machine) Vaporizer

R580 series vaporizer adopts the most advanced design, which can accurately control the output concentration of anesthetics. RWD offers Pour Fill, Easy Fill and Key Fill Cagemont and Selectatec.

**Two kinds of vaporizers**  
**Three dosing methods**  
**Two installation**



Isoflurane vaporizer



Sevoflurane vaporizer



Pour-Fill

Easy-Fill

Key-Fill



Cagemont

selectatec

#### Feature:

- The built-in temperature compensator ensures the stable concentration of anesthetic gas at different temperatures and flow rates, the flow range is 0.2-10L/min
- Mixed anesthetic gas output pressure range  $\Delta P \leq 2.5\text{kPa}$
- Applicable temperature range: 10-35 °C
- Good tightness, internal 50kPa pressure can be maintained, zero leakage, safe and reliable
- Internal capacity is not less than 120ml, and the range of isoflurane vaporizer concentration is 0-5% (Sevoflurane: 0-8%)
- Anti-accident open lock structure and closed state security protection structure to ensure safety
- The average filling rate is greater than 2ml/s, and the dosing adapter can withstand the pressure of 0.1mpa without leakage (Key Fill)

#### Order Information:

Cat No.	Product Description
R580S	Vaporizer - Isoflurane/Pour Fill/Cagemont
R581S	Vaporizer - Sevoflurane/Pour Fill/Cagemont
R582S	Vaporizer - Sevoflurane/Easy Fill/Cagemont
R583S	Vaporizer - Isoflurane/Easy Fill/Cagemont
R584S	Vaporizer-Isoflurane/Key Fill/Cagemount
R585S	Vaporizer-Sevoflurane/Key Fill/Cagemount
R580-IO	Vaporizer Endcaps (1 pair)

Cat No.	Product Description
R580SS	Vaporizer - Isoflurane/Pour Fill/Selectatec
R581SS	Vaporizer - Sevoflurane/Pour Fill/Selectatec
R582SS	Vaporizer - Sevoflurane/Easy Fill/Selectatec
R583SS	Vaporizer - Isoflurane/Easy Fill/Selectatec
R584SS	Vaporizer-Isoflurane/Key Fill/Selectatec
R545SS	Vaporizer-Sevoflurane/Key Fill/Selectatec
R580-SA	Vaporizer Suspension Assembly - R640

Note: When purchasing a Cagemont vaporizer, vaporizer endcaps (model: R580-IO) should be purchased separately.  
 When purchasing a Selectatec vaporizer, the vaporizer mount assembly(model:R580-SA) should be purchased separately.

Vaporizer of Easy Fill includes adapter R582-01 or R583-01.

Vaporizer of Key Fill includes adapter R584-01 or R585-01.

## Isoflurane & Sevoflurane



Isoflurane

Sevoflurane

### Order Information:

Cat No.	Product Description
R510-22-16	Isoflurane-100ml (16 bottles/box)
R511-22	Sevoflurane-100ml
R511-22-04	Sevoflurane-100ml (4 bottles/box)

## Gas Filter Canister



Used to absorb isoflurane, sevoflurane and enflurane and other gases, disposable, large and small size are available, large canister (net weight: 800g) absorb 200-240g gas; small canister (net weight: 250g) absorb 50g gas.

### Order Information:

Cat No.	Product Description
R510-31-6	Gas Filter Canister, Large, pkg of 6pcs
R510-31S-6	Gas Filter Canister, Small, pkg of 6pcs
R510-31S-16	Gas Filter Canister, Small, pkg of 16pcs

## Breathing Bags

### Order Information:

Cat No.	Product Description
R600-NL-0.5L	Resuable Non Latex Breathing Bag, 0.5L
R600-NL-1L	Resuable Non Latex Breathing Bag, 1L

Cat No.	Product Description
R600-NL-2L	Resuable Non Latex Breathing Bag, 2L
R600-NL-3L	Resuable Non Latex Breathing Bag, 3L



## Breathing Circuits



R-NBC-F(JR)



R-BC-DL

### Order Information:

Cat No.	Product Description
R-NBC-F(JR)	Mapleson F Non-rebreathing Circuit (Jackson-Rees)
R-BC-DL	Breathing Circuit Duo-Limb, 22mm(M)/15mm(F), 1.5m

## Gas Evacuation Apparatus

The gas evacuation apparatus (GEA) was designed to safely and actively remove waste gas associated with everyday inhalation anesthesia. The waste gas from cone mask, concentric tubing mask and stereotaxic frame nosecone masks can be pulled through activated charcoal canister so that the air can be re-circulated into the room. The GEA will accommodate waste gas supply from at least 5 masks.

- No venting hood is required while using.
- Powerful capture allows to accommodate waste gas supply from 1 to 5 masks.
- The velocity of "pull" or "draw" can be adjusted depending on the stations (masks).
- Great remove effectiveness to replace the traditional exhaust fan with remove ability less than 5g.
- Small size 215mm (W)\*215mm (D)\*170mm (H).
- Easy to connect to your vaporizer system and insert a activated charcoal canister.
- Online weighing, get the weight of canister directly from the display.

- Two level overweight alarm: 990g and 1010g.

- The outer diameter of the filter tank mounting position : 124mm
- Wind regulation: 35-60LPM
- Power: 100-240V, 50/60HZ



R546W

R546W, with the latest design of weighing, will be additionally used to weigh the activated charcoal canister at any time to check its saturation. Two levels alarm (990g and 1010g), indicator light and buzzer remind to change the canister and maintain its effectiveness.

### Order Information:

Cat No.	Product Description
R546W	Gas Evacuation Apparatus with Weight Monitoring, 110-240V

## Automatic Weighing Apparatus



- One key to reset, real-time display the weight of filter canister, accurate to 1g
- Two level saturation alarm to remind, replace filter canister .
  - ◆ Level I : large canister reaches 1000-1020g, small canister reaches 300-310g
    - ◇ Audible and visual alarm, 0.5hz (0.5 time/s)
  - ◆ Level II: large canister reaches 1020-1500g, small canister reached 310-500g
    - ◇ Audible and visual alarm, 2hz (2 time/s)
- ◆ Overweight alarm: more than 1500g, stable 1 second
  - ◇ Audible and visual alarm, lasting lighting and buzzing
- Automatically identify RWD's large & small canister
- Long press the mute button to suspend alarm
  - ◆ Short press the mute button, restore alarm after 5min of mute
  - ◆ Long press the mute button 3s, restore alarm after 30min of mute
- Compact size, save space
- Mounting bracket (R548-MB) is optional, to mount on the mobile stand

Cat No.	Product Description
R548	Automatic Weighing Mechanism for Gas Filter Canister
R548-MB	Weighing Bracket



## Small Animal Anesthesia Mask

### • Concentric Tubing Masks

Using Concentric Tubing design, sturdy and durable, can be placed arbitrarily on the desktop. The entire mask (including tubing) is made of non-metallic material suitable for MRI environments.

- The mask can be secured by fixed bracket (68625) or the fixed platform (68626), height of the mask is adjustable, and it can also be fixed and placed in MRI, PET and SPECT imaging systems



- Simultaneous experiments can be performed on 2-5 rats or mice with five channels of anesthesia mask



### Order Information:

Cat No.	Product Description
R510-86	SGL MRI Compatible Mask for Mouse
R510-88	Dual MRI Compatible Masks for Mouse
R510-54	Five-channel Tubing Anesthesia Mask Kits-rat/mouse
68625	MRI Compatible Mounting Bracket for Tubing or Cone Mask, optional

Cat No.	Product Description
R510-87	SGL MRI Compatible Mask for Rat
R510-89	Dual MRI Compatible Masks for Rat
R510-90	SGL MRI Compatible Mask for Rabbit
68626	MRI Compatible Mounting Platform for Tubing or Cone Mask-rat/mouse

Cone Masks(Bowl Masks)

- Clear cone for full visualization of muzzle.
- The Cone Masks can be installed onto 68620 anesthesia operation platform(300\*210\*75mm) to secure the animal in it.
- Height of the mask can be adjusted to meet different experimental needs.
- Special semi-enclosed mask design, coordinating with the evacuation apparatus to absorb and remove the waste gas outside the mask completely.

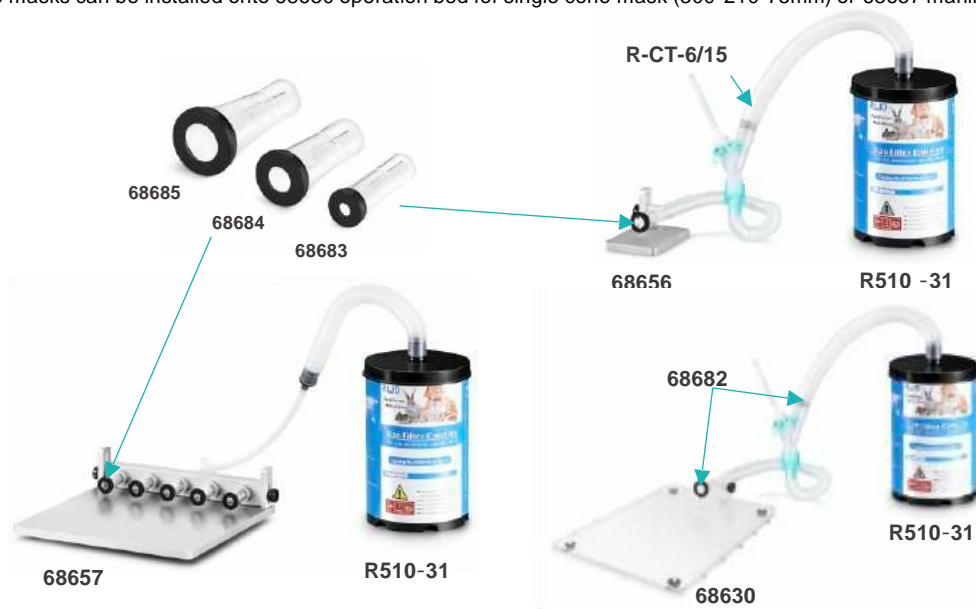
Order Information:

Cat No.	Product Description
68620	Small Animal Anesthesia Operation Platform (bellows(R-CT-18))
68634	Juvenile Rat mask -44mm OD*5mm ID*24mm depth
68635	Mouse mask -44mm OD*10mm ID*24mm depth
68636	Rat mask -44mm OD*15mm ID*24mm depth



Cone Masks

- Special designed with inlet tubing inside make the animal anesthesia exhaust gas can be absorbed by gas filter canister.
- Allows access to eyes, ears and top of head.
- The cone masks can be installed onto 68630 operation bed for single cone mask (300\*210\*75mm) or 68657 manifold for five cone masks.



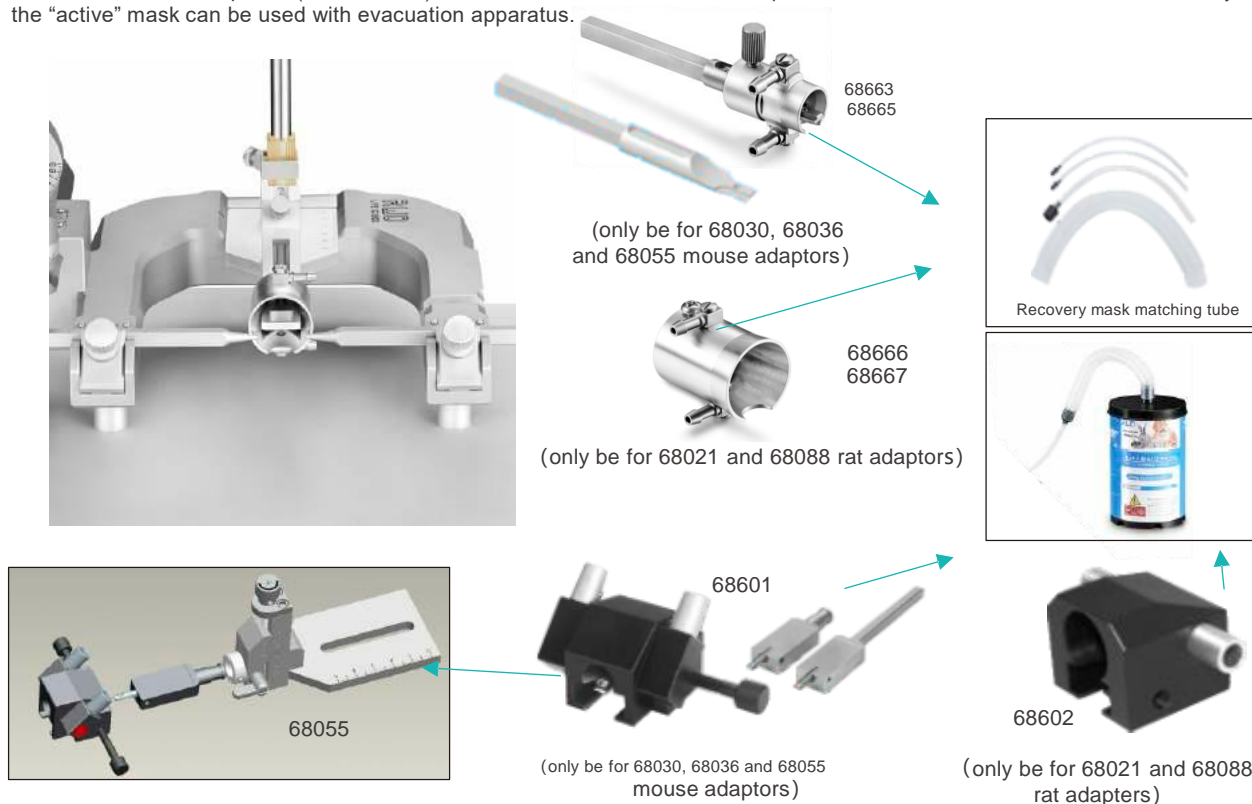
Order Information:

Cat No.	Product Description	OD (size)	ID(size)	D(size)
68680	Cone Mask with Tubing for Neonatal Mouse(<15g)	13mm	5mm	24mm
68681	Cone Mask with Tubing for Mouse or Neonatal Rat(15-40g)	20mm	10mm	28.5mm
68682	Cone Mask with Tubing for Rat(200-350g)	25mm	15mm	38mm
R-CT-6/15	Concentric Tubing, 6mm Inlet/15mm Outlet, 45cm			
68656	Manifold for Single Cone Mask			
68657	Manifold for Five Cone Masks			
68630	Anesthesia Operation Platform			
68683	Cone Mask for Neonatal Mouse(<15g)	13mm	5mm	24mm
68684	Cone Mask for Mouse or Neonatal Rat(15-40g)	20mm	10mm	28.5mm
68685	Cone Mask for Rat(200-350g)	25mm	15mm	38mm

## • Stereotaxic Frame Nosecone Masks

This type of anesthetic masks is specifically designed to fit most stereotaxic frame and deliver anesthetic gases with minimal exposure during surgery. They are locked onto the adaptor with the cone opening toward the open "U". The animal's teeth is placed over the incisor bar.

Two kinds of Stereotaxic Frame Nosecone Masks are available: one is "passive" mask with collinear inlet and outlet, and the other one is "active" mask with separate (non-collinear) inlet and outlet on both sides. The "passive" mask is used with charcoal canister only, and the "active" mask can be used with evacuation apparatus.



### Order Information:

Cat No.	Product Description	Remarks
68601	Stereotaxic Anesthesia Mask Kit -mice or neonatal rat (<70g, Canister & Tubing included)	For Passive Scavenging
68602	Stereotaxic Anesthesia Mask Kit - rats (<300g, Canister & Tubing included)	
68663	Stereotaxic Anesthesia/Evacuation mask- mice or neonatal rats (<30g)	For Active Scavenging
68665	Stereotaxic Anesthesia/Evacuation mask- mice or neonatal rats (30 ~ 70g)	
68666	Stereotaxic Anesthesia/Evacuation mask- rats (<300g)	
68667	Stereotaxic Anesthesia/Evacuation mask- rats (>300g)	

## • Imaging Mask

This mask mainly workwith ultrasound animal imaging heating platform and theanestheticmaskfor the actual operation of ultrasound imaging to ensure that animals are quiet, fixed, to meet the needs of special environmental imaging.

### Order Information:

Cat No.	Product Description
68669	Anesthesia mask - mouse and neonatal rat (<70g)
68670	Anesthesia Mask - rat (<300g)



## Induction Chambers

For rapid induction of anesthesia before animal surgery, takes only 2-5 minutes; Animal status can be observed in real time during anesthesia. The anesthetic gas is induced into the chamber, and exhausted to the connected charcoal canister. With following features:

- Transparent plexiglass material, durable, easy to clean, convenient to observe the anesthetic state of animals.
- Positive pressure gaskets at lids.
- Both ports on one side to reduce tubing in procedure area.



### Order Information:

Cat No.	Product Description	Remarks
V100	Induction Chamber-mouse (15cm*10cm*10cm)	Contains 1 plexiglass box, 1.2m bellows and 1 gas filter canister (R510-31S)
V101	Induction Chamber-rat (24cm*12cm*18cm)	
V102	Induction Chamber-rabbit/cat (40cm*18.5cm*25cm)	
V103	Induction Chamber-large animal (50cm*30cm*30cm)	

## Flowmeters

### Multi-output flowmeter




R510-07



R510-09

R510-07 five-output flowmeter and R510-09 can be used in conjunction with R520 and R540 series small animal anesthesia machines to meet the simultaneous anesthesia of 5 or 2 animals, and each port can adjust the flow rate independently.

### Extended flowmeter



RWD anesthesia is equipped with an extended flow meter mounting position, which expands a variety of gas flowmeters to meet the need of a variety of gas supply.

### Order Information:

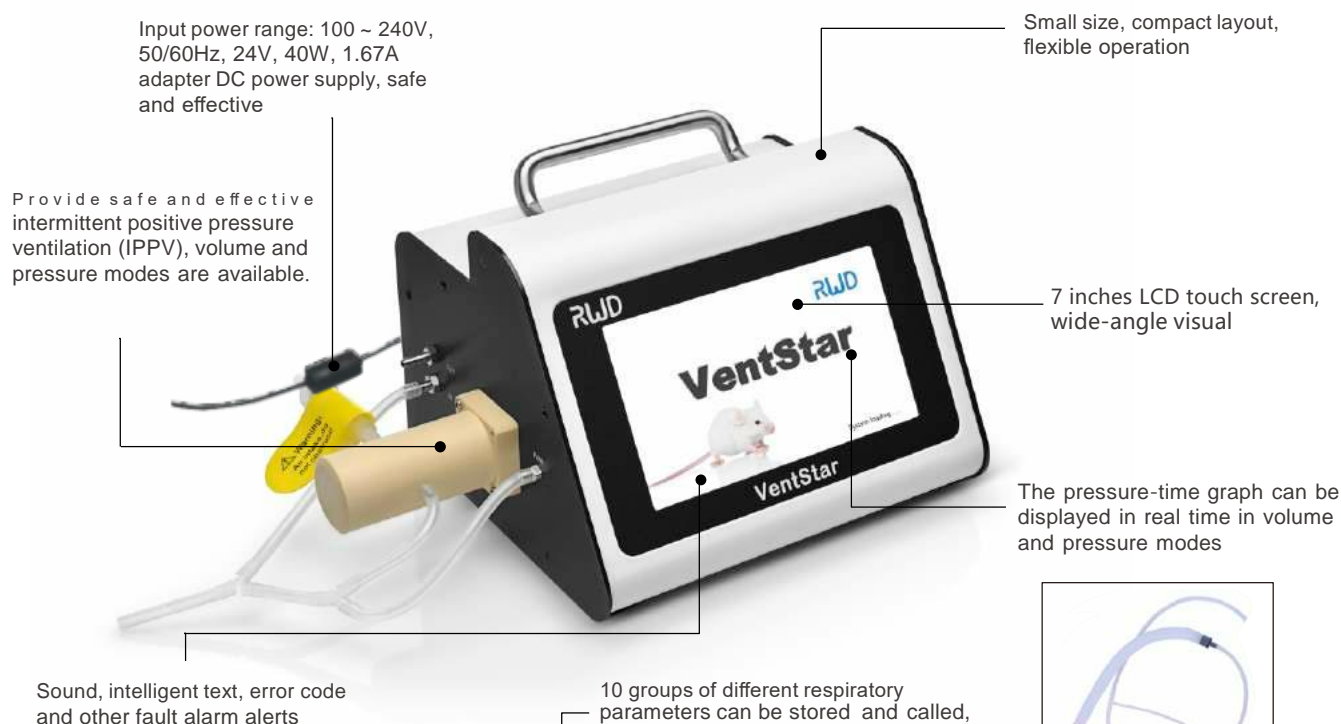
Cat No.	Product Description	Remarks
R510-09	Dual Channel Flowmeter - Range 0.1-1L / min	Standard contains 2.2 meter silicon tube (ID:6.0mm)
R500-N2O-1E	Expansion Assembly with 0.1-1LPM N <sub>2</sub> O Flowmeter	Silicone tube and Y-three way and other accessories
R600-O2-4E	Expansion Assembly with 0.1-4LPM O <sub>2</sub> Flowmeter	Silicone tube and Y-three way and other accessories

## Ventilator

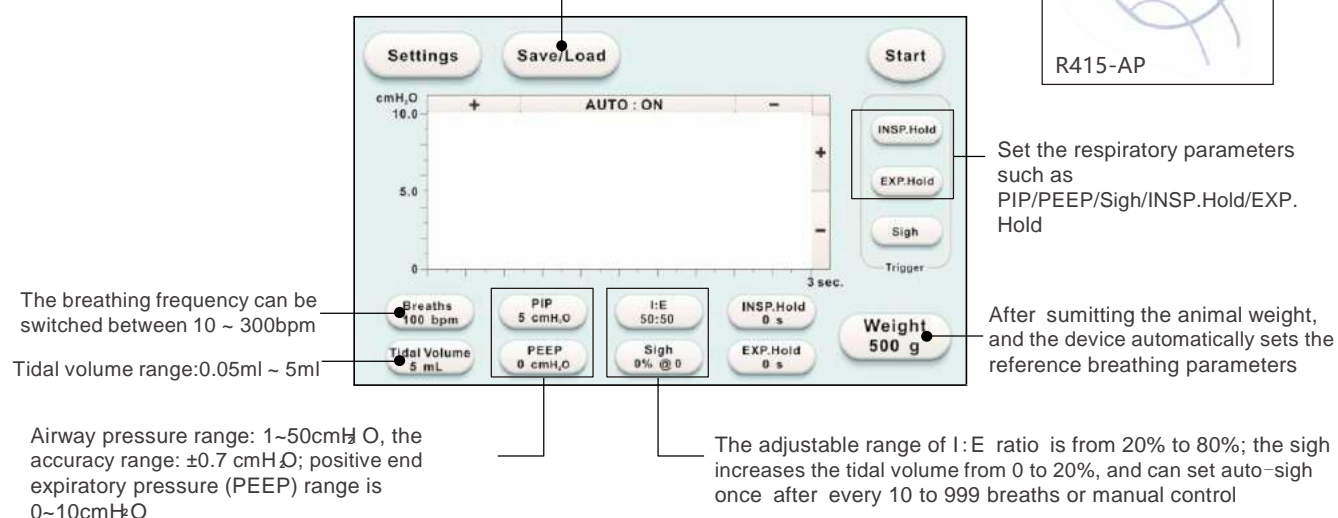
### VentStar Small Animal Ventilator

Animal ventilator is the commonest instrument for assisting animal respiration, which is widely used in scientific researches of preclinical medicine, clinical medicine and veterinary medicine (such as myocardial ischemia model), as well as respiratory management in animal surgery, emergency treatment and respiratory therapy.

Suitable for mice, rats and guinea pigs and other animals weighing 10g-1kg



R415-AP



Cat No.	Product Description
R415	Small Animal Ventilator
R415-AP	Accessory package for Anesthesia and Ventilator



## Small Animal Ventilator

Equipped with high quality motor, speed reducer and controller, RWD's ventilator with low noise, precisely control and durable. They could be run separately with air or oxygen as the gas source, or together with anesthesia machine for improving the anesthetic effect.



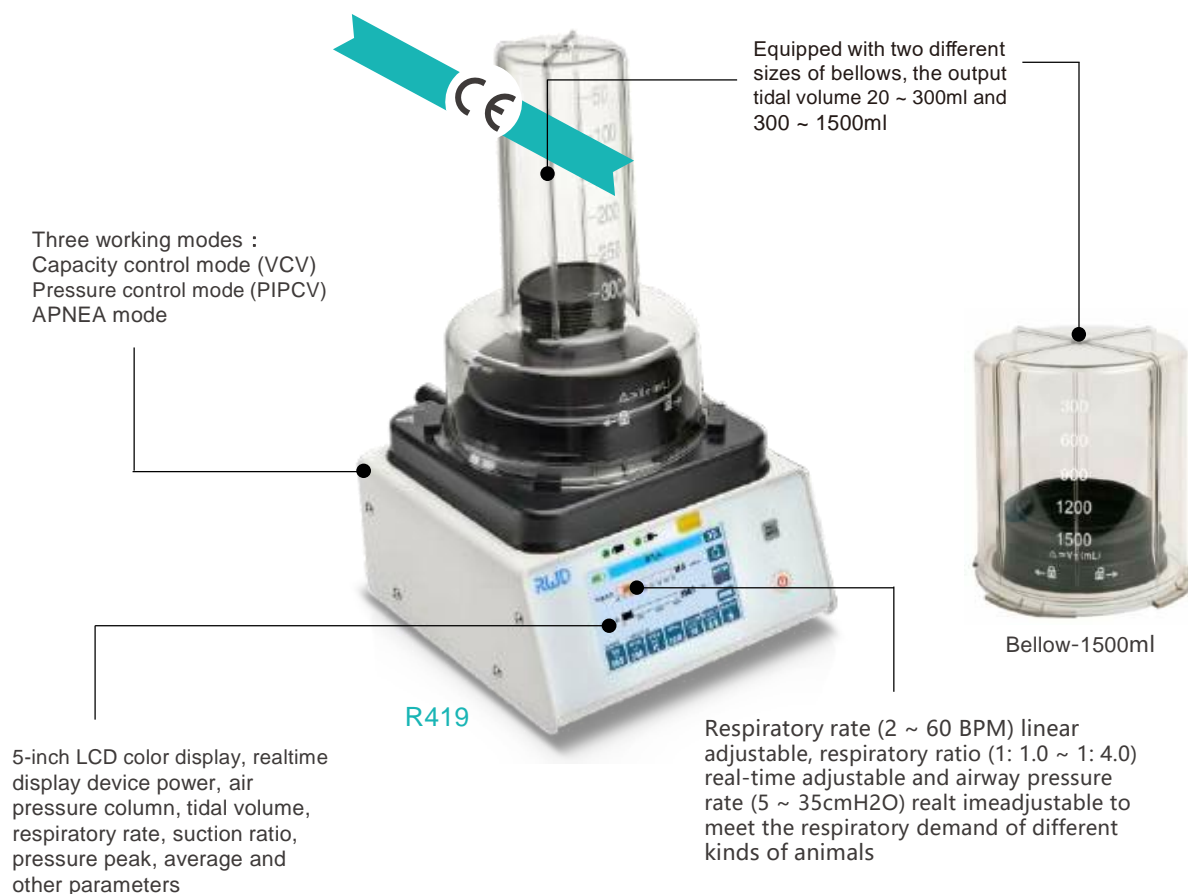
- Application: R405 is for mouse, neonatal rat, while R407 is for rat, hamster, rabbit, cat, puppy and other animal within 5kg
- The digital LED panel shows the respiratory rate in real time
- Tidal volume and respiratory rate are linear controlled, can be adjusted while the ventilator is running
- R405: tidal volume 0.1-1.0cc, adjustment accuracy 0.1cc
- R407: equipped with two sizes of pistons (large piston: tidal volume of 3-30cc, adjustment accuracy of 3cc; small piston: tidal volume of 0.5-5cc, adjustment accuracy of 0.5cc)
- Respiratory rate range: 18-150 breaths / min
- Control positive end expiratory pressure (PEEP)

### Order Information:

Cat No.	Product Description	Remarks
R405	Mouse Ventilator, 220V	Including Ventilator, connecting silicon tube and trachea cannula (20G)
R405V	Mouse Ventilator, 110V	
R407	Small Animal Ventilator, 220V	Including Ventilator, connecting silicon tube and trachea cannula (14G)- 1.85mm OD
R407V	Small Animal Ventilator, 110V	
R510-27	Accessory Package for Anesthesia and Ventilator	

## R419 Intelligent animal ventilator

R419 intelligent animal ventilator as mechanical ventilation device, which is completely according with veterinary clinical practice. There are 3 modes of operation, including VCV, PIPCV and APNEA, to meet multiple clinical applications.



- Adjustable power supply (110 / 220V)
- Light weight, portable, user-friendly design, multi-parameter fixed platform, easy to operate
- Provides safe and effective intermittent positive pressure ventilation (IPPV)
- Provide internal battery power, which can work more than 4 hours

### Order Information:

Cat No.	Product Description
R419	R419 Intelligent animal ventilator
R409-MB	Mounting Bracket for R409 Ventilator

## Anesthesia and Respiration Accessories

### Gas Supply



Oxygen or air can be chosen as gas supply of small animal anesthesia machines. Air pump (R510-29/R510-30) can provide air as gas supply; medical oxygen and E-oxygen tanks can provide oxygen as gas supply (you need to buy oxygen relief valve (R-GM-ET(S)) for Oxygen tanks, E-oxygen tanks are only suitable for portable anesthesia machines and need to purchase E-oxygen tank (R-GM-ET(S)) or double tanks (R-GM-ET (D)) mounting bracket, (as shown above), oxygen is provided by the user.

### Oxygen Concentrator

Generate medical oxygen from the air, oxygen is more convenient, is suitable for supplying oxygen for anesthesia, anesthesia recovery etc.

#### Features:

- Flow rate: 5L/min
- Generate medical oxygen(USP93%) from the air. Cost effective and never run out of oxygen supply
- Tri-filtration system, 99.999% of bacteria, viruses and odor can be removed effectively
- LOW O<sub>2</sub> PURITY ALARM and ABNORMAL ALARM available
- Quiet design, stable performance, safe operation, light weight and easy to move
- Outlet pressure 40-60KPa
- Power: 220V, 50Hz, 380VA
- Dimension L 248 x W 330 x H 535mm



ROC-5A

### Feline/Canine Masks

Apply to the anesthesia induction, breathing rescue of felines, canines and the same size of animals.



#### Order Information:

Cat No.	Product Description
68637	Feline Mask, 44mm(OD)*22mm(ID)*24mm(Depth)
68638	Feline Mask, 57mm(OD)*30mm(ID)*29mm(Depth)
68639	Feline Mask, 60mm(OD)*33mm(ID)*35mm(Depth)
68640	Canine Mask, 87mm(OD)*30mm(ID)*73mm(Depth)
68641	Canine Mask, 110mm(OD)*42mm(ID)*97mm(Depth)
68642	Canine Mask, 130mm(OD)*54mm(ID)*121mm(Depth)
68643	Feline/Canine Mask Set of 6 pcs

## Laryngoscopes

Apply to medium or large animals' laryngeal examination and tracheal intubation.

Type	Specification	Technical Parameter
Handle		Length L: 150mm, diameter D: 23mm
Curved lens (Bulb and fiber)	1#	Length L1: 80mm, width W1: 8mm
	2#	Length L1: 95mm, width W1: 10mm
	3#	Length L1: 105mm, width W1: 13mm
	4#	Length L1: 135mm, width W1: 15mm
	5#	Length L1: 155mm, width W1: 15mm
Straight lens (Bulb and fiber)	1#	Length L2: 80mm, width W2: 11mm
	2#	Length L2: 105mm, width W2: 11mm
	3#	Length L2: 155 mm, width W2: 14 mm
	4#	Length L2: 195 mm, width W2: 14 mm
	5#	Length L2: 205 mm, width W2: 17 mm



### Order Information:

Cat No.	Product Description
C45001-00	Miller Lamp Laryngoscope, 5 Blades+Handle+Case
C45002-00	Miller F.O. Laryngoscope, 5 Blades+Handle+Case
C45003-00	Macintosh Lamp Laryngoscope, 5 Blades+Handle+Case
C45004-00	Macintosh F.O. Laryngoscope, 5 Blades+Handle+Case

## Endotracheal Tubes

Medical non-toxic PVC design, suitable for the obstruction of animal throat, respiratory dysfunction and respiratory obstruction. After tracheotomy, the trachea is inserted to keep breathing, with features of smooth/firm tube design, comfortable feeling after intubation etc., ISO standard interface (OD: 15MM), and can be connected with breathing circuit.

### Order Information:

Cat No.	Product Description	Remarks
R600-ET	Cuffed Endotracheal Tubes 2.0-10.0mm (1 set)	
R600-ET-20	Uncuffed Endotracheal Tubes-I.D.2.0mm*O.D.3.3mm(Without airbag)	10psc/box
R600-ET-25	Cuffed Endotracheal Tubes-I.D.2.5mm*O.D.3.7mm	10psc/box
R600-ET-30	Cuffed Endotracheal Tubes-I.D.3.0mm*O.D.4.0mm	10psc/box
R600-ET-35	Cuffed Endotracheal Tubes-I.D.3.5mm*O.D.4.7mm	10psc/box
R600-ET-40	Cuffed Endotracheal Tubes-I.D.4.0mm*O.D.5.3mm	10psc/box
R600-ET-45	Cuffed Endotracheal Tubes-I.D.4.5mm*O.D.6.0mm	10psc/box
R600-ET-50	Cuffed Endotracheal Tubes-I.D.5.0mm*O.D.6.7mm	10psc/box
R600-ET-55	Cuffed Endotracheal Tubes-I.D.5.5mm*O.D.7.3mm	10psc/box
R600-ET-60	Cuffed Endotracheal Tubes-I.D.6.0mm*O.D.8.0mm	10psc/box
R600-ET-65	Cuffed Endotracheal Tubes-I.D.6.5mm*O.D.8.7mm	10psc/box
R600-ET-70	Cuffed Endotracheal Tubes-I.D.7.0mm*O.D.9.3mm	10psc/box
R600-ET-75	Cuffed Endotracheal Tubes-I.D.7.5mm*O.D.10.0mm	10psc/box
R600-ET-80	Cuffed Endotracheal Tubes-I.D.8.0mm*O.D.10.7mm	10psc/box
R600-ET-85	Cuffed Endotracheal Tubes-I.D.8.5mm*O.D.11.3mm	10psc/box
R600-ET-90	Cuffed Endotracheal Tubes-I.D.9.0mm*O.D.12.0mm	10psc/box
R600-ET-95	Cuffed Endotracheal Tubes-I.D.9.5mm*O.D.12.7mm	10psc/box
R600-ET-100	Cuffed Endotracheal Tubes-I.D.10.0mm*O.D.13.3mm	10psc/box
R-ET-WHF	Wall Hanging Frame for Endotracheal Tubes(ID 2.0-13.0mm)	



Wall Hanging Frame for Endotracheal Tubes



## Tubing Connector



### Order Information:

Cat No.	Product Description	Cat No.	Product Description
R-LCM-1/8	Luer Connector-Male, 1/8"	R-RC-3/8-1/4	Reduced Connector - T-type, 3/8" x 3/8" x 1/4"
R-Y-1/4	Y-three Way Valve-PP-1/4"	R-RC-1/4-3/8	Reduced Connector -1/4"-3/8"
R-Y-1/8	Y-three Way Valve-PP-1/8"	R-T-1/4	Three way Valve- combined with R-LCF-1/4(1 PCS) and R-LCM-1/4(2 PCS)
R-Y-1/16	Y-three Way Valve-PP-1/16"	R-Y-7/8	Y-connector-OD: 22mm
R-LCF-1/4	Luer Connector-Female, 1/4"	R-TC-22-22/15	Reduced Connector-15mm(M)-22mm(M)/15mm(F)
R-LCM-1/4	Luer Connector-Male, 1/4"	R-RC-15-15/22	Reduced Connector-15mm(M)-15mm(F)/22mm(M)
	9/16 TO Ø8 Cone Connector		
R510-25-86		R409-TC	T-connector – 9/16
R-AH-C	Oxygen Tube Connector-9/16(F)-M16*1.5(F)		

## Tubes



### Order Information:

Cat No.	Product Description	Cat No.	Product Description
R-PT-80	PVC Tubing - ID: 8.0mm	R-CT-18	Corrugated Tube - ID 22.0mm, L1.2m
R-ST-15	Silicone Tubing - ID:1.5, OD:4.5mm	R-CT-22-03	Corrugated Tube - ID 22.0mm, L0.3m
R-ST-30	Silicone Tubing - ID:3.0, OD:6.0mm	R-AH-80	O <sub>2</sub> Hose - ID8.0- M16*1.5-9/16 Connector, 2m
R-ST-60	Silicone Tubing - ID:6.0, OD:9.0mm	R409-AH-80	O <sub>2</sub> Hose - ID8.0-2*9/16 Connector, 1m
R-ST-60A	Silicone Tubing - ID:6.0,OD:10.0mm		



## Stereotaxic Instrument Solutions

Stereotaxic instruments are widely used in many fields such as neuroanatomy, neurophysiology, neuropharmacology and neurosurgery etc.

RWD offer a series of stereotaxic instruments to meet the experimental needs of rat, mouse, guinea pig, tree shrew, cat, rabbit, dog, monkey and other different animals. Moreover, RWD stereotaxic instrument is fully equipped (see P35 -42),

which greatly improves the applicability and application of each stereotaxic instrument. So, how to choose a most suitable stereotaxic instrument?

First of all, according to the experimental object and the type of experiment, you can choose the following type, like: standard type, compact type, rail-mounted type, large animal type etc. (the following figure shows the basic version, see P27-33).



Standard type



Compact type



Rail-mounted type



Large animal type

Secondly, according to the preferred experimental accuracy to choose the stereotaxic instruments with different accuracy 100um, 10um, two different precision readings are available.



Standard (100um)



Digital (10um)

In addition, all of the manual stereotaxic instruments can be upgraded into digital stereotaxic instruments, while the single manipulator can be upgraded into double-manipulator and can be converted freely.



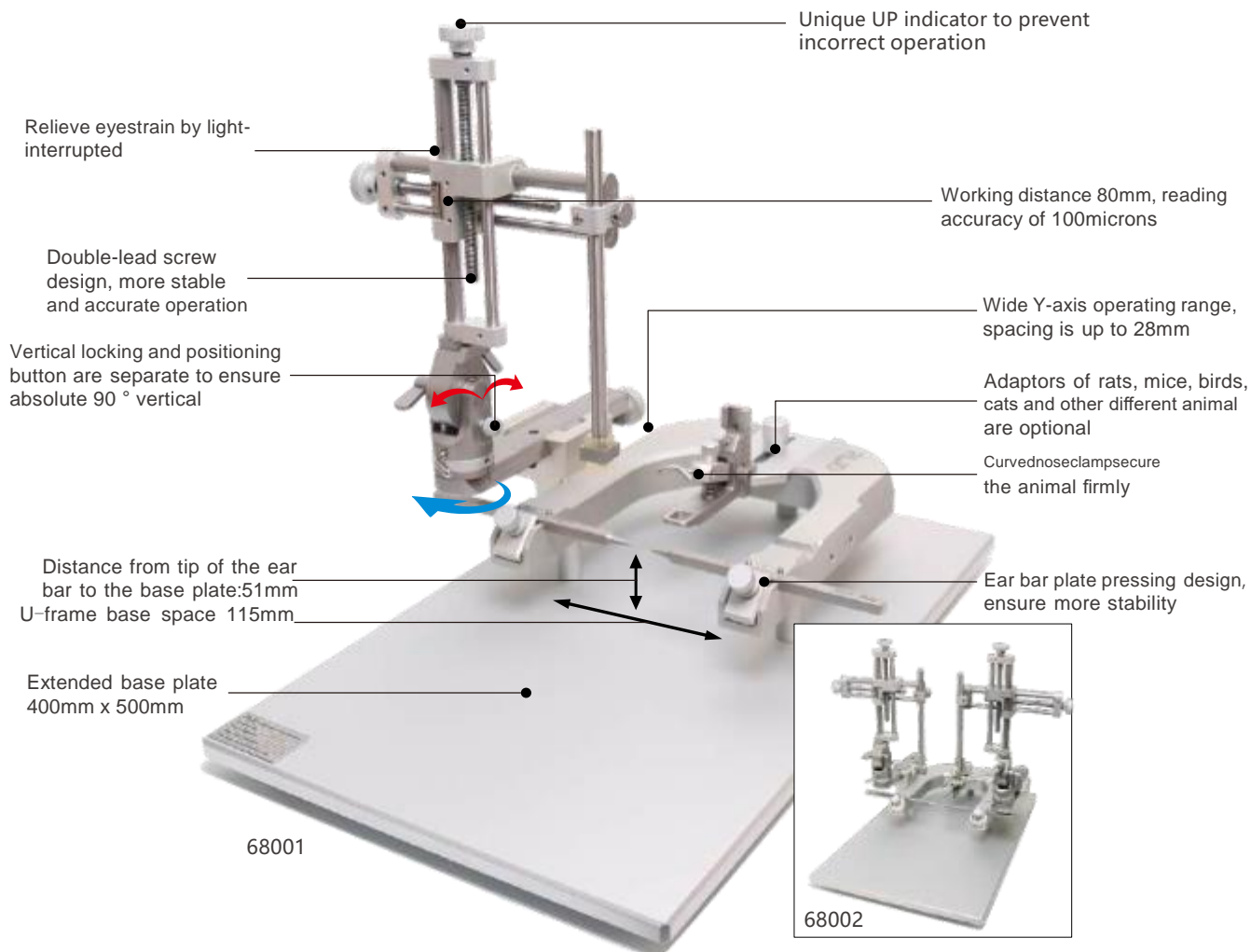
SGL M



Dual M

# Standard Stereotaxic Instruments

Classical U-type base design, professional services in the laboratory for 15 years!



## Composition:

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

## Order Information:

Cat No.	Product Description	Remarks
68001	Stereotaxic for Rat, SGL M, 18 Deg.	
68002	Stereotaxic for Rat, Dual M, 18 Deg.	
68005	Stereotaxic for Rat, SGL M, 45 Deg.	
68006	Stereotaxic for Rat, Dual M, 45 Deg.	
68037	Stereotaxic for Mouse, SGL M, 68030 Adaptor Incl.	
68038	Stereotaxic for Mouse, Dual M, 68030 Adaptor Incl.	
68043	Stereotaxic for Mouse, SGL M, 68055 Adaptor, 60 Deg.	
68044	Stereotaxic for Rat, Dual M, 68055 Adaptor, 60 Deg.	
68535	Stereotaxic for Mouse, SGL M, 68077 Adaptor, 60 Deg.	
68536	Stereotaxic for Rat, SGL M, 68078 Adaptor, 18 Deg.	
68861N	Stereotaxic Base Plate, Standard	

# Desktop Digital Stereotaxic Instruments

Digital displacement display, higher accuracy, higher efficiency!



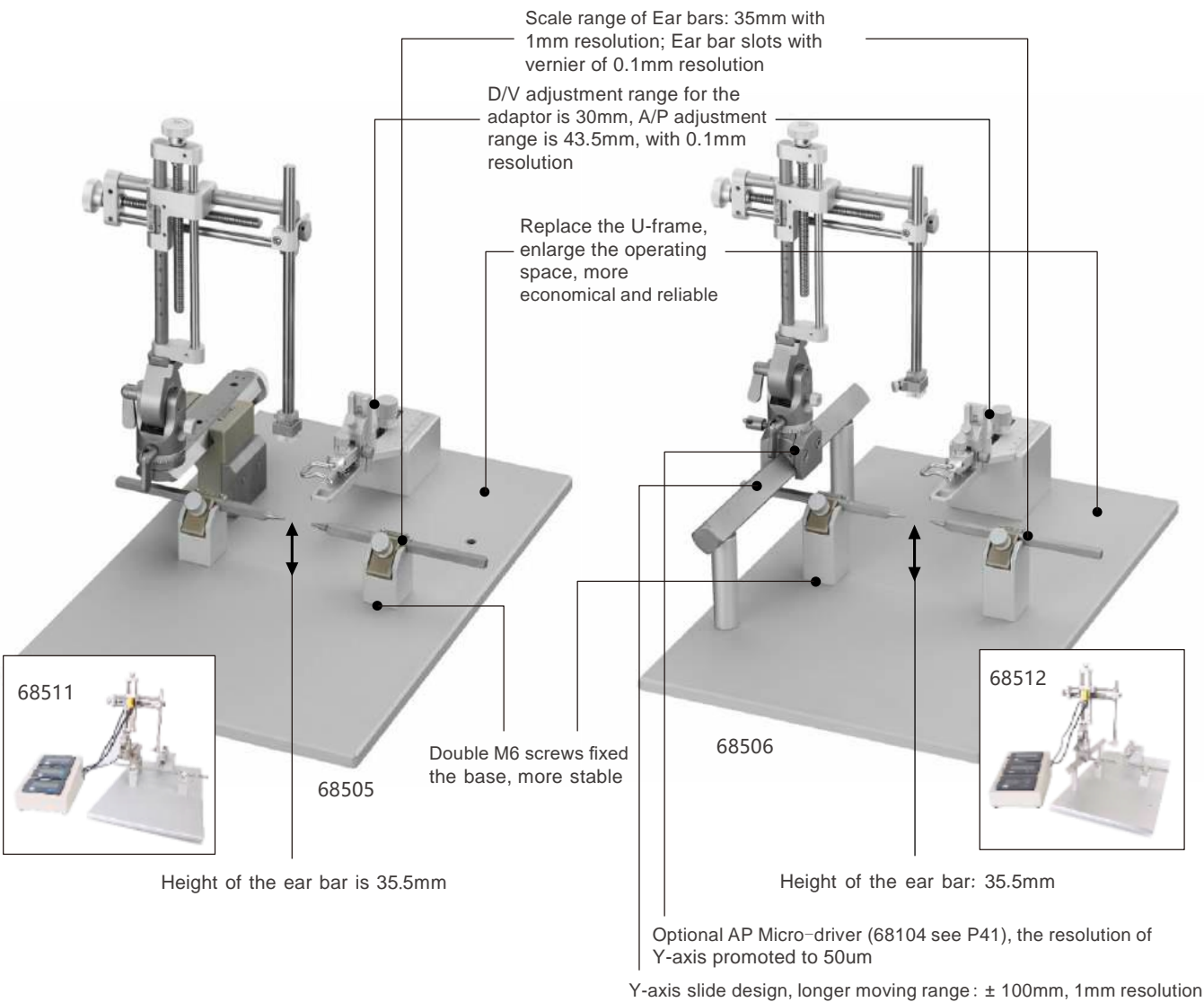
## Composition:

68025 and 68026 are complete sets of stereotaxic (see figure), both containing 68861N baseplate, 68401 three-dimensional manipulator - left, 68021 rat adaptor, 68301 rat 18 ° ear bar, 68201 standard holder, 68026 includes an extra 68402 three-dimensional manipulator-right and 68023 digital display module.

## Order Information:

Cat No.	Product Description	Remarks
68025	Stereotaxic for Rat, SGL M, Digital, 18 Deg.	
68026	Stereotaxic for Rat, Dual M, Digital, 18 Deg.	
68027	Stereotaxic for Rat, SGL M, Digital, 45 Deg.	
68028	Stereotaxic for Rat, Dual M, Digital, 45 Deg.	
68018	Stereotaxic for Mouse, SGL M, Digital, 68030 Adaptor Incl.	
68019	Stereotaxic for Mouse, Dual M, Digital, 68030 Adaptor Incl.	
68045	Stereotaxic for Mouse, SGL M, Digital, 68055 Adaptor, 60 Deg.	
68046	Stereotaxic for Mouse, Dual M, Digital, 68055 Adaptor, 60 Deg.	
68537	Stereotaxic for Mouse, SGL M, Digital, 68077 Adaptor, 60 Deg.	
68538	Stereotaxic for Rat, SGL M, Digital, 68078 Adaptor, 18 Deg.	
68861N	Stereotaxic Base Plate, Standard	
68023	3-axis Digital Readout for Upgrade-68000	With digital base and displacement sensor

# Portable/Rail Rat Stereotaxic Instruments



Composition:

68505 and 68506 are a complete sets of stereotaxic (see figure), both containing 68021 rat adaptor, 68301 rat 18 ° ear bar, 68201 standard holder, 68505 with the 68864S baseplate and a 68401 three-dimensional manipulator - left, 68506 with the 68865S base plate and 68851 two-dimensional manipulator - left.

Order Information:

Cat No.	Product Description
68505	Stereotaxic for Rat, SGL M, Portable
68508	Stereotaxic for Rat, Dual M, Portable
68511	Stereotaxic for Rat, Digital and Portable, SGL M
68514	Stereotaxic for Rat, Digital and Portable, Dual M
68864S	Stereotaxic Base Plate for Rat, Portable, SGL M
68864D	Stereotaxic Base Plate for Rat, Portable, SGL M

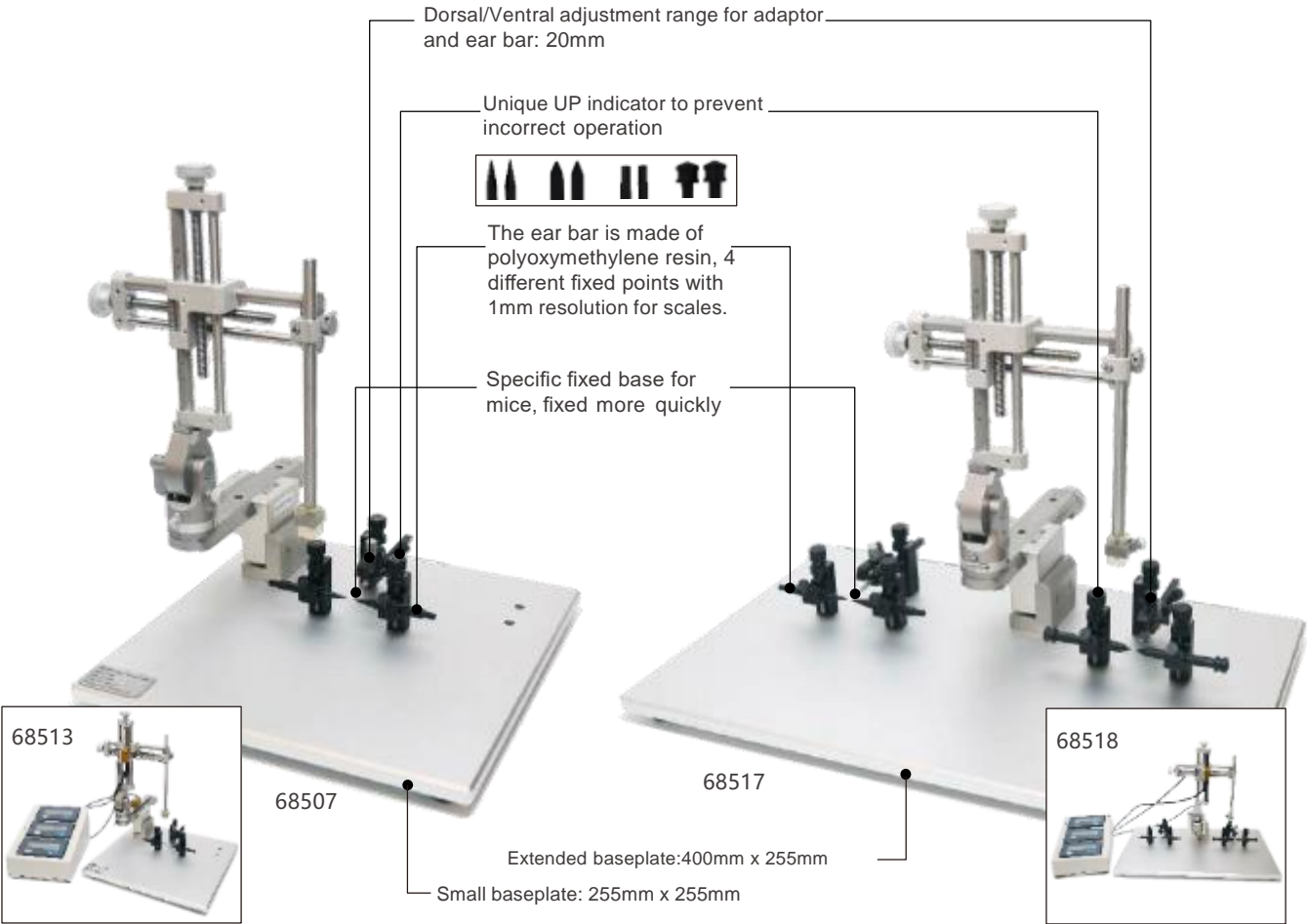
Order Information:

Cat No.	Product Description
68506	Stereotaxic for Rat, SGL M, Rail-type
68509	Stereotaxic for Rat, Dual M, Rail-type
68512	Stereotaxic Frame for Rat, Portable, SGL M
68515	Stereotaxic for Rat, Digital and Rail-type, Dual M
68865S	Stereotaxic BasePlate for Rat or Mouse, Rail-type, SGL M
68865D	Stereotaxic BasePlate for Rat or Mouse, Rail-type, Dual M
68941	2-axis Manip for Rat Stereotaxic, Left Hand

# Compact Mouse Stereotaxic Instruments

(One Mouse)

(Two Mouse)



Suitable for mice or neonatal rats particularly for gene knockout and transgenic mice related neuroscience studies.

Composition:  
68507 and 68517 are complete sets of stereotaxic (see figure), both containing 68033 mouse nose clip, 68034 and 68313 mouse 18 ° and 45° ear bars, 68201 standard holder, 68401 three-dimensional manipulator - left, 68507 with 68863S baseplate, while 68517 with 68866N base plate, Digital version 68513 and 68518 adds 68023 three-dimensional digital display module.

### Order Information:

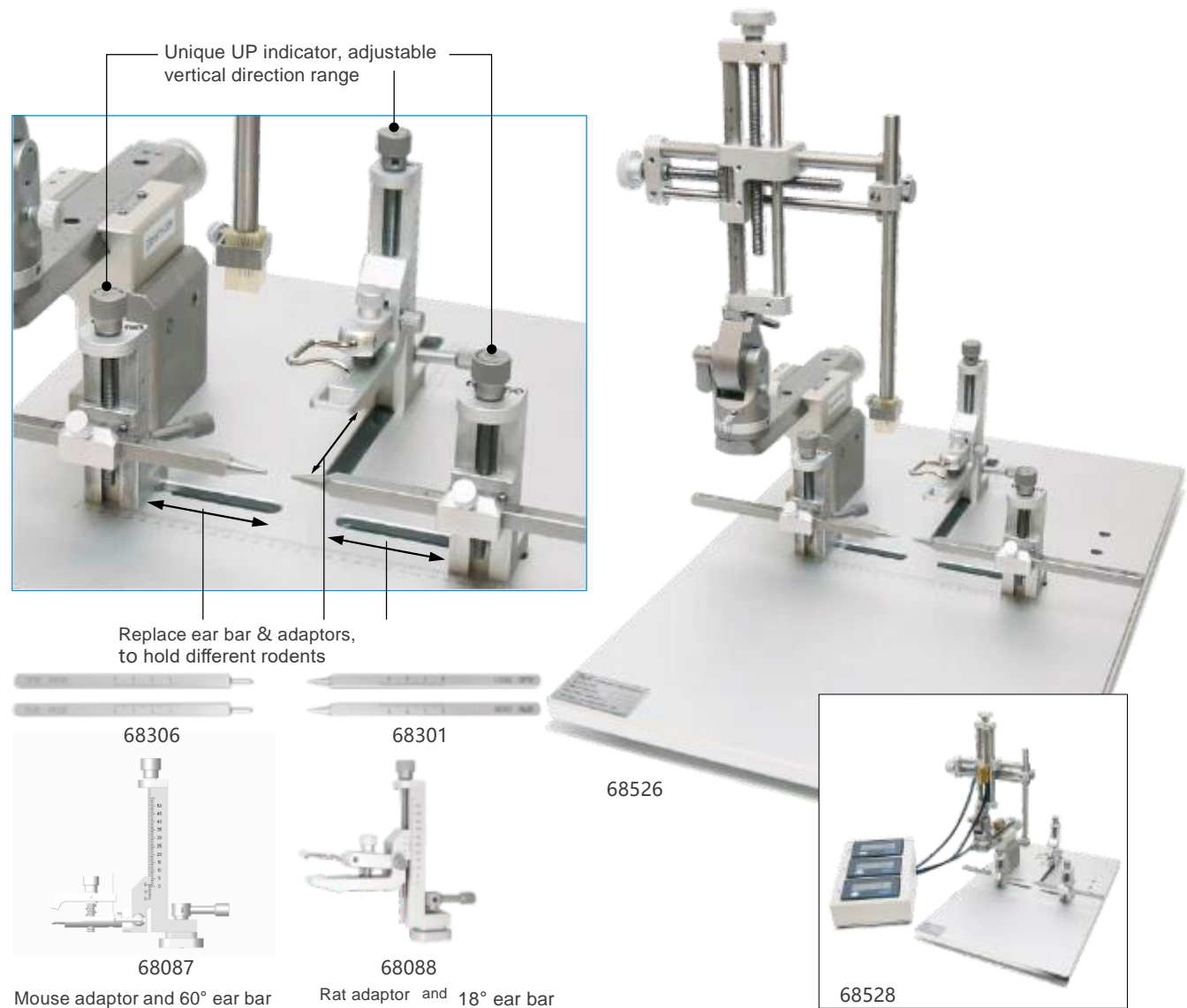
Cat No.	Product Description
68507	Stereotaxic for Mouse, SGL M, Portable
68510	Stereotaxic for Mouse, Dual M, Portable
68513	Stereotaxic for Mouse, Digital and Portable, SGL M
68516	Stereotaxic for Mouse, Digital and Portable, Dual M
68863S	Stereotaxic Base Plate for Mouse, Portable, SGL M
68863D	Stereotaxic Base Plate for Mouse, Portable, Dual M

### Order Information:

Cat No.	Product Description
68517	Stereotaxic for 2 Mice, Portable, SGL M
68518	Stereotaxic for 2 Mice, Digital & Portable, SGL M
68866N	Stereotaxic Base Plate for Two Mice, Portable



# Portable Rat & Mouse Stereotaxic Instruments

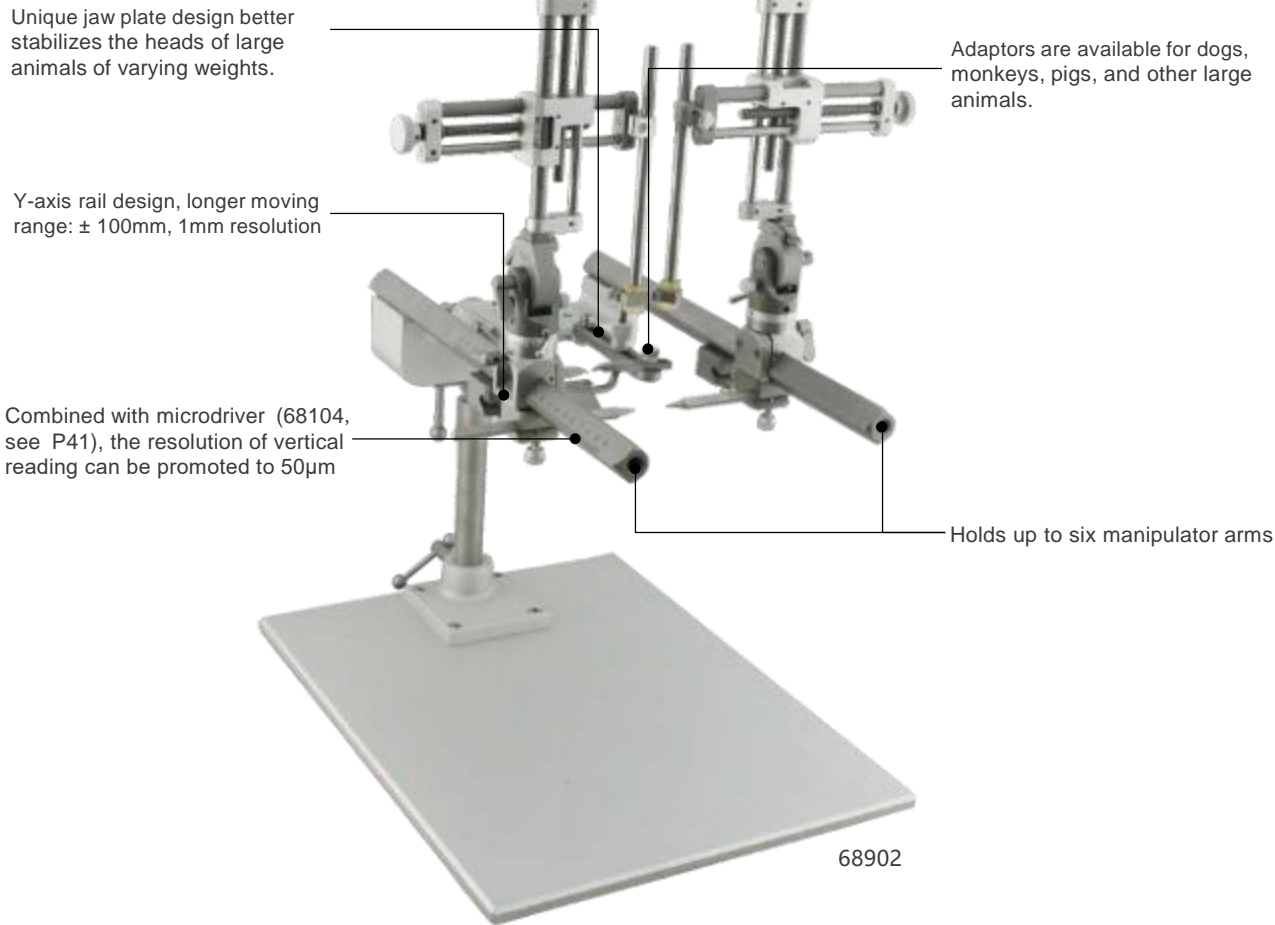


**Composition:**  
68526 is a complete set stereotaxic configurations, containing 68867S baseplate, 68401 three-dimensional manipulator - left, 68087 mouse adaptor and 68088 rat adaptor, 68301 rat 18° ear bars and 68306 mouse 60° ear bars, 68201 standard holder; Digital version 68528 adds 68023 three-dimensional digital display module.

**Order Information:**

Cat No.	Product Description	Remarks
68526	Stereotaxic for Rat and Mouse, SGL M, Portable	
68527	Stereotaxic for Rat and Mouse, Dual M, Portable	
68528	Stereotaxic for Rat and Mouse, SGL M, Digital and Portable	
68529	Stereotaxic for Rat and Mouse, Dual M, Digital and Portable	
68867S	Stereotaxic Base Plate for Rat and Mouse, Portable, SGL M	
68867D	Stereotaxic Base Plate for Rat and Mouse, Portable, Dual M	
68087	Mouse adaptor (Stereotaxic for Rat and Mouse )	
68088	Rat adaptor (Stereotaxic for Rat and Mouse )	

# Large Animal Stereotaxic Instruments

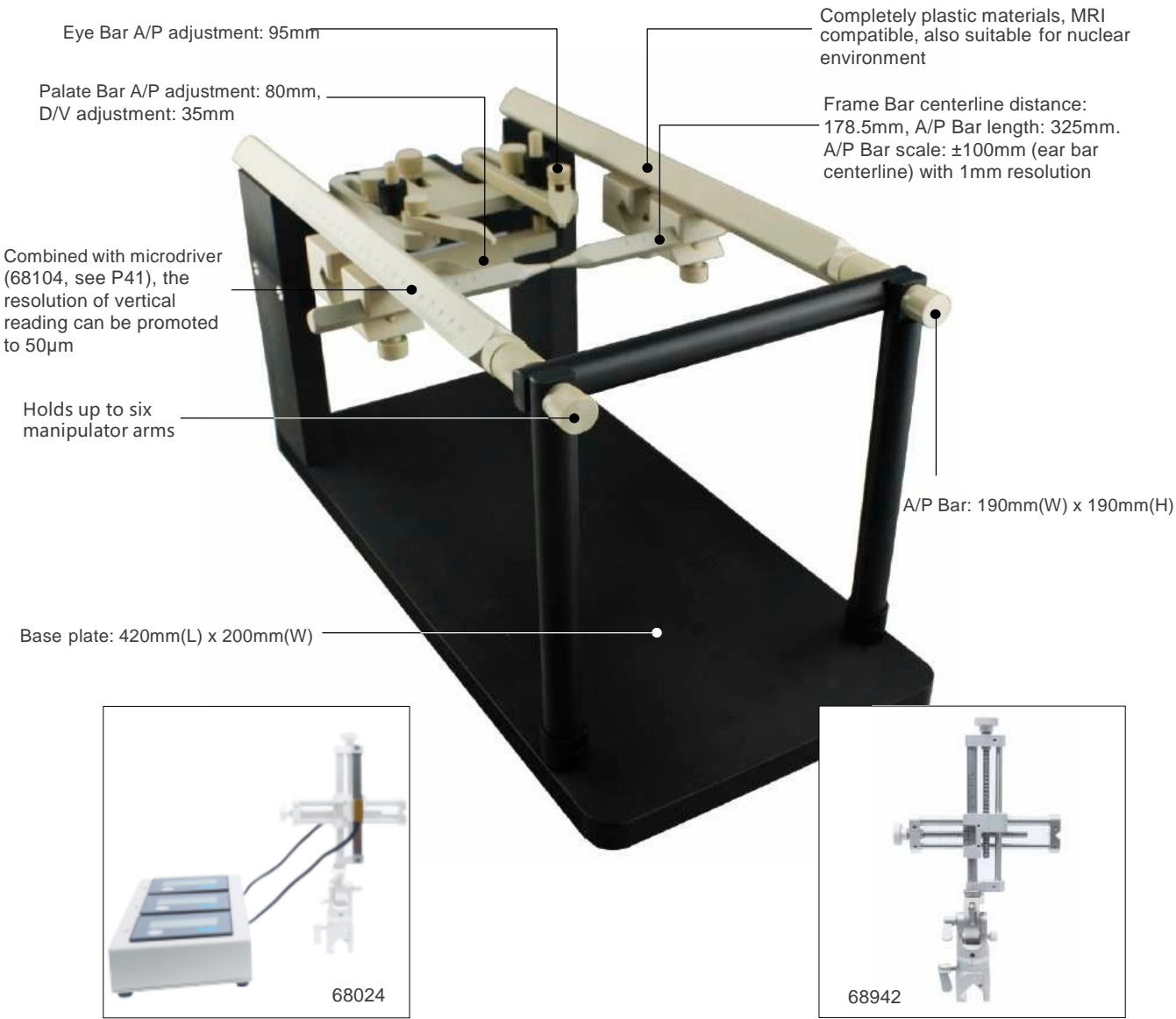


**Composition:**  
68902 is a complete set of stereotaxic, containing 68868N baseplate, 68941 two-dimensional manipulator - left, 68942 two-dimensional manipulator - right, 68081 dog/monkey adaptor, 68303 cat/ monkey 18 ° ear bar, 68201 standard holder; Digital version 68916 adds 68024 two-dimensional digital display module.

**Order Information:**

Cat No.	Product Description	Remarks
68901	Stereotaxic for Dog/Monkey, SGL M, 68081 Adaptor Incl.	
68902	Stereotaxic for Dog/Monkey, Dual M, 68081 Adaptor Incl.	
68911	Stereotaxic for Cat/Monkey, SGL M, 68041 Adaptor Incl.	
68912	Stereotaxic for Cat/Monkey, Dual M, 68041 Adaptor Incl.	
68916	Stereotaxic for Dog/Monkey, Digital, SGL M, 68081 Adaptor Incl.	
68917	Stereotaxic for Dog/Monkey, Digital, Dual M, 68081 Adaptor Incl.	
68920	Stereotaxic for Cat/Monkey, Digital, SGL M, 68041 Adaptor Incl.	
68921	Stereotaxic for Cat/Monkey, Digital, Dual M, 68041 Adaptor Incl.	
68868N	Stereotaxic Base Plate for Dog, Pig, Monkey etc.	Adaptor/ear bar see P36-41
68941	2-axis Manip for Dog/Monkey Stereotaxic, Left Hand	
68942	2-axis Manip for Dog/Monkey Stereotaxic, Right Hand	
68944	2-axis Digital Manip for Dog/Monkey Stereotaxic, Left Hand	
68945	2-axis Digital Manip for Dog/Monkey Stereotaxic, Right Hand	

# Dog/Monkey MRI Stereotaxic Instruments(Customized)



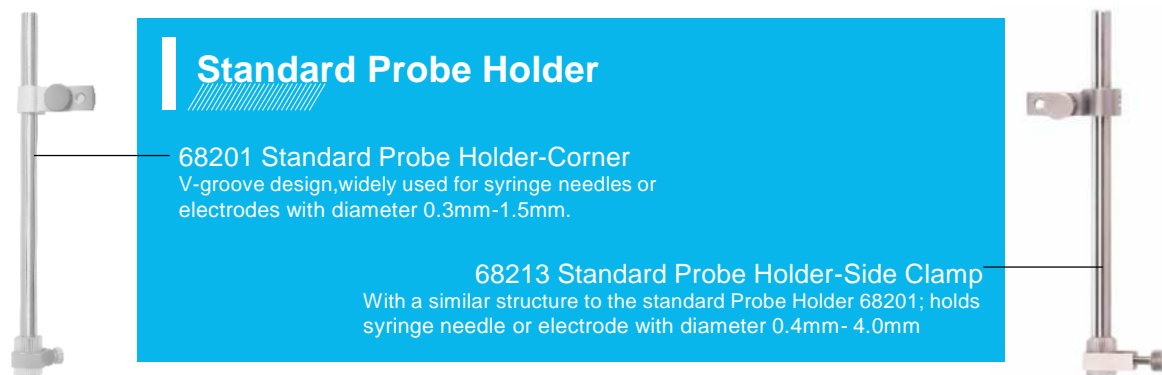
### Order Information:

Cat No.	Product Description	Remarks
68915	MRI Compatible Stereotaxic for dog/monkey/68081/ Base Plate (Customized)	manipulator is not included
68941	2-axis Manip for Dog/Monkey Stereotaxic, Left Hand	Adaptor/ear bar see P36-41
68942	2-axis Manip for Dog/Monkey Stereotaxic, Right Hand	
68024	2-axis Digital Readout for Upgrade-68000	
68944	2-axis Digital Manip for Dog/Monkey Stereotaxic, Left Hand	
68945	2-axis Digital Manip for Dog/Monkey Stereotaxic, Right Hand	
68104	AP-Microdriver (50 $\mu$ m)	

## Stereotaxic Instruments Accessories

### Holders

RWD offers various holders to fix different shapes and ranges of electrodes, needles, cannulas, headstages, probes, drills, injectors etc.



#### Standard Probe Holder

**68201 Standard Probe Holder-Corner**  
V-groove design, widely used for syringe needles or electrodes with diameter 0.3mm-1.5mm.

**68213 Standard Probe Holder-Side Clamp**  
With a similar structure to the standard Probe Holder 68201; holds syringe needle or electrode with diameter 0.4mm- 4.0mm

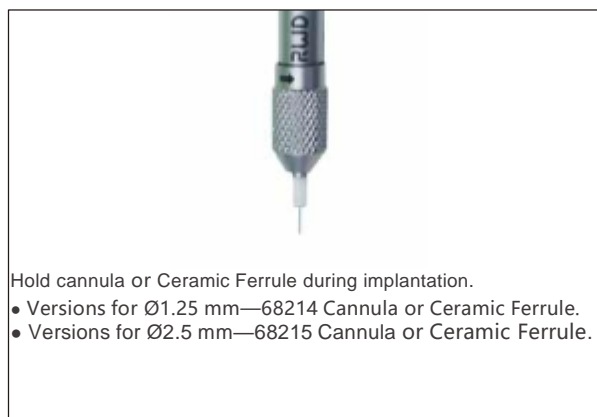
### Cannula Holders

#### 68217 Cannula Holder



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

#### 68214/68215 Ceramic Ferrule Holder



Hold cannula or Ceramic Ferrule during implantation.

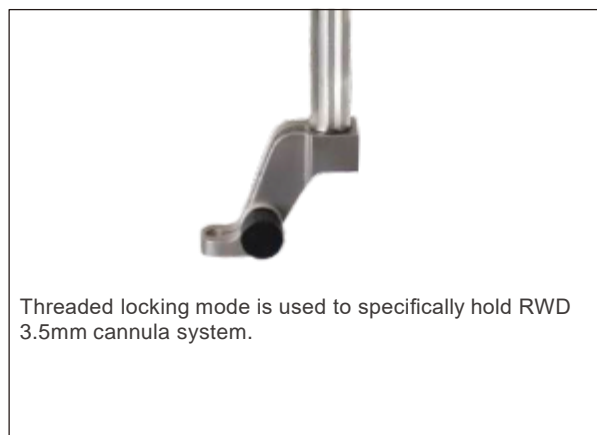
- Versions for Ø1.25 mm—68214 Cannula or Ceramic Ferrule.
- Versions for Ø2.5 mm—68215 Cannula or Ceramic Ferrule.

#### 68211 Cannula Holder



Compatible with stereotaxic instruments with dual manipulators. Holds electrodes or cannulas of 2.1mm to 5.0mm in diameter. It can place them within a distance of 0.3mm.

#### 68221 Cannula Holder



Threaded locking mode is used to specifically hold RWD 3.5mm cannula system.

## Electrode Holder

### 68210 Electrode Holder



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

### 68220 Electrode Holder



Head of the holder is wedge-shaped and holds electrodes with 0.9mm to 3mm diameters.

### 68216 Electrode Holder



Holder is designed for the dual operating electrophysiology experiments. Distance between two electrodes can be as close as 200µm. Holds electrodes with 0.4mm to 1.5mm diameters.

## Multi-function Holders

### 68202 Large Probe Holder



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

### 68106 Headstage Holder



Holder is designed for holding micro amplifier or headstage (Such as TBSI headstage and Plexon microelectrode amplifier). C-shaped head and suitable for diameter from 0.1-7.0mm.

### 68218 Syringe Holder



Holder is applicable for micro-injection, which holds syringe and needle simultaneously, and the clamping of the syringe is more stable, the syringe holding range is 3mm to 12mm and needle's is 0.3mm to 1.5mm.

### 68605 Microdrill Holder



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

### 68228 Cordless Microdrill Holder



Holder secures the cordless microdrill to stereotaxic instruments. Controls the depth of drilling by the manipulator. Easy and accurate operation protects brain tissue from damage caused by excessive drilling. Holds the microdrill with diameter about 19.5mm.

### 68397 Level Calibrator - Rat



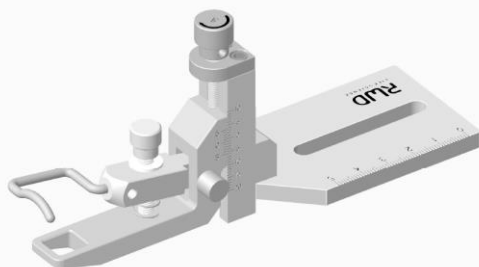
68397 calibrator refers to the International Brain Atlas of rats and take craniofacial Bregma and Lambda as the reference points. The distance between B(0) and L(0) is about 7.67mm.



## Adaptors

### Rat Adaptors

#### 68021 Rat Adaptor



Note: Matched with the ear bar, see P41

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

#### 68053 Rat Anesthesia Adaptor



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

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

#### 68011 MRI Rat Adaptor (customized)



This adaptor is designed for MRI equipments, with special materials to avoid magnetic interference. The fixation of animal is convenient and stable.

size: 360mm(L)x125mm(W)x96mm(H)

#### 68022 Rat Adaptor-Aural (customized)

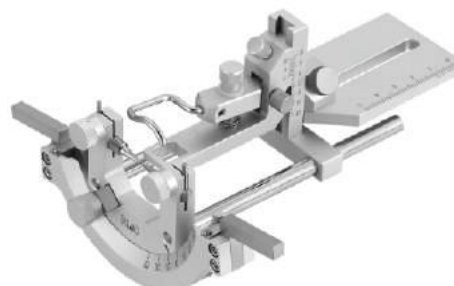


This adapter is designed for auditory research. Instead of holding the rat head by ear bars and incisors, it holds the head firmly by orbital approach to ensure no obstacle while auditory stimulation. Currently, RWD is the only company in the world offering this kind of product.

#### 68063 Rat Rotation Adaptor (with 18° ear bar 68310)(customized)

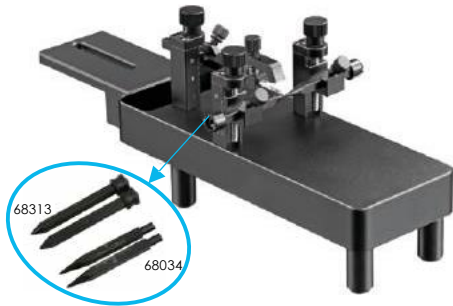
This adaptor is specifically designed for some special applications. The head of the rat will be fixed by a pair of ear bars, nose and incisors, and can be rotated according to the experimental requirements to facilitate the operation of different parts of the rat head in different directions. The vertical adjustable range of the adaptor is 30mm (-20mm ~ +10mm), the adjustment accuracy is 100 $\mu$ m; Horizontal adjustable range of the adaptor is 43.5mm; the rotation angle of the head is 60° (-30° ~ +30°)

68065 Mouse Rotation Adaptor (with 60° ear bar 68312).



## Mouse Adaptors

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



The ear bars of this adaptor are made of resin and the tips are specially treated, which ensures that the head is held firmly without damage to the skull. There are scales on the incisor and the earbars. The height can be adjusted flexibly, which is good for experiments from different angles. Considering there is no ear canal for neonatal rat, this adaptor employs a cheekbone locker to replace the ear bars. This design provides noninvasive and stable way to hold the neonatal rat.

**68036 Mouse Warm Water Adaptor**  
(with 18° and 45° ear bars)



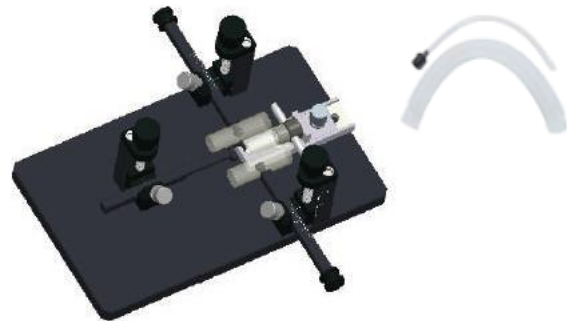
This unique stereotaxic adaptor is upgraded with water-cycled heating platform to use with warm water recirculator. The temperature of the platform surface is stable, uniform and comfortable. Warm water recirculator should be purchased separately (see P44).

**68014 Neonatal Mouse Adaptor**  
(with 20° ear bars 68315 and 45° ear bars 68316)



This adaptor is specifically for neonatal mice. It has extended base plate (150mm(L) x 100mm(W)) and provides more operating space for researchers. It can be easily placed on the RWD stereotaxic instruments. The incisor, nose clip and ear bars can be adjusted up and down in 20mm range to ensure the skull level.

**68072 Neonatal Mouse Anesthesia Adaptor**



After repeated testing and validation, RWD researchers developed the neonatal mouse anesthesia adaptor suitable for stereotaxic instruments in conjunction with the needs of multiple laboratories. It can achieve lasting gas anesthesia and fixation on neonatal mice without affecting the physiological function. And it's easy to implement long-term brain experiments.

**68055 Mouse Adaptor**

Note: Matched with the ear bar, see P41

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

**68077 Mouse Anesthesia Adaptor (Tubing included)**

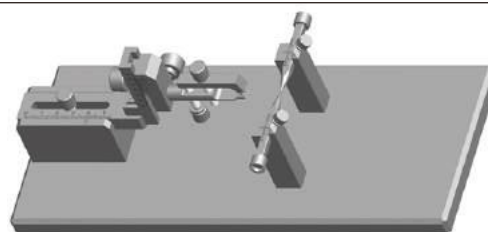
Note: Matched with the ear bar, see P41

It holds the mouse head by mask and incisor bar, with stable and good effect, and the mask outlet can be connected with the gas evacuation apparatus to evacuate the waste gas and ensure the safety and cleanliness of the operators and the environment.

The screw connection between the head and the fixed plate ensures convenient vertical adjustment.

**68033 Nose Bar For Mouse/Neonatal Rat**

This nose bar is available for 68030 and 68036 adaptors, and portable mouse stereotaxic instruments (like 68507, 68510, 68513, 68516, 68517 and 68518 portable stereotaxic instruments). The arch design fits for the mouse nose to make head-holding more stable.

**68069 MRI Mouse Adaptor (customized)**

Vertical adjustable range: 30mm (+10mm~-20mm), with 100 $\mu$ m accuracy.

Horizontal adjustable range: 45mm.

Ear bars laser engraved scale, good for operation.

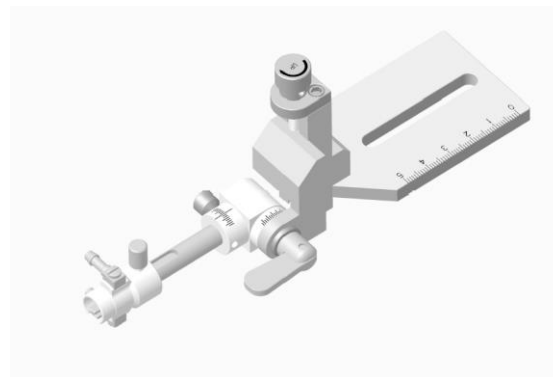
Two ear bar fixing modes for preventing damage to skull.

Plate dimension: 280mm(L)x 120mm(W)x 93mm(H)

**68057 Mouse Gas Anesthesia Head Holder**

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

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



## Other Adaptors

### 68041 Cat/Monkey Adaptor



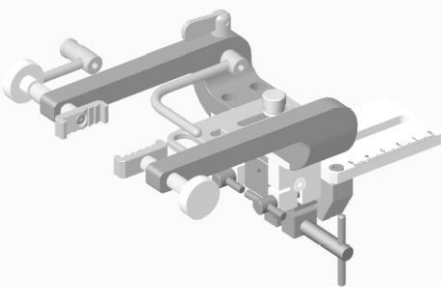
This adaptor includes ear bars and raising block (65mm). It holds the head through ear canal and eye socket. The adaptor can be used with standard stereotaxic instruments and large animal stereotaxic instruments.

### 68081 Dog/Monkey/Pig Adaptor



This adapter is used for large animal stereotaxic instrument, and it is ideal for dogs, monkeys and pigs around 10kg. The extended palate and screw is convenient to hold the animal firmly.

### 68084 Rabbit Adaptor (customized)



It holds the rabbit head by special malar clamp, adjustable incisor buckle and nose bar. The distance between the two zygomatic clamps can be precisely adjusted by the screw knob. Ward and backward adjustable range of adult rabbit is 43.5mm, neonatal rabbit is 26.5mm and the adaptor is 40mm. Up and down angle adjusting range:  $135^{\circ}$  ( $-67.5^{\circ} \sim +67.5^{\circ}$ ).

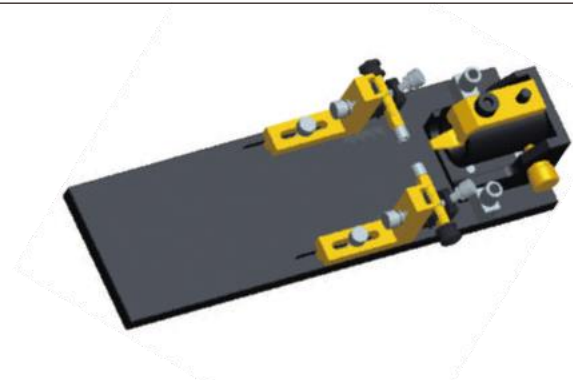
### 68076 Tree Shrew Anesthesia Adaptor Kit (with tubing/ customized)



According to the brain three-dimensional structure of tree shrews, RWD specially developed a adaptor that can be worked with stereotaxic apparatus, to solve the problem of tree shrew three-dimensional positioning (with a real-time anesthesia inhalation structure)

### 68075 MRI Adaptor for Tree Shrews (customized)

For PET/CT brain imaging of animals, it is difficult to hold the head firmly while anesthetized status. Based on PET/CT imaging requirement, RWD specifically developed this adaptor for holding the head of tree shrew with high quality non-metallic materials. Moreover, this adaptor has gas anesthesia mask. The tree shrews can wake up in 2-5 minutes after the experiment. Since the PET/CT system varies in different brands, RWD provides customized adaptors for different PET/CT system. The applicable animals include rat, mouse, rabbit, cat etc.



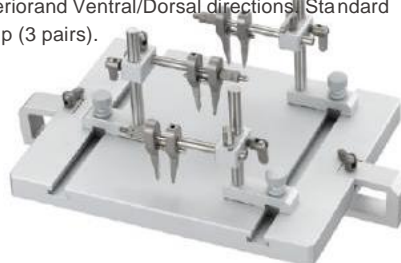
## Multi-function Adaptor

### 68091 Spinal Cord Adaptor for Rat & Mouse

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

#### Specifications:

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



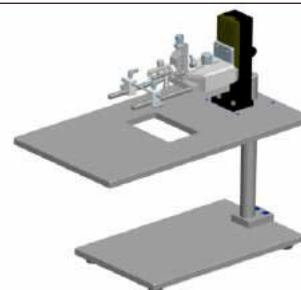
### 68073 Head Rotation Platform for Rats and Mice

The height of the platform can be adjusted according to the specific experimental requirements; the head holder can be adjusted in the vertical direction and 360° rotation in the horizontal direction, the platform below the head is suspended, especially for rats and mice that require 180° rotation in the head and body during surgery, such as, the experimental study on cerebral ischemia by thread embolism, real-time monitoring the changes of the blood flow in animals' head (fixed fiber on the skull surface) to determine whether the model is successful or not.

68071 Animal rotation platform - Mouse (with mouse rotation adaptor and 60° ear bar)

68074 Animal rotation platform - Rat (with rat rotation adaptor and 18° ear bar)

68073 Animal rotation platform - Rat/Mouse (with rat and mouse rotating adaptor and ear bar)



## Ear Bars

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

#### 68301



#### 68302



#### 68305



#### 68306



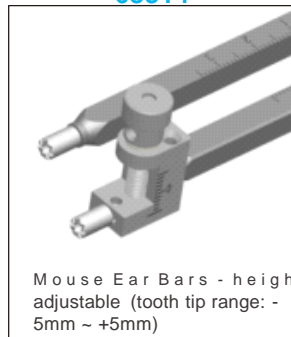
#### 68307



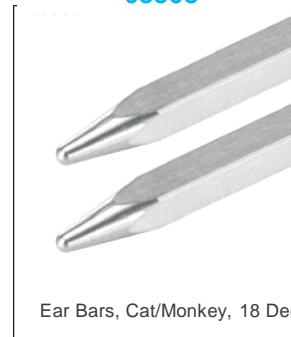
#### 68308



#### 68314

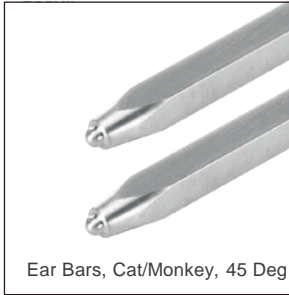


#### 68303





68304

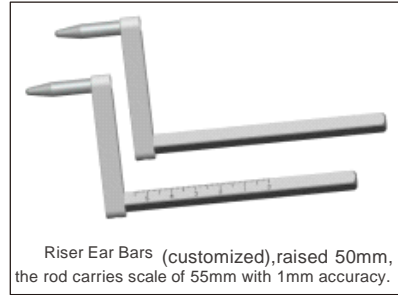


Ear Bars, Cat/Monkey, 45 Deg

68060

Ear Bar Adaptor - Rat  
(with 18° ear bar)

68413

Riser Ear Bars (customized), raised 50mm,  
the rod carries scale of 55mm with 1mm accuracy.

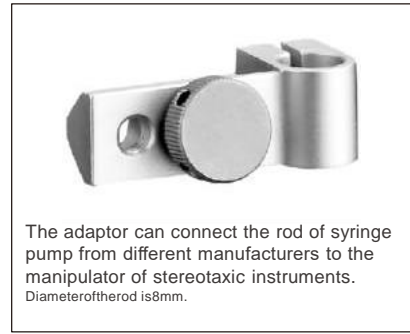
## Other Accessories

68104 AP-Microdriver (50µm)



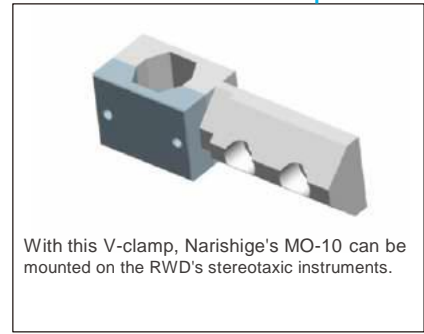
This microdriver can be fine-tuned in the range of 25mm with 50µm step. It makes the travel of manipulators more accurately on the rails of MRI compatible stereotaxic, large animal stereotaxic and rail-mounted stereotaxic instruments.

68207 V attachment



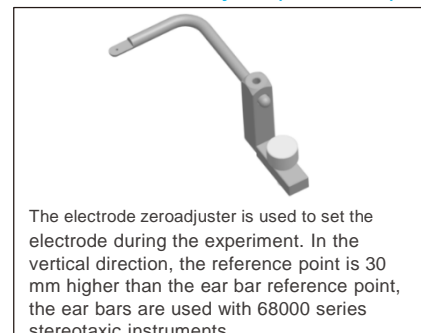
The adaptor can connect the rod of syringe pump from different manufacturers to the manipulator of stereotaxic instruments. Diameter of the rod is 8mm.

R-VTA-08 V-clamp



With this V-clamp, Narishige's MO-10 can be mounted on the RWD's stereotaxic instruments.

68399 Electrode ZeroAdjuster(customized)

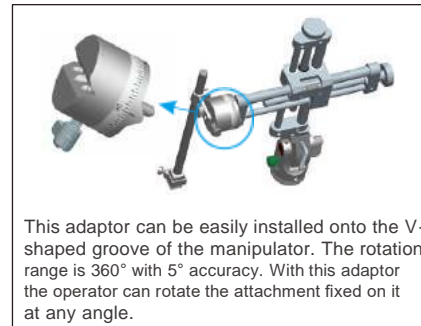


The electrode zeroadjuster is used to set the electrode during the experiment. In the vertical direction, the reference point is 30 mm higher than the ear bar reference point, the ear bars are used with 68000 series stereotaxic instruments.

68400 Electrode Calibrator (customized)

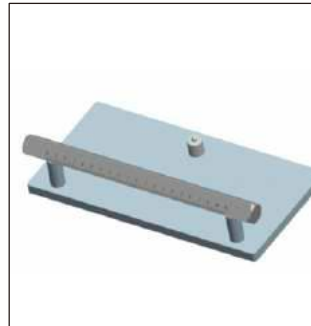


This electrode angle calibrator allows the electrode to be quickly and accurately positioned at any angle. Use the calibrator to determine the coordinates of the front and back, horizontal and vertical directions, to choose the angle and move horizontally to the correct coordinate position. The manipulator is placed on the dovetail arm, after setting the angle, adjust the manipulator until the tip of the electrode moves to the correct coordinate in the vertical direction. The movable slider of the horizontal chute is provided with a vernier caliper with an accuracy of 0.1mm. When the slider is set at zero, the zero of the chute is located at the zero of the ear bar, and the rotating rods are fixed to the zero in horizontal chute and the vertical direction. It is only suitable for 68000 series stereotaxic instruments.

68412 D/V Rotation Adaptor  
(2-axis Manipulator not included customized)

This adaptor can be easily installed onto the V-shaped groove of the manipulator. The rotation range is 360° with 5° accuracy. With this adaptor the operator can rotate the attachment fixed on it at any angle.

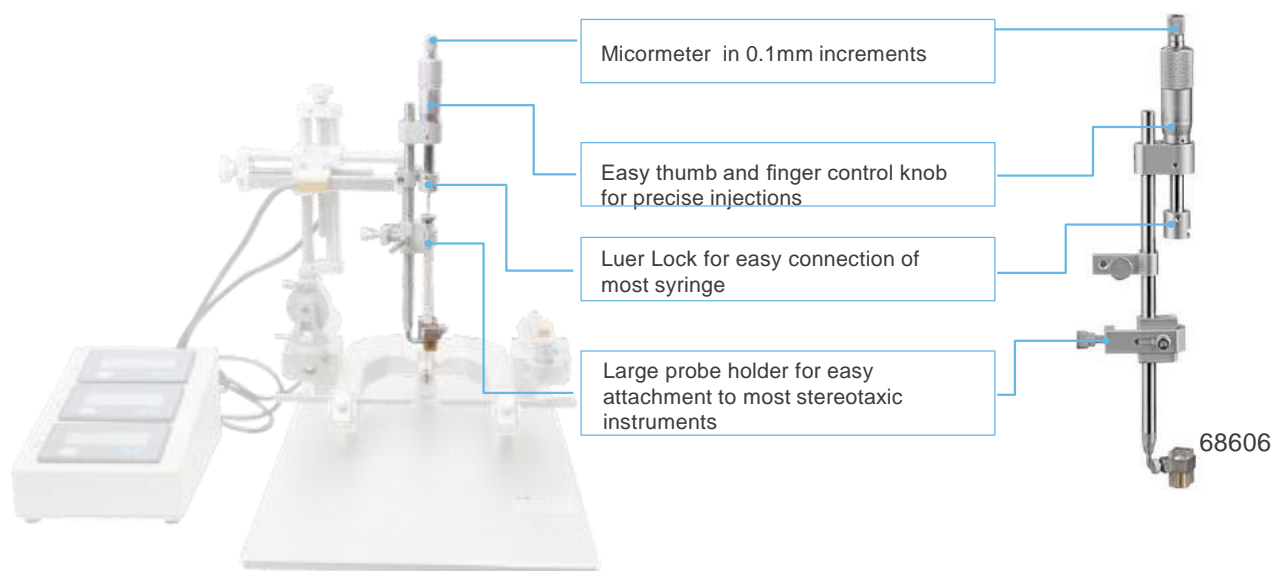
68398 A / P Zero Calibrator (customized)



The A/P zero aligner can set the electrode when the animal is fixed on the stereotaxic instruments. It contains a 255mm A/P rail, rails engraved with +100mm ~ -100mm scale, and the accuracy is 1mm; the rail fixed to a 255mmx128mm aluminum plate, and the aluminum plate is fixed with a rail and A/P rails 0 scale in the horizontal and vertical direction of the projection of the alignment of the cylinder, the position relation between the apex of the cylinder and the A/P rail is consistent with the position between the origin of the ear bar and the rail of the large animal stereotaxic instrument, a three-dimensional coordinate system is established by using the two-dimensional manipulator and the A/P rail, and the space conversion between the electrode zero and the A/P Zero calibrator can be achieved.

## Manual Syringe Pumps(68606)

Compatible with RWD stereotaxic instruments, simple installation, with 10µm displacement accuracy and upto 25mm distance, it is an economical and practical microinjection pump!



- Precisely-controlled infusion/withdrawal of picoliter volume.
- Provides an economical means of injecting or withdrawing a calibrated volume with simple, precise manual control.
- Allows precise injection directly through the needle into the tissue. Avoids the compliance issues that arise when injections are forced through plastic tubing. Volumes as small as 200 picoliters may be infused.
- It is simple to pick up even one small sample. This results in minimal waste, preventing degradation of precious samples.
- The injector has a universal adaptor for all RWD and Hamilton 700, 7000 or Gas-Tight Series syringers, ranging from 1 to 100µl sizes and enables a wide range of volumes to be delivered both infusion and withdrawal operation.
- The Manual Stereotaxic injector is graduated in 0.01mm increments. One complete revolution advances the plunger of the syringe 0.5mm.

## Stage Platform

Balance the animal's body and head to ensure that the animals breathe freely during the operation.

Specifications:  
 Platform: 195mm(L) x 90mm(W) x 11mm(H)  
 Base plate: 195mm(L) x 110mm(W) x 12mm(H)  
 Lift height: 50mm

Non-metallic platform, grinding treatment, anti-skidding, polished non-metallic platform anti-skidding, easy to clean

Metal plate, firm



## Cordless Microdrill



No need to connect the power supply, convenient, easy to operation, space saving.

### Features:

- Cordless design, simple & controllable operation
- The double-bearing design is used at the joint of the drill bit, make drilling and grinding more stable
- 750mA lithium battery, can be used continuously for 45 mins after fully charged
- Wide range of applications, can be used with a 2.3mm diameter drill bit for drilling and polishing
- It can be equipped with a cranial drill holder (68228) fixed to Stereotaxic, free hands operation
- Speed: 12000rpm
- Stall torque: 1.25 oz./in
- Power: 100-240V
- Dimension: length 20cm, body diameter 19.5mm



### Order Information :

Cat No.	Product Description
87001	Cordless Microdrill (Bits Not Included,some details see below)
68228	Cordless Microdrill Holder(See P35)

## Microdrill

It takes only one second to drill the skull, easy to operate and control. It canalso be used for grinding the skull.



### Specifications:

- Speed up to 38,000rpm
- Forward or reverse available
- Controlled manually or by foot pedal
- Can be installed onto the stereotaxic instrument by the microdrill holder (Model: 68605) and controlled by the manipulator
- Various drill bits available, diameter from 0.5-2.3mm

### Order Information:

Cat No.	Product Description	Cat No.	Product Description
78001	Microdrill (bits not included)	78050	Drill Bits HM1027 2.7mm, Round Tip, pkg of 2
78040	Drill Bits HM1005 0.5mm, Round Tip, pkg of 5	78060	Drill Bits HM31008 0.8mm, Flat Tip, pkg of 5
78041	Drill Bits HM1006 0.6mm, Round Tip, pkg of 5	78061	Drill Bits HM31010 1.0mm, Flat Tip, pkg of 5
78042	Drill Bits HM1008 0.8mm, Round Tip, pkg of 5	78062	Drill Bits HM31012 1.2mm, Flat Tip, pkg of 5
78043	Drill Bits HM1010 1.0mm, Round Tip, pkg of 5	78063	Drill Bits HM31014 1.4mm, Flat Tip, pkg of 5
78044	Drill Bits HM1012 1.2mm, Round Tip, pkg of 5	78064	Drill Bits HM31016 1.6mm, Flat Tip, pkg of 5
78045	Drill Bits HM1014 1.4mm, Round Tip, pkg of 5	78065	Drill Bits HM31018 1.8mm, Flat Tip, pkg of 5
78046	Drill Bits HM1016 1.6mm, Round Tip, pkg of 5	78066	Drill Bits HM31021 2.1mm, Flat Tip, pkg of 5
78047	Drill Bits HM1018 1.8mm, Round Tip, pkg of 5	78067	Drill Bits HM31023 2.3mm, Flat Tip, pkg of 5
78048	Drill Bits HM1021 2.1mm, Round Tip, pkg of 5	68605	Microdrill Holder
78049	Drill Bits HM1023 2.3mm, Round Tip, pkg of 5		

## ThermoStar Homeothermic Monitoring System

During the process of animal surgery or acute anesthetized animal experiment, maintaining animals' body temperature is very important for the accuracy and reliability of results, furthermore, it is an important way to reduce the mortality of the animals. In order to fulfill this need, RWD launched a new generation of homeothermic monitoring system "Thermostar", the control unit acquired a 4.3 inch color LCD touch screen, allows users to clearly view the subject's real-time body temperature, set the target temperature, view the heating state and set audible alarms when subject's body temperature turns abnormal. A specific control separate circuit for heating pad and rectal probe, respectively to ensure the stability and safety of the system.

### Specifications:

- Real-time display of the working status of the heating pad, and monitor the working state of every channel, show: IDLE, WARNING, STANDBY, and WORKING
- Heating range: 20-45°C, 0.1°C resolution, Degrees Celsius and Fahrenheit can be switched
- Power supply: 100-240V, 50/60Hz
- Control unit size: L205 x W148 x H80 mm
- Control unit weight: 1.3kg



### Order Information:

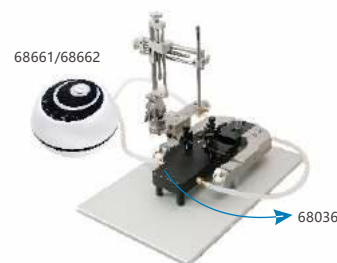
Type	Cat No.	Product Description	Remarks
Complete system	69020	ThermoStar Temperature Controller, 69023 pad incl	A heating pad (69023) and a temperature probe (69022) are included
	69026	ThermoStar Temperature Controller, 69024 pad incl	A heating pad (69024) and a temperature probe (69022) are included
	69027	ThermoStar Temperature Controller, 69025 pad incl	A heating pad (69025) and a temperature probe (69022) are included
Temperature probe	69022	Temperature Probe	1.5mm diameter, 30mm rod length, 150cm line length (suitable for rat/mouse)
Heating pad	69023	Heating Pad -12.0*20.5cm	
	69024	Heating Pad -9.0*17.0cm	
	69025	Heating Pad -7.0*10.0cm	

## Water Circulation System

During anesthesia, the animal surgical operation platform can choose the water circulation system to keep the animals warm.

### Water circulation pump:

- High-resolution LED displays real-time water temperature
- Water temperature setting from room temperature to 20-60°C
- Microcomputer intelligent temperature control system, with timing shutdown, preheating sleep, alarm and off-power due to water depletion, overload protection, low protection function
- Water and electricity separation technology, no fire hazard
- Hose anti-stripping interface to prevent the risk of hose shedding during product operation
- Power: 110/220v, 50Hz, 290w.5mm



### Order Information:

Cat No.	Product Description
68661	Warm Water Recirculator, 110V
68662	Warm Water Recirculator, 220V
68664	Water Heated Surgical Bed, Flat Type, 360*300*25mm
68036	Mouse Warm Water Adaptor with 18° and 45° Ear Bars



## LED Fiber-lite Illuminator

(Halogen Fiber-lite Illuminator and LED Fiber-lite Illuminator are available in RWD)

The halogen fiber-lite illuminator adopts dual-pipe pipe optic coaxial lighting, provide better field of view, with good brightness; stable output voltage, safe and reliable light bulb; size is about 280 x, 100 x 165mm, and the light intensity can be adjusted continuously , with color temperature 3200K.

LED Fiber-lite Illuminator using high-power single-chip LED as the light source, with the advantages over the halogen illuminator like high light efficiency, energy saving, true "cool light" source, long life, low noise(<42db) and small size: 210mm\*100mm\*150mm.



Halogen fiber-lite illuminator

LED Fiber-lite Illuminator

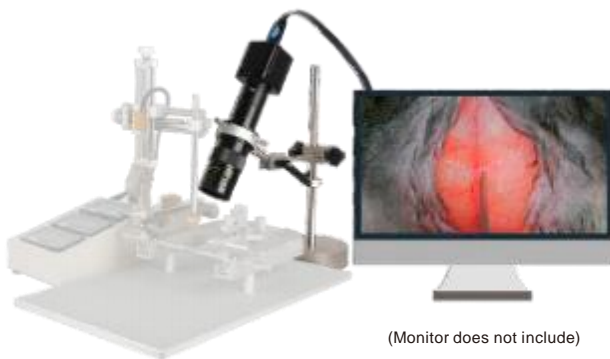
### Order Information:

Cat No.	Product Description	Remarks
76301	Fiber-Lite Illuminator(150W)	Dual-Pipe Fiber Optic, Bulb and Main Engine
76304	Main Engine	
76310	Dual-Pipe Fiber Optic(Included in illuminator)	
76306	Bulb(21V 150W)-Philips	
76312	LED Fiber Optic Illuminator, 20W, 90-260V	Include Main unit, Dual Pipe and Focus End for Fiber Optic Pipe pair
76313	LED Fiber Optic Illuminator Controller, 20W, 90-260V	
76314	Double Fiber	
76315	Kohler Condenser (1)	

## 77001D Digital Microscope



RWD Digital Microscope 77001D Focus on Bregma or The Blood Vessels Precisely.



Digital Microscope Mounted on a Stereotaxic Instrument

The digital microscope 77001D provides an opportunity to improve stereotaxic or surgical operation and free your eyes.

The digital microscope is a digital camera fitted with a parfocal zoom magnifying lens with fine focus and a working distance of 7.0 inches. It connects to a monitor, which it may share with the digital camera, by a HDMI cable. No PCI cards are necessary. And you can take photos or video for storage in one-click. At the same time, you can conduct vertical or oblique observation to find a better perspective.

#### Camera parameters

- 3.5MP, 1/2.3" CMOS sensor
- 20x - 120x magnification
- Shutter can be controlled manually or remotely
- Focusing range from 15 to 576mm<sup>2</sup>
- LED ring illuminator

#### Photo/Video Capture, Memory, & Ports

- Streams 1080p videos via a mini-HDMI port at 60 fps
- Captures 60 fps AVI videos: HD 1080p, 1920 x 1080
- Saves visual data to a built-in microSD card
- Captures interpolated JPEG photos with resolution of up to 16.0 MP
- Mini-HDMI video out port for direct streaming to HDTV displays

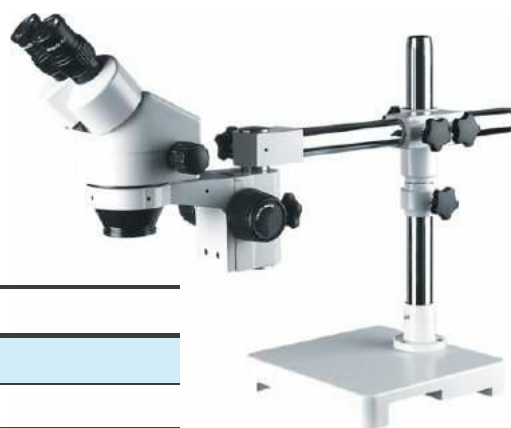


## Microscope

77001 Desktop Binocular Stereo Microscope equips with universal support; researchers can observe in high resolution and three-dimension.

### Order Information:

NO.	Products Name	Products Detail
1	Eyepiece	10X Eyepieces, View field diameter $\phi$ 20mm
2	Objective Lens	0.7X-4.5X Objective lens ratio 1:6.4
3	Binocular Drawtube	Pupil Distance 55-77mm Diopter adjustment $\pm 5$ , Diopter 45° Incline 360° Spin
4	View field Range	31.2 mm -5.1mm
5	Total Magnification	7X-45X( 10X Eyepiece), 3.5X-22.5X( 10X Eyepiece +0.5X Assist lens
6	Working Distance	Working distance 100mm(10X Eyepiece), Working distance 170mm (10X Eyepiece +0.5X Assist lens)
7	Focusing Mechanism	Focusing hand wheel is adjustable
8	Universal Support	360° Spin, Retractable



77001

**Standard Configuration:** Universal support(1 unit), Binocular drawtube (1 unit), 10X Eyepiece(1pair), 0.5X Objective Lens (1 unit), Blinder (1 unit), Dust cover (1 unit), Instruction Manual (1 unit).

### Configuration:

NO.	Specification	Product name
1	77025	Ring Fluorescence Illumination, one piece
2	77026	Ring LED Illumination, one piece

On the basis of the binocular microscope, 77008 Trinocular Zoom Stereo microscope increase the interface, so that the camera, video camera can be installed in the microscope to achieve real time observing of the objects.

## 77002 Binocular Surgical Microscope

77002 Binocular Surgical Microscope is a simple binocular coaxial illumination surgery microscope, with compact design and high flexibility to meet the requirements of general animal microsurgery.

### Features:

- Eyepieces: 12.5X Focus length of objective: 200mm
- Working distance: 190mm Total magnification: 5.3X, 8X, 12X
- Visual field(mm): 38mm, 25mm, 17mm
- Diopter adjustment range: +5D
- Pupil distance range: 50mm~70mm
- Bulb: 12V/100W (Medical halogen lamp Bulb with cold reflection)
- Type of Illumination: 6° + 0° cold light source coaxial illumination
- Intensity of Illumination: 20000Lx or up
- Maximum stretching radius of arm: 870mm
- Vertical movement range (from floor to front surface of big objective): 700mm~1100mm
- Range of fine focusing adjustment: 30mm
- Input voltage: AC220V  $\pm 10\%$ , 50Hz  $\pm 1$ Hz Input power: 120VA
- Fuse: AC250V T1.25A Net weight: 41kg



77002

## Animal restrainer

### Tubular type Restrainer

Tubular type restrainer is used to restrict the animal from turning or moving, by fixation on rear-end and flexibly regulated. To reduce injury caused by animal movements. Unique design of tapered nose restrainer provide easy-access for animals, meanwhile makes animals feel safety. In addition, a vent located on nose restrainer makes the animal to breath easier. Tail is able to stretch, helped the animal to stay still for over 1 hour.

Taper restrainer is a new fixed tool design for animal injection, suitable for fast and efficient batch injection, it has the characteristics of transparent, durable, easy to clean and stable.

### ★Typical Application

Conscious animal non-invasive blood pressure measurements, tail blood sampling, intravenous infusion, tail root subcutaneous or intracutaneous injection, tail tenderness, animal behavior observation, etc.



Restrainer



Taper restrainer

### Ordering Information :

Specification	Products description
9131	Small restrainer for up to 25g Mouse/L110xI.D.20mm
9132	Medium restrainer for 25-50g Mouse/L135xI.D.30mm
9133	Large restrainer for 50-75g Mouse/L160xI.D.40mm
9134	Small restrainer for 75-200g Rat/L200xI.D.50mm
9135	Medium restrainer for 200-300g Rat/L210xI.D.60mm
9136	Large restrainer for 300-500g Rat/L220xI.D.70mm
9137	Extra Large restrainer for above 500g Rat/L230xI.D.80mm
9138	Taper restrainer for Rat and Mice/L150xH130xO.D.100mm

## Rats & MiceShaver

### Features:

- Applicable to shave off hair on animals' cephalosome, face, legs and ear
- AA batteries use
- Low vibration and noise as well as ergonomic design
- Suitable for small animals



CP-5200

## Precise Impactor

### 68099 Precise Impactor for Rat/Mouse

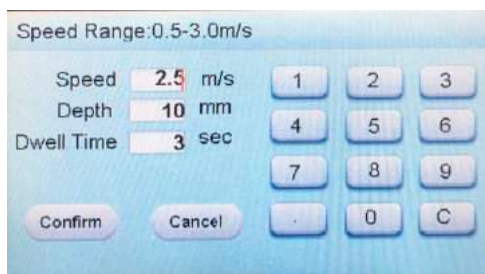
68099, the precise impactor is a very friendly tool for assessing spinal cord injury mechanisms in basic medical research. This impactor, combined with our adapters- 68094 (Mice) and 68095 (Rats), can perfectly locked and impacted the spinal cord.

This system uses pneumatic standard pure electric control, touch screen operation, user-friendly interface, easy to master. Using standard cylindrical metal flat heads to impact small rodents' spinal cords, the sunken depth of the cortex can be precisely controlled. Show the speed of the impact moment, the dwell time and the sunken depth of the cortex.

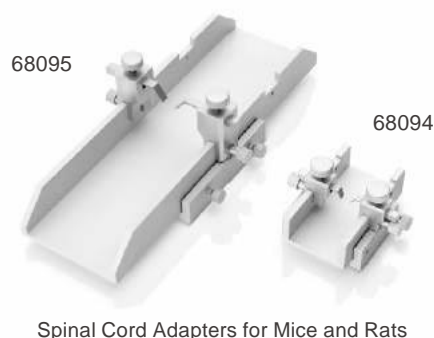
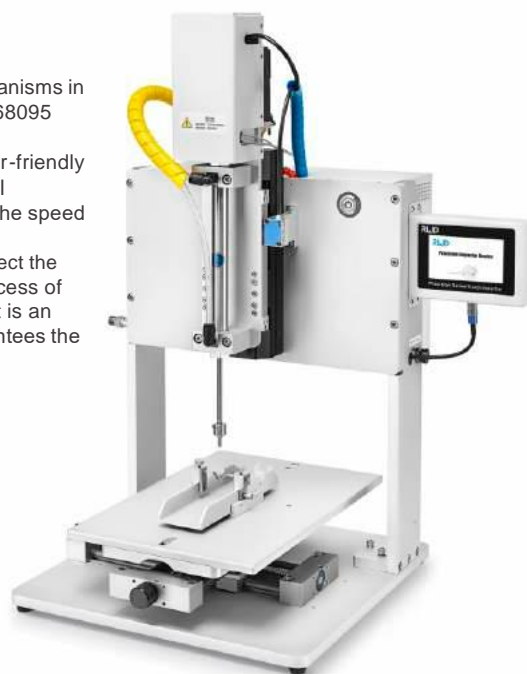
In addition, a unique sensor contact mechanism is used to accurately and reliably auto-detect the cortical surface datum point before the impact process. Reducing the cumbersome process of manual zeroing helps to produce accurate and reproducible spinal cord injury models. It is an accurate tool with high efficiency, high repeatability and good stability, effectively guarantees the reproducibility of injury model.

#### Features:

- Pneumatic pure electric control.
- Color LCD touch screen interface, with friendly and easy operated software.
- Strike speed is up to 3m/s, speed range: 0.5-3m/s, accuracy: 0.1m/s.



- Control the dwell time and strike depth, the time range: 0-5.00s, accuracy: 0.01s, the depth range: 0-5.00mm, accuracy: 0.01mm
- A variety of cylindrical flat head hammers, the outer diameters are 1mm, 2mm, 3mm, 4mm and 5mm



- High efficiency, automatic detection of zero interface, avoid the cumbersome manual process before the strike
- Use ball screw to control displacement, stable and reliable rotation, large screw handle, easy operation
- Support a variety of gas supply, containing 9/16" and  $\phi 8$  quick connection, easy to connect oxygen tanks or aerostatic press
- Solid and heavy frame, stable, effective against air recoil
- The spinal cord adapters provide stable spinal fixation and improve the success rate of modeling

#### Application

- |   |  |  |  |
|---|--|--|--|
| <input checked="" type="checkbox"/> Neurology         | <input checked="" type="checkbox"/> Surgery    | <input checked="" type="checkbox"/> Chinese Medicine   | <input checked="" type="checkbox"/> Emergency Medicine |
| <input checked="" type="checkbox"/> Pediatrics        | <input checked="" type="checkbox"/> Psychiatry | <input checked="" type="checkbox"/> Pharmacy           | <input checked="" type="checkbox"/> Endocrinology      |
| <input checked="" type="checkbox"/> Clinical Medicine | <input checked="" type="checkbox"/> Biology    | <input checked="" type="checkbox"/> Oncology           | <input checked="" type="checkbox"/> Psychology         |
|   |  | <input checked="" type="checkbox"/> Related Researches |  |

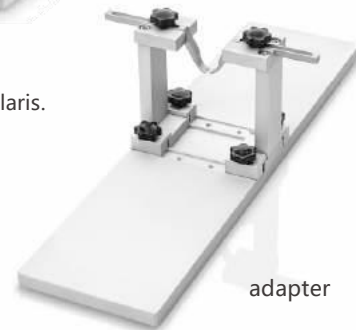
## 68098 Monkey Spinal Cord Impactor

RWD's monkey spinal impactor is a unique tool to evaluate the mechanisms of injury spinal cord model. It adopts the precise laser to achieve the precise location and measurement. Used together with the large animal stereotaxic instrument and the monkey spinal cord adaptor, the spinal impactor solve the problem of modeling error caused by spinal collapse, thus to ensure the effectiveness and uniformity during the experiment.

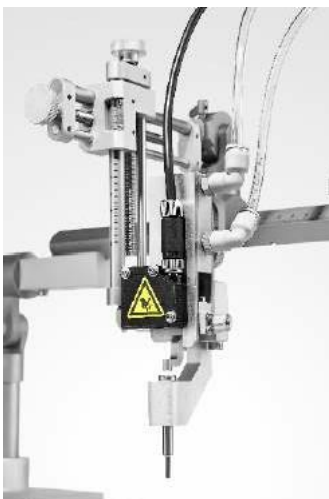


### Specification:

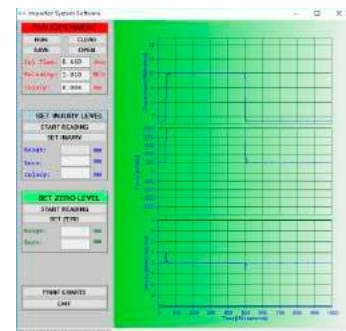
- New design & easy operation, suitable for monkey within 5 kg, such as Macaca Fascicularis.
- Pneumatic control on speed, depth, dwell time.
- Professional laser sensor to ensure accurate measurement, with 0.01mm accuracy.
- Speed, dwell time and displacement graph can be displayed in PC through software and recorded.
- Data can be recalled at any time to review an experiment. High reliability as better simulation trauma biomechanics characteristic.



adapter



- The cylindrical flat hammer, OD 3 mm, can be dismountable
- Be of high temperature and high pressure sterilization Convenient to trigger by depressing the button or clicking on the software.
- Speed 0.00~1.00m/s, depth 0.00~9.00mm, dwell time 0.05~1.00s.
- The spinal cord adapter hold the spinal cord from bilateral processus transversus, avoiding the depth measurement error due to animals breathe; it also avoid the subsidence of the spinal cord on impacting. Windows XP, 7,8,10 compatible. Computer not included
- 3 axis manual position control
  - X — Range: 8" (200mm)
  - Y — Range: 3" (80mm)
  - Z — Range: 3" (80mm)



# Microinjection

## Single Cannula

Cannula implantation is the international general method for acute and chronic intracranial drug administration in animal experiments. RWD offers customized services for users, the users can customize according to specific experimental requirements.



## Single Cannula

### Components:

#### Guide cannula



Guide cannula consists of a threaded cylindrical plastic pedestal and a stainless steel tube. It has to be preimplanted into brain and fixed with dental cement. Both dummy cannula and internal cannula can be inserted into guide cannula individually.

#### Dummy cannula



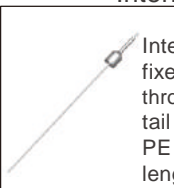
Stainless steel wire and threaded plastic cap make a dummy cannula. It can be inserted into guide cannula and fixed by screw to seal the guide cannula and prevent outflow of tissue fluid after injection. The length of the stainless steel wire can be customized.

#### Metal Cannula



The metal materials avoid biting after the cannula implantation.

#### Internal cannula



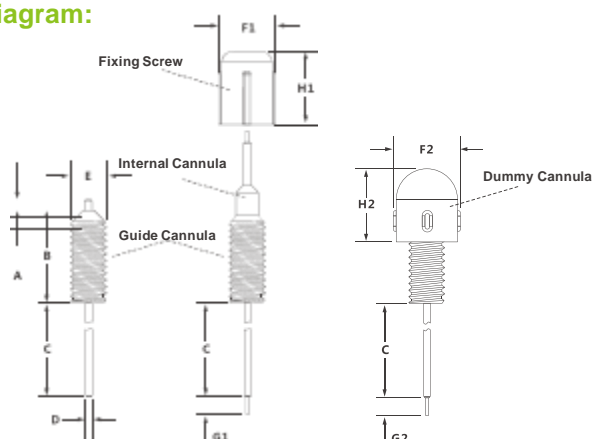
Internal cannula can be fixed into guide cannula through fixing screw and its tail end is connected with PE tube for injections. The length can be customized.

#### Fixing screw



Fixing screw fixes internal cannula to guide cannula.

### Cording Diagram:



Single-Cannula connection

### Diagrams:

- A - The length of the stainless steel tubing below the plastic pedestal.
- B - The height of the cylindrical plastic base.
- C - The length of the stainless steel tubing below the plastic pedestal, can be customized.
- D - External diameter of stainless steel guide cannulas.
- E - External diameter of cylindrical plastic base.
- F1 - External diameter of Lock nut.
- H1 - Height of Lock nut.
- F2 - External diameter of Dummy Cannulas.
- H2 - Height of Dummy Cannulas.
- G1 - The internal cannulas projection length beyond the guide cannulas tip, can be customized.
- G2 - The dummy cannulas projection length beyond the guide cannulas tip, can be customized.



Guide cannula	Dummy cannula	Internal cannula	Fixing screw	A	B	C	D	E	F1	H1	F2	H2
62001	62101	62201	62501	1	9	20	0.64	3.5	5.5	7.5	5	7
62002	62102	62202	62502	1	7	22	0.56	3.5	5.5	7	5	6.5
62003	62102	62203	62502	1	6	15	0.48	3.5	5.5	7	5	6.5
62004	62104	62204	62502	1	6	13	0.41	3.5	5.5	7	5	6.5
62005	62101	62205	62501	0	9	32	0.71	3.5	5.5	7.5	5	7

### Ordering Instructions:

- D-outer diameter of the Guide Cannula, five sizes 0.64, 0.56, 0.48, 0.41 and 0.71mm are available
- C-length (Unit: mm) of the metal tube below the plastic pedestal (B), that is, also the vertical distance from the skull to Target Nuclei
- G1-length (Unit: mm) of the protrudent Injector through the Guide Cannula, 0.5 or 1.0mm is recommended
- G2-length (Unit: mm) of the protrudent Dummy Guide, 0.5 or 1.0mm is recommended

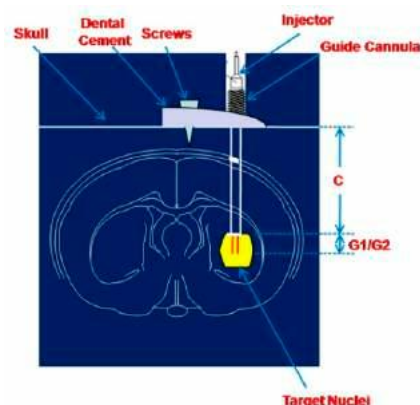


Diagram for Customization

### Order information (Unit: mm): Cannula

Matching	Guide Cannula	Dummy Cannula (plastic)	Dummy Cannula (metal)	Internal Cannula	Fixing Screw	PE Tube
1	62001	62101	62106	62201	62501	62329
	OD 0.64 x ID 0.45	OD 0.40	OD 0.40	OD 0.41 x ID 0.25	OD 5.5 x L7.5	OD 1.50 x ID 0.50
2	62002	62102	62107	62202	62502	62329
	OD 0.56 x ID 0.38	OD 0.30	OD 0.30	OD 0.36 x ID 0.20	OD 5.5 x L7.0	OD 1.50 x ID 0.50
3	62003	62102	62107	62203	62502	62329
	OD 0.48 x ID 0.34	OD 0.30	OD 0.30	OD 0.30 x ID 0.14	OD 5.5 x L7.0	OD 1.50 x ID 0.50
4	62004	62104	62108	62204	62502	62329
	OD 0.41 x ID 0.25	OD 0.20	OD 0.20	OD 0.21 x ID 0.11	OD 5.5 x L7.0	OD 1.50 x ID 0.50
5	62005	62101	62106	62205	62501	62329
	OD 0.71 x ID 0.45	OD 0.40	OD 0.40	OD 0.41 x ID 0.25	OD 5.5 x L7.5	OD 1.50 x ID 0.50

#### Notes:

Plastic or mental dummy cannula is optional

### Screws



Cat No.	Product Description
62513	Screw-M1.0xL2.0mm
62514	Screw-M1.2xL2.0mm
62515	Screw-M1.4xL2.5mm

## Double Cannula

### Introduction:

RWD has launched I, II, III and IV series double cannula systems for acute and chronic intracranial drug administration in animal experiments.

Series I: Recommended for rat or mouse use, 0.48mm (outer diameter) x 0.34mm (internal diameter).

Series II: Recommended for rat use, 0.64mm (outer diameter) x 0.45mm (internal diameter).

Series III: Specifically for mouse use, 0.48mm (outer diameter) x 0.34mm (internal diameter).

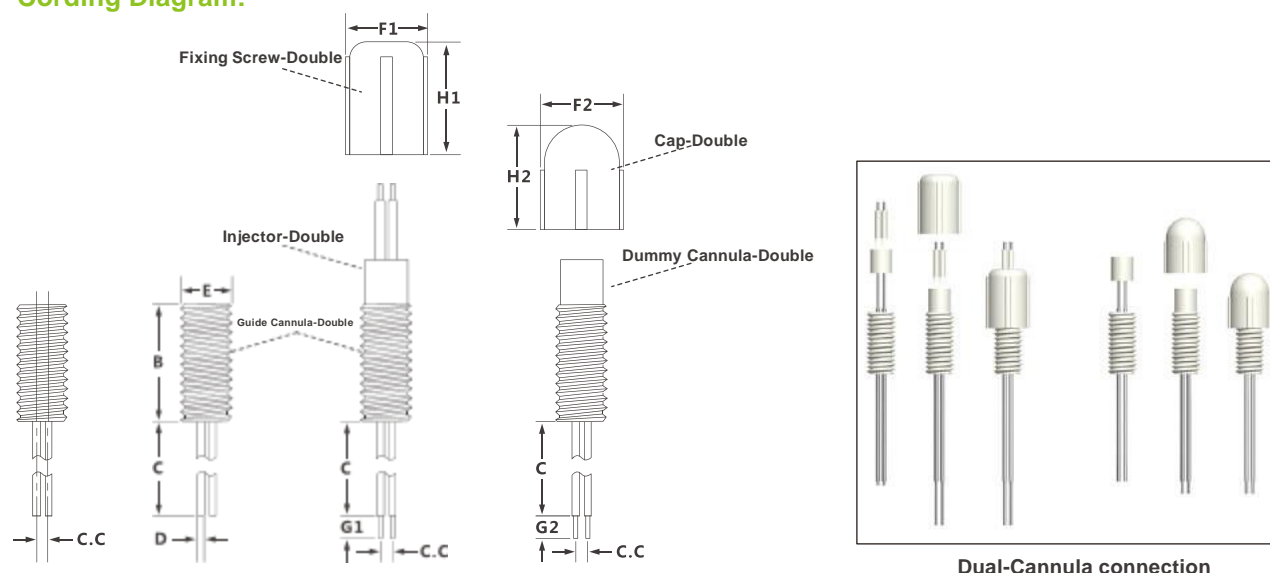
The height of cylindrical plastic pedestal of Guide cannula is different from Series I.

Series IV: 0.41mm (outer diameter) x 0.25mm (internal diameter).

### Application:

Double cannula system is used for bilateral implantation, suitable for injecting one or two drugs into two different brain regions.

### Cording Diagram:



### Comments:

- B - Height of cylindrical plastic pedestal which is 7.8mm for Series I, II & IV and 5.5mm for Series III
- ★C - Length of stainless steel tube below the cylindrical plastic pedestal. The default value is 13.7mm for Series I & III, 20.0mm for Series II and 10.0mm for Series IV. The length can be customized with default value as maximum
- ★C.C - Center distance between double guide cannulas, double dummy cannulas and double injectors. These 3 values should be the same in one system. It can be customized (range: 0.5mm-3.0mm, the minimal increment 0.1mm)
- D - Outer diameter of stainless steel tube and it has 3 sizes: 0.48mm for Series I & III, 0.64mm for Series II and 0.41mm for Series IV
- E - Outer diameter of the cylindrical plastic pedestal and it comes with 3.5mm or 5.0mm. It is related to the outer diameter and centre distance between double guide cannulas
- F1 - Outer diameter of fixing screw and it comes with 5.5mm (when E=3.5mm) or 7.0mm (when E=5.00mm)
- H1 - Height of the fixing screw which is 7.5mm
- F2 - Outer diameter of guide cannula cap and it comes with 5.5mm (when E=3.5mm) or 7.0mm (when E=5.0mm)
- H2 - Height of guide cannula cap and it comes with 7.00mm (when E=3.5mm) and 7.5mm (when E=5.0mm)
- ★G1 - Length of protruding part after internal cannula is inserted into guide cannula. The default value is 5.5mm for Series I, 3.5mm for Series II, 7.5mm for Series III and 4.0 mm for Series IV. This length can be customized
- ★G2 - Length of protruding part after dummy cannula is inserted into guide cannula. The default value is 3.0mm for Series I, 4.0mm for Series II, 5.5mm for Series III and 4.0 mm for Series IV. This length can be customized

## Ordering Instructions:

Determine the target brain region for drug administration and then determine target values of C, C.C, G1 and G2. These values can not exceed the default ones. Please refer to :

★ part of comments of cording diagram for more detail.

★ C: Maximal customized length is 13.7mm for Series I & III, 20.0mm for Series II and 10.0mm for Series IV.

★ C.C :Customized range is 0.5mm-3.0mm with minimal increment 0.1mm.

★ G1 :Maximal customized length is 5.5mm for Series I, 3.5mm for Series II, 7.5mm for Series III and 4.0mm for Series IV.

★ G2 :Maximal customized length is 3.0mm for Series I, 4.0mm for Series II, 5.5mm for Series III and 4.0mm for Series IV.

## Order Information:

### Series I:

	C.C	Guide Cannula	Dummy Cannula	Injector	Cap	Fixing Screw	PE Tube
<b>Guide Cannula:</b> O.D.0.48mm x I.D.0.34mm <b>Dummy Cannula:</b> O.D.0.30mm <b>Injector:</b> O.D.0.30mm x I.D.0.14mm <b>Cap:</b> F2 5.5mm x H2 7.0mm (62523) F2 7.0mm x H2 7.5mm (62524) <b>Fixing Screw:</b> F1 5.5mm x H1 7.5mm (62521) F1 7.0mm x H1 7.5mm (62522) <b>Plastic Pedestal of Guide Cannula:</b> Height B = 7.8mm Diameter E = M3.5mm	C.C 0.5mm	62021	62121	62250	62523	62521	62320
	C.C 0.6mm	62022	62122	62250			
	C.C 0.8mm	62023	62123	62223			
	C.C 1.0mm	62024	62124	62224			
	C.C 1.2mm	62025	62125	62225			
	C.C 1.3mm	62026	62126	62226			
	C.C 1.4mm	62027	62127	62227			
	C.C 1.5mm	62028	62128	62228			
	C.C 1.6mm	62029	62129	62229			
	C.C 1.8mm	62030	62130	62230			
<b>Plastic Pedestal of Guide Cannula:</b> Diameter E = 5.0mm	C.C 2.0mm	62031	62131	62231	62524	62522	62329
	C.C 2.2mm	62032	62132	62232			
	C.C 2.4mm	62033	62133	62233			
	C.C 2.6mm	62034	62134	62234			
	C.C 2.7mm	62035	62135	62235			
	C.C 3.0mm	62036	62136	62236			

### Series II:

	C.C	Guide Cannula	Dummy Cannula	Injector	Cap	Fixing Screw	PE Tube
<b>Double Cannula:</b> O.D.0.64mm x I.D.0.45mm <b>Dummy Cannula:</b> O.D.0.40mm <b>Injector:</b> O.D.0.41mm x I.D.0.25mm <b>Cap:</b> F2 5.5mm x H2 7.0mm (62523) F2 7.0mm x H2 7.5mm (62524) <b>Fixing Screw:</b> F1 5.5mm x H1 7.5mm (62521) F1 7.0mm x H1 7.5mm (62522) <b>Plastic Pedestal of Guide Cannula:</b> Height B = 7.8mm Diameter E = M3.5mm	C.C 0.8mm	62037	62137	62237	62523	62521	62323
	C.C 1.0mm	62038	62138	62238			
	C.C 1.2mm	62039	62139	62239			
	C.C 1.3mm	62040	62140	62240			
	C.C 1.4mm	62041	62141	62241			
	C.C 1.5mm	62042	62142	62242			
	C.C 1.8mm	62043	62143	62243			
<b>Plastic Pedestal of Guide Cannula:</b> Diameter E = M5.0mm	C.C 2.0mm	62044	62144	62244	62524	62522	62329
	C.C 2.2mm	62045	62145	62245			
	C.C 2.4mm	62046	62146	62246			
	C.C 2.5mm	62047	62147	62247			
	C.C 2.8mm	62048	62148	62248			
	C.C 3.0mm	62049	62149	62249			

**Series III:**

	C.C	Guide Cannula	Dummy Cannula	Injector	Cap	Fixing Screw	PE Tube
<b>Guide Cannula:</b> O.D.0.48mm x I.D.0.34mm <b>Dummy Cannula:</b> O.D.0.30mm <b>Injector:</b>  O.D.0.30mm x I.D.0.14mm <b>Cap:</b> F2 5.5mm x H2 7.0mm (62523) F2 7.0mm x H2 7.5mm (62524)	C.C 0.5mm	62050	62121	62250	62523	62521	62320
	C.C 0.6mm	62051	62122	62250			
	C.C 0.8mm	62052	62123	62223			
	C.C 1.0mm	62053	62124	62224			
	C.C 1.2mm	62054	62125	62225			
	C.C 1.3mm	62055	62126	62226			
<b>Fixing Screw:</b> F1 5.5mm x H1 7.5mm (62521) F1 7.0mm x H1 7.5mm (62522) <b>Plastic Pedestal of Guide Cannula:</b> Height B = 5.5mm Diameter E = M3.5mm	C.C 1.4mm	62056	62127	62227	62523	62521	62320
	C.C 1.5mm	62057	62128	62228			
	C.C 1.6mm	62058	62129	62229			
	C.C 1.8mm	62059	62130	62230			
	C.C 2.0mm	62060	62131	62231			

**Series IV:**

	C.C	Guide Cannula	Dummy Cannula	Injector	Cap	Fixing Screw	PE Tube
<b>Guide Cannula:</b> O.D.0.41mm x I.D.0.25mm <b>Dummy Cannula:</b> O.D.0.20mm <b>Injector:</b>  O.D.0.21mm x I.D.0.11mm <b>Cap:</b> F2 5.5mm x H2 7.0mm (62523) <b>Fixing Screw:</b> F1 5.5mm x H1 7.5mm (62521) <b>Plastic Pedestal of Guide Cannula:</b> Height B = 5.5mm Diameter E = M3.5mm	C.C 0.5mm	62061	62161	62251	62523	62521	62320
	C.C 0.6mm	62062	62162	62251			
	C.C 0.8mm	62063	62163	62263			
	C.C 1.0mm	62064	62164	62264			
	C.C 1.2mm	62065	62165	62265			
	C.C 1.3mm	62066	62166	62266			
	C.C 1.4mm	62067	62167	62267			
	C.C 1.5mm	62068	62168	62268			
	C.C 1.6mm	62069	62169	62269			
	C.C 1.8mm	62070	62170	62270			
	C.C 2.0mm	62071	62171	62271			

Notes: For Dummy Cannula, plastic or metal is optional, 68525 is for mental Dummy while 68523 is plastic Dummy. The difference between Class I and Class III is the height of the pedestal, the former is 7.8mm and the later is 5.5mm, and Class III is specially designed for mice.

## PE & Silicone Tubings

PE (polyethylene) tube, with good fluidity, high thermal stability and good flexibility, is widely used in the field of life science. Currently, RWD has 9 types of PE tube and 1 type of silicone tube, including the international standard tubes PE10, PE20 and PE50, which can be used in microdialysis, animal artery intubation, venous cannula, bile duct intubation, subcutaneous implantation of buried pipe, lateral ventricle buried pipe, portal vein intubation and so on. These tubes can be used together with syringe, guide cannula, microdialys connector and luer stubs.

**Order Information:**

No.	Cat No.	Product Description
1	62320	PEDAX Tubing-0.85*0.42mm, pkg of 10m
2	62321	PE Tubing (HDPE)-0.85*0.42mm, pkg of 10m
3	62322	PE Tubing-0.50*0.25mm, pkg of 10m
4	62323	PE Tubing-1.00*0.50mm, pkg of 10m
5	62324	PE10 Tubing-0.61*0.28mm, pkg of 10m
6	62325	PE20 Tubing-1.09*0.38mm, pkg of 10m
7	62326	PE25 Tubing-0.91*0.46mm, pkg of 10m
8	62327	PE50 Tubing-0.97*0.58mm, pkg of 10m
9	62328	PE60 Tubing-1.20*0.80mm, pkg of 10m
10	62329	PE Tubing-1.50*0.50mm, pkg of 10m

Note: Except 62322, other PE tube can be High-pressure steam sterilization(121°C, 30min).



# Syringe Pumps ▶

## Multi-channel Syringe Pumps

This multi-channel syringe pump is specifically designed for those applications that require constant flow rates and precise injection delivery. It can be used for single or chronic, repeated microinjections through a cannula system.

**Features:**

- Easy to install syringes
- Straightforward operation: simply enter syringe diameter, injection rate and Volume to start injection
- Storage of customized parameters
- Display of real time injection status on LCD screen
- Built-in standard syringe parameters, for convenient use

**Specifications:**

- Accuracy: <1%
- Repeatability: ±0.1%
- Syringe range: 10µl-140ml
- Flow rate: 0.001µl/min-138.7ml/min
- Stroke distance: 0.039µm/step
- Stroke rate: 0.0094mm/min-87.211mm/min
- Dimension: 27cm×25cm×12cm
- Linear force: 18Kg
- LCD screen: 128×64px
- Five customized parameters can be stored
- RS232 interface is used to communicate with the computer
- RS485 interface is used for the communication between machines
- Interface: RS232, Rs485
- Running temperature: 20-40°C



**R404**  
(Syringe does not include)



**R452**  
(Syringe does not include)

**Order Information:**

Cat No.	Product Name	Remarks
R404	4ch Syringe Infusion Pump	Single motor, simultaneous injection of four syringes(10µl-140ml)
R452	2ch Syringe Infusion/Withdrawal Pump	Single motor, simultaneous injection or withdrawal of two syringes(10ul-140ml)

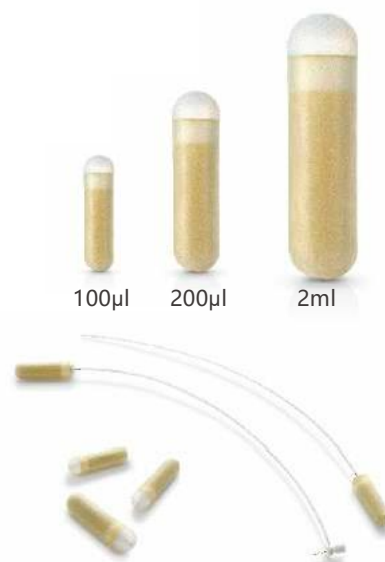


## Implantable Osmotic Pump

The implantable osmotic pump is a micro device that uses osmotic pressure as a power to pump liquid stored in the capsule at a constant rate and release it into a specific site or blood.

The implanted osmotic pump has been the best tool for the delivery of drugs in the life sciences study. It can be implanted into the subcutaneous or abdominal cavity of experimental animals, and the test agent is delivered continuously and accurately through the catheter at a rate of  $\mu\text{l/h}$ , up to four weeks. Multi-disease animal models can be established by continuous administration of osmotic pump, such as hypertension and Parkinson's diseases animal models. It is widely used in drug and molecular screening, pharmacodynamics and other fields of research.

- Simple, convenient, reliable, low cost
- No battery, no power supply, no mobile module
- High repeatability and continuity
- Minimal side effects on animals and stress interference



Different Accessories kit

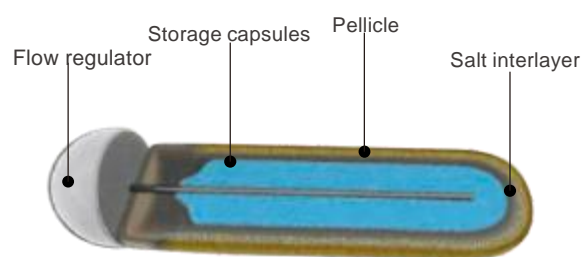
The catheter can be introduced into different sites, such as: the cranial cavity and spinal cord, intravascular, liver, spleen and other organs and trauma.



### Features:

- Ensure continuous and uninterrupted administration, maintaining the preset speed for the administration of the animal
- Storage capsules have good drug compatibility, and protection for short half-life drugs
- Capsules have good biocompatibility and do not affect the physiology of animals
- Easy to use, an experiment requires only one administration, no longer need night or weekend experiment
- Avoid the stress caused by repeated administration, reducing the impact of non-experimental factors on the experimental results
- Small size, can be applied to experiments on mice, neonatal rats and other small animal

- Ensure that the drug is delivered to the target site accurately



### Specifications:

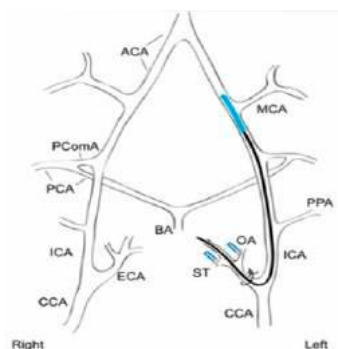
Capsule	Drug capacity	1 0 0 μ l				2 0 0 μ l						2 m l			
	Cat No.	1003D	1001W	1002W	1004W	2001D	2003 D	2001W	2002W	2004W	2006W	2ml1W	2ml2W	2ml4W	
	Cycle	3 d	1 w	2 w	4 w	1 d	3 d	1 w	2 w	4 w	6 w	1 w	2 w	4 w	
	Injection rate (μl/hr)	1.0	0.5	0.25	0.11	7.0	2.0	1.0	0.5	0.25	0.15	10.0	5.0	2.5	
Flow regulator	Cap	PE material, a variety of colors optional, remove the air and prevent leakage													
	Draft tube	304 stainless steel material													
Infusion tube	Syringe	Flat head for the injection of liquid													

 coming soon

## Physiological And Pharmacological

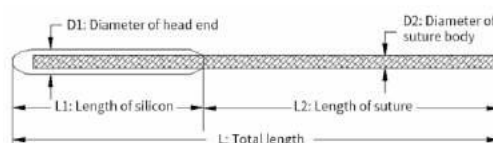
### MCAO Sutures

RWD MCAO suture utilizes high-quality silicon rubber-coated monofilaments to induce ischemic stroke model. The within-group variation of stroke models can be maximally reduced by the super smooth surface and evenness of RWD suture. And without rupturing the vesicle, RWD suture makes its insertion into the animal brain much easier. The stability is also greatly increased for the cerebral ischemia modeling and more consistent data. RWD sutures are available in nylon monofilament material, diameters of silicone-rubber coated part range from 0.19mm to 0.44mm; Length of suture from 2-3cm.



#### Specifications:

- It adopts high-quality medical suture with very good flexibility, not easy to puncture blood vessels, which increase the success of stroke model development
- Unique mold manufacturing technology, ensure high uniformity and stability of the MCAO model
- Silicone-rubber coated in tip, greatly reduce the risk of puncturing blood vessels
- The use of black suture material, increased the observability during plugging into the blood vessel



- ★ L1 in mouse suture: 3~4mm
- ★ L1 in rat suture: 5~6mm
- ★ L1 could be customized: 2~8mm

#### Order Information:

No.	Cat No.	Diameter of Head end D1 (mm)	Diameter of suture body D2 (mm)	Total Length L (mm)	Animal's weight (g)	Packing (pcs)	
1	MSMC19B009PK50	0.21±0.02	0.102	20	15~20g	50	Mouse
2	MSMC21B009PK50	0.22±0.02	0.104	20	21~25g	50	
3	MSMC23B011PK50	0.23±0.02	0.104	20	26~30g	50	
4	MSMC24B011PK50	0.24±0.02	0.104	20	31~35g	50	
5	MSMC25B011PK50	0.25±0.02	0.104	20	35g	50	
6	MSRC28B019PK50	0.27±0.02	0.104	30	200g	50	Rat
7	MSRC32B019PK50	0.35±0.03	0.235	30	200~250g	50	
8	MSRC36B019PK50	0.40±0.03	0.26	30	251~280g	50	
9	MSRC38B019PK50	0.43±0.03	0.26	30	281~330g	50	
10	MSRC42B019PK50	0.47±0.03	0.26	30	331~400g	50	
11	MSRC44B019PK50	0.50±0.03	0.26	30	400g	50	

Note: Customized service is available.

## Brain & Heart Matrices

RWD Brain and Heart matrices is made of stainless steel, electroless plating, through precision machining and highly polished, strong durability, which can be heated, chilled, autoclaved scrubbed and use in variety of harsh conditions. The surface will not be damaged by thermal pressure, and will not be damaged by mechanical impact, keeping the product in use for a long time.

Brain matrices have coronal sections and sagittal sections, each section can be as 0.5 mm or 1 mm. Widely use in preparing pathological tissue section and cut out TTC dyeing organization.

Heart matrices have coronal sections. The section can be as 0.5 mm or 1 mm. The mouse heart matrices are also suitable for neonatal rats. It can be used for the experiment on myocardial ischemia, ischemia reperfusion and other cardiac related experiments. It can also be chilled and used in experiments of freezing tissue.



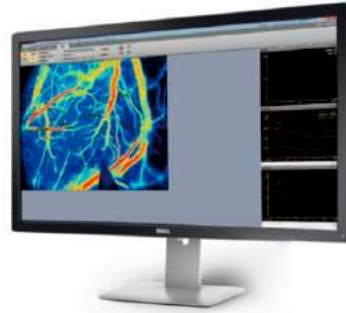
### Order Information:

Cat No.	Product Description	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Depth (mm)	Diagram
68707	Brain Matrix, Mouse 40-75g, Coronal, 1mm, Stainless steel	3.18	11.1	8.73	19.1	12.5	7.40	
68708	Brain Matrix, Mouse 40-75g, Sagittal, 1mm, Stainless steel	3.18	11.1	8.73	19.1	12.5	7.40	
68709	Brain Matrix, Rat, 175-300g, Coronal, 1mm, Stainless steel	4.76	17.9	14.7	36.6	27.35	8.94	
68710	Brain Matrix, Rat, 175-300g, Sagittal, 1mm, Stainless steel	4.76	17.9	14.7	36.6	27.35	8.94	
68711	Brain Matrix, Rat, 300-600g, Coronal, 1mm, Stainless steel	4.76	19.8	14.7	36.6	25.7	10.91	
68712	Brain Matrix, Rat, 300-600g, Sagittal, 1mm, Stainless steel	4.76	19.8	14.7	36.6	25.7	10.91	
68713	Brain Matrix, Mouse, 40-75g, Coronal, 0.5mm, Stainless steel	3.18	11.1	8.73	19.1	12.5	7.40	
68714	Brain Matrix, Mouse, 40-75g, Sagittal, 0.5mm, Stainless steel	3.18	11.1	8.73	19.1	12.5	7.40	
68715	Brain Matrix, Rat, 175-300g, Coronal, 0.5mm, Stainless steel	4.76	17.9	14.7	36.6	27.35	8.94	
68716	Brain Matrix, Rat, 175-300g, Sagittal, 0.5mm, Stainless steel	4.76	17.9	14.7	36.6	27.35	8.94	
68717	Brain Matrix, Rat, 300-600g, Coronal, 0.5mm, Stainless steel	4.76	19.8	14.7	36.6	25.7	10.91	
68718	Brain Matrix, Rat, 300-600g, Sagittal, 0.5mm, Stainless steel	4.76	19.8	14.7	36.6	25.7	10.91	
68719	Heart Matrix, Mouse 20-75g, Coronal, 1mm, Stainless steel	8.3	12.7	—	—	—	4.8	
68720	Heart Matrix, Rat 175-400g, Sagittal, 1mm, Stainless steel	12.7	19.9	—	—	—	9.6	
68721	Heart Matrix, Mouse 20-75g, Coronal, 0.5mm, Stainless steel	8.3	12.7	—	—	—	4.8	
68722	Heart Matrix, Rat 175-400g, Sagittal, 0.5mm, Stainless steel	12.7	19.9	—	—	—	9.6	

## RFLSI ProLaser Speckle Perfusion Imager

- Rapid ●High-resolution ●Large area ●Non-contact ●No damage ●All in one design

A new RFLSI ProLaser Speckle Perfusion Imager is based on the latest LSCI technology (Laser Speckle Contrast Imaging/LSCI, Laser Speckle Ratio Analysis). With the advantages of the unique non-contact, high time and spatial resolution, rapid imaging, it provides a new recording way for the life sciences basic research and clinical medical, which can achieve real-time dynamic blood flow monitoring and video imaging, it is the vital basis for understanding the organization, organ pathology and physiological indicators. Contrast agent is not needed, time resolution can be in milliseconds, spatial resolution can be in microns. It also achieves the requirements of real-time observation of microvascular blood flow distribution and relative changes in values. RWD adopts a new all in one design to improve the operability for the user.



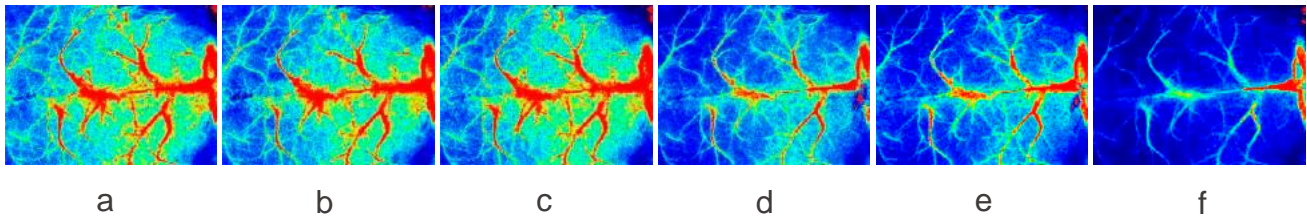
High time & spatial resolution, High contrast

Continuous imaging, No need to scan

### Product Features

Non-contact, No contrast agent

Multi-output: Video, Image, Blood flow data, Diameter analysis



### Performance Advantages

- Real-time monitoring of two-dimensional blood flow images in microns. Use corrected static tissue structure interference and multiple scattering effects algorithm to quantitatively analyze blood flow changes and improve the accuracy of blood flow monitoring in vessels of different diameter
- With the function of real-time online and off-line analysis of mean flow-rate and the vascular diameter in ROI (Region of Interest), and off-line analysis of mean and standard deviation of ROI (Region of Interest), supporting the selection, copy, and deletion of ROI for any shape and quantity, and the ROI position and size can be adjusted with the mouse by free dragging and dropping
- Maintain a high imaging speed of not less than 60fps under Full-Frame state (the camera's area array is all used)
- The positioning grid can be adjusted arbitrarily to meet the image positioning of different groups of experiments
- The distance scale and real-time ROI area are added to facilitate the acquisition of relevant information

- Real-time focal length adjustment, read the magnification directly, no calculations required
- Select multiple vessels, online/off-line analysis of vascular diameter and its changes to meet the requirements of hemodynamics research
- Multiple data storage format: Original blood flow-rate data / Standard images in various formats (jpg, bmp, png) / .avi format video / etc.
- Multiple blood flow image acquisition methods: flexible continuous acquisition, designated time interval acquisition, designated frame number acquisition, etc.
- Highly coherently stable laser light source and low noise 12bit fast camera ensure the stability of excellent flow-rate measurement.
- All-inclusive supporting solutions and after-sales service
- The function of saving and load of ROI files has been added to meet the requirement of synchronous ROI analysis between different groups of experiments

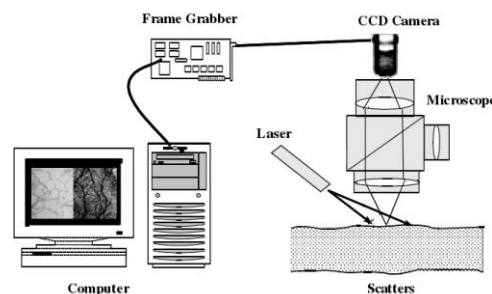
### Application Areas

- ☒ CBF
- ☒ MCAO model
- ☒ Gastrointestinal blood flow
- ☐ Lower limb ischemia / Angiogenesis
- ☒ Burns assessment
- ☒ Skin patch test
- ☐ Cerebral cortex diffusion inhibition



## Technical Parameters

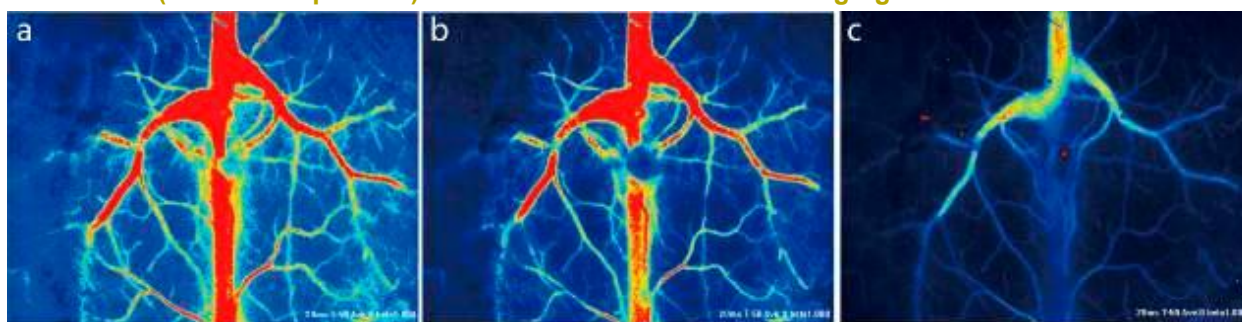
- The range of the blood flow monitoring is from zero to infinity. The spatial resolution of the blood flow imaging is  $3.3\mu\text{m}/\text{pixel}$ , and the maximum is  $2\mu\text{m}/\text{pixel}$
- Laser type: laser diode, wavelengths 785nm, monitoring camera power 90mW
- Highly coherently stable laser light source and low noise 12bit fast camera ensure the stability of excellent flow-rate measurement
- Monitoring distance: 110mm, directly read the magnification, no autofocus measurement distance calibration
- In the recording process, choose any number of blood vessels, real-time display diameter changes and angle
- The effective pixels in the unit area are no less than 1800000 pixels/cm<sup>2</sup>; the monitoring pixel is 656\*494 pixels
- With two modes of continuous recording and interval recording
- The image monitoring area is  $14.4*10.9\text{--}2.15*1.62\text{mm}$ , and the imaging speed is not less than 60 fps in full amplitude state
- ROI area and vessel diameter measurements are added arbitrarily during the recording process or off-line analysis to support any shape and



number of ROI choices

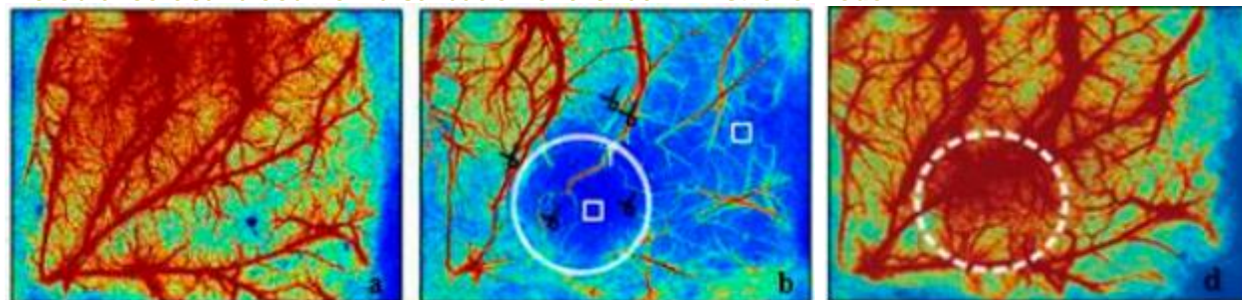
- Optical magnification: conventional 0.67-4.5 times, 0.071NA, optional 0.5 times, 2 times auxiliary objective lens; increase the auxiliary objective lens, the monitoring area and blood flow imaging spatial resolution will be adjusted accordingly
- The monitoring records can be exported to AVI format video files, including curves, blood flow, experimental process records, the output video can be adjusted as required

## Tree shrew (nonhuman primate) cerebral cortical blood flow imaging



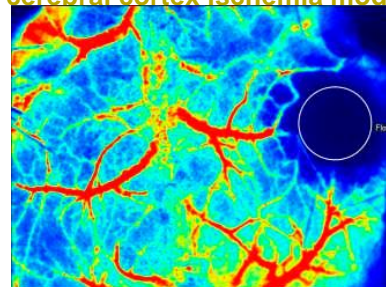
(a) Normal cerebral cortical blood flow distribution of tree shrew; (b) The distribution of cerebral cortical blood flow when start to over-anesthesia; (c) The distribution of dying cerebral cortical blood flow when severe overdose of anesthesia.

## Cerebral cortical blood flow distribution of the rat mini-stroke model

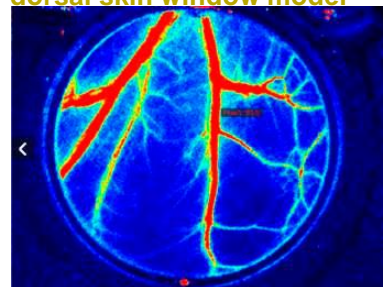


(a) Normal cerebral cortical blood flow distribution; (b) Cortical blood flow distribution after established the mini-stroke model; (c) Cortical blood flow distribution after removal of the mini-stroke model for 24h

## Photochemical induction of mouse cerebral cortex ischemia model



## The blood flow imaging of the rat dorsal skin window model





## Fiber Optogenetic system

### Intelligent Optogenetic System

The application of optogenetics has been rapidly developing since 2010, its research field covers several classical experimental animal species, such as flies, mice, rats, zebrafish, primates (Monkey, cynomolgus monkey, rhesus monkey, etc.). These animals generally have the advantages of short developmental and reproductive cycle and easy integration of foreign genes, thus facilitating the introduction of Photosensitive Protein Gene and the screen of the state of expression. The Intelligent Optogenetic System integrates light source output and control together. Compared with the Traditional Optogenetics System, it really achieves compact and easy to

use, stable and efficient, intelligent and humane.

Simple operation

Touch screen interface

Stable output

Audible and visual alarm

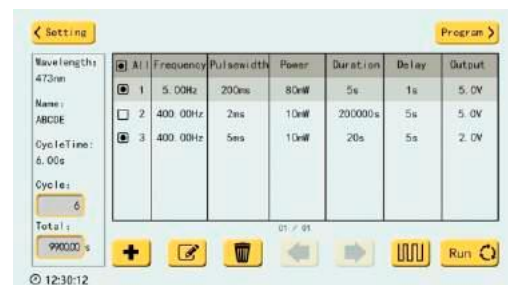


#### Features:

- Integrating the output and control of the light source, simplifying the operation of the experiment
- Touch screen operation interface with convenient parameter setting and control and visible waveform state
- Group custom editing and data import or export are available
- High power laser output from 0 to 100mw with good stability (<1%), Power adjustable
- Acousto-optic alarm at the end of the experimental process or when the temperature of the laser is abnormal
- Compatible with electrophysiological, behavioral devices and other devices

#### Technical Parameters

Category	Description
PowerTouch	0-80mW (Blue light), 0-100mW (Yellow light), 1mw resolution, adjustable power
screen pixels	7-inch capacitive touch screen, 1024PX * 600PX resolution
Stability	1%
Wavelength	473, 450, 488, 532, 589 and 650nm (optional)
TTL signal output	10mV-5V
Light source interf	FC/PC
Dimensions	258*220.5*147mm (L*W*H)



## Traditional Optogenetic System



### Common configuration options:

No.	Product Name	Cat No.	Quantity	Remarks
1	Arbitrary Waveform/Function Generator-20MHz	AFG2021-SC	1	
2	473nm Blu-ray Laser-50mW/power adjustable/stability<5%	R-LG473-50-A5	1	
3	532nm Green Laser-50mW/power adjustable/stability<5%	R-LG532-50-A5	1	Optional
4	593nm Yellow Laser-50mW/power adjustable/stability<5%	R-LG593-50-A5	1	
5	FC/PC Optical Fiber Patch Cables(m) - 200um,0.22NA,1m	R-FC-PC-N2-200-L1	1	
6	FC-FC Optic Fiber Commutator	R-FC-1x1	1	
7	Optic Fiber(m), FC/PC Adapter with Ø1.25 mm Ceramic Ferrule, 200um Core,0.22NA,1m	R-FC-L-N2-200-L1	1	
8	Ceramic Sleeves, Ø1.25mm, pkg of 20pcs	R-MS-1.25	1	
9	Ceramic Ferrule-Ø1.25mm/200um/0.22NA (20/pkg)	R-FOC-L200C-22NA	10	
10	Ceramic Ferrules Protective Cap. Ø1.25mm, pkg of 200pcs	R-DC-1.25	1	
11	Fiber Stripper- suitable for 100um - 600um fiber	R-OFT-600	1	
12	Laser Goggles against Green and Yellow Light	R-LS-Y	1	Optional
13	Laser Goggles against Blue and Green Light	R-LS-G	1	
14	Laser Power Meter -40mW	LP-1	1	

## Waveform Generator

Adjusting and controlling the output of Laser, like frequency of output, duty ratio, etc.



## Laser

### Features:

- Wavelength: Blue Light 473nm, Green Light 532nm, Yellow Light 593nm
- Stability: <10%, <5% and <1%
- Output power:0-50mW, 0-100mW and 0-200mW
- Connect a variety of fibers, FC-PC connectors
- Connect the waveform generator or stimulator to control the light output
- Reliable performance, long lifetime, average life expectancy is more than 10 thousand hours
- Exquisite appearance, compact size, portable



## Components

### Laser Power Meter

#### Features:

- Using a silicon photodiode probe, applicable to multiband measurement with broad spectrum range
- Short response time, good thermal stability, small volume, convenient installation and fixation
- Convenient to operate with digital display, applicable to the measurement on a variety of laser power
- Automatic shut down (about 30 minutes) to save battery power

#### Specifications:

Spectral range	400-1100nm
Models	LP-1
Measure range	0-40μW, 0-400μW, 0-4mW, 0-40mW multiple ranges can be selected.
Measurement accuracy	0.01μW
Optical probe	silicon photodiode probe(φ9mm)
Measurement error	±5%



Application: Accurately measure the power of continuous laser stable temperature.

### Patchcord and Optical Fiber

- Low insertion loss • Good Repeatability • High return loss • Stable temperature
- Good mutual insertion performance • Optional fiber
- Applicable wavelength: 400nm-1100nm • Numerical aperture: 0.22, 0.37, 0.50
- Default length is 1m, Optical fiber length: 0.5m-5m, step 0.5m (customized)
- Core diameter: 100um, 200um, 300um, 400um

#### Order Information:

Model No.	Product Description
R-FC-PC-N2-100-L1	FC/PC Optical Fiber Patch Cables(m) - 100um, 0.22NA, 1m
R-FC-PC-N2-200-L1	FC/PC Optical Fiber Patch Cables(m) - 200um, 0.22NA, 1m
R-FC-PC-N2-300-L1	FC/PC Optical Fiber Patch Cables(m) - 300um, 0.22NA, 1m
R-FC-PC-N2-400-L1	FC/PC Optical Fiber Patch Cables(m) - 400um, 0.22NA, 1m
R-FC-PC-N3-200-L1	FC/PC Optical Fiber Patch Cables(m) - 200um, 0.37NA, 1m
R-FC-PC-N3-300-L1	FC/PC Optical Fiber Patch Cables(m) - 300um, 0.37NA, 1m
R-FC-PC-N3-400-L1	FC/PC Optical Fiber Patch Cables(m) - 400um, 0.37NA, 1m
R-FC-PC-N5-200-L1	FC/PC Optical Fiber Patch Cables(m) - 200um, 0.50NA, 1m
R-FC-PC-N5-400-L1	FC/PC Optical Fiber Patch Cables(m) - 400um, 0.50NA, 1m
R-FC-L-N2-100-L1	Optic Fiber(m), FC/PC Adapter with Ø1.25 mm Ceramic Ferrule, 100um Core, 0.22NA, 1m
R-FC-L-N2-200-L1	Optic Fiber(m), FC/PC Adapter with Ø1.25 mm Ceramic Ferrule, 200um Core, 0.22NA, 1m
R-FC-L-N2-300-L1	Optic Fiber(m), FC/PC Adapter with Ø1.25 mm Ceramic Ferrule, 300um Core, 0.22NA, 1m
R-FC-L-N2-400-L1	Optic Fiber(m), FC/PC Adapter with Ø1.25 mm Ceramic Ferrule, 400um Core, 0.22NA, 1m
R-FC-P-N2-100-L1	Optic Fiber(m), FC/PC Adapter with Ø2.5 mm Ceramic Ferrule, 100um Core, 0.22NA, 1m
R-FC-P-N2-200-L1	Optic Fiber(m), FC/PC Adapter with Ø2.5 mm Ceramic Ferrule, 200um Core, 0.22NA, 1m
R-FC-P-N2-300-L1	Optic Fiber(m), FC/PC Adapter with Ø2.5 mm Ceramic Ferrule, 300um Core, 0.22NA, 1m
R-FC-P-N2-400-L1	Optic Fiber(m), FC/PC Adapter with Ø2.5 mm Ceramic Ferrule, 400um Core, 0.22NA, 1m
R-FC-L-N3-200-L1	Optic Fiber(m), FC/PC Adapter with Ø1.25 mm Ceramic Ferrule, 200um Core, 0.37NA, 1m
R-FC-L-N3-300-L1	Optic Fiber(m), FC/PC Adapter with Ø1.25 mm Ceramic Ferrule, 300um Core, 0.37NA, 1m
R-FC-L-N3-400-L1	Optic Fiber(m), FC/PC Adapter with Ø1.25 mm Ceramic Ferrule, 400um Core, 0.37NA, 1m
R-FC-P-N3-200-L1	Optic Fiber(m), FC/PC Adapter with Ø2.5 mm Ceramic Ferrule, 200um Core, 0.37NA, 1m
R-FC-P-N3-300-L1	Optic Fiber(m), FC/PC Adapter with Ø2.5 mm Ceramic Ferrule, 300um Core, 0.37NA, 1m
R-FC-P-N3-400-L1	Optic Fiber(m), FC/PC Adapter with Ø2.5 mm Ceramic Ferrule, 400um Core, 0.37NA, 1m
R-FC-L-N5-200-L1	Optic Fiber(m), FC/PC Adapter with Ø1.25 mm Ceramic Ferrule, 200um Core, 0.50NA, 1m
R-FC-L-N5-400-L1	Optic Fiber(m), FC/PC Adapter with Ø1.25 mm Ceramic Ferrule, 400um Core, 0.50NA, 1m
R-FC-P-N5-200-L1	Optic Fiber(m), FC/PC Adapter with Ø2.5 mm Ceramic Ferrule, 200um Core, 0.50NA, 1m
R-FC-P-N5-400-L1	Optic Fiber(m), FC/PC Adapter with Ø2.5 mm Ceramic Ferrule, 400um Core, 0.50NA, 1m



Patchcord



Optical Fiber

## Ceramic Ferrule

### Features:

- Material: Ceramic
- Applicable wavelength: 400-2200nm
- Core diameter: 100um, 200um, 300um, 400um
- Numerical aperture: 0.22, 0.37, 0.50
- Outer diameter: 1.25mm (6.4mm long) , 2.5mm (10.5mm long)
- Core-inserting length: 10.5mm (customized)
- Optical fiber length: 2mm-25mm, step 0.5mm (customized)



### Order Information:

No.	Model No.	Product Description	No.	Model No.	Product Description
1	R-FOC-L200C-37NA	Ceramic Ferrule-Ø1.25mm/200um/0.37NA (20/pkg)	10	R-FOC-L400C-22NA	Ceramic Ferrule-Ø1.25mm/400um/0.22NA (20/pkg)
2	R-FOC-L300C-37NA	Ceramic Ferrule-Ø1.25mm/300um/0.37NA (20/pkg)	11	R-FOC-F100C-22NA	Ceramic Ferrule-Ø2.5mm/100um/0.22NA (20/pkg)
3	R-FOC-L400C-37NA	Ceramic Ferrule-Ø1.25mm/400um/0.37NA (20/pkg)	12	R-FOC-F200C-22NA	Ceramic Ferrule-Ø2.5mm/200um/0.22NA (20/pkg)
4	R-FOC-F200C-37NA	Ceramic Ferrule-Ø2.5mm/200um/0.37NA (20/pkg)	13	R-FOC-F300C-22NA	Ceramic Ferrule-Ø2.5mm/300um/0.22NA (20/pkg)
5	R-FOC-F300C-37NA	Ceramic Ferrule-Ø2.5mm/300um/0.37NA (20/pkg)	14	R-FOC-F400C-22NA	Ceramic Ferrule-Ø2.5mm/400um/0.22NA (20/pkg)
6	R-FOC-F400C-37NA	Ceramic Ferrule-Ø2.5mm/400um/0.37NA (20/pkg)	15	R-FOC-L200C-50NA	Ceramic Ferrule-Ø1.25mm/200um/0.50NA (20/pkg)
7	R-FOC-L100C-22NA	Ceramic Ferrule-Ø1.25mm/100um/0.22NA (20/pkg)	16	R-FOC-L400C-50NA	Ceramic Ferrule-Ø1.25mm/400um/0.50NA (20/pkg)
8	R-FOC-L200C-22NA	Ceramic Ferrule-Ø1.25mm/200um/0.22NA (20/pkg)	17	R-FOC-F200C-50NA	Ceramic Ferrule-Ø2.5mm/200um/0.50NA (20/pkg)
9	R-FOC-L300C-22NA	Ceramic Ferrule-Ø1.25mm/300um/0.22NA (20/pkg)	18	R-FOC-F400C-50NA	Ceramic Ferrule-Ø2.5mm/400um/0.50NA (20/pkg)

## Fiber Optic Rotary Joint

Applicable to long time stimulation and observation experiments on awake and free moving animals, avoids twining of the fiber optic.

### Order Information:

Model No.	Product Description
R-FC-1x1	FC-FC Optic Fiber Commutator



## Ceramic Cannula & Ceramic Ferrules Protective Cap

### Order Information:

Model No.	Product Description
R-MS-1.25	LC Mating Sleeves, Ø1.25mm (20pcs/pkg)
R-MS-2.5	FC Mating Sleeves, Ø2.50mm (20pcs/pkg)
R-DC-2.5	FC/PC Ceramic Ferrules Protective Cap-Ø2.50mm (200pcs/pkg)
R-DC-1.25	LC/PC Ceramic Ferrules Protective Cap-Ø1.25mm (200pcs/pkg)



Ceramic Cannula



Ceramic Ferrules Protective Cap

## Laser Goggles

R-LS-Y Laser Goggles against Green and Yellow Light  
R-LS-G Laser Goggles against Blue and Green Light



To prevent or reduce the damage to human eye from laser.

## Fiber Tongs

- Suitable for 100um-800um fiber for stripping fiber coating



R-OFT-600