RWD

Introduction

Established in 2002, RWD Life Science has been dedicated to being a leading manufacturer in veterinary and research equipments worldwide. We specialize in anesthesia, physiological and surgical equipments, used by veterinarians and pre-clinical researchers. 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

Stereotaxic Instruments

Animal Anesthesia Machine

Implantable Osmotic Pump

Laser Speckle Perfusion Imager

Cannula System

Surgical Instruments

CONTENT

RFLSI Pro⁺ Laser Speckle Perfusion Imager — new

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

A new RFLSI Pro Laser 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 odopts a new all in one design to improve the operability for the user.
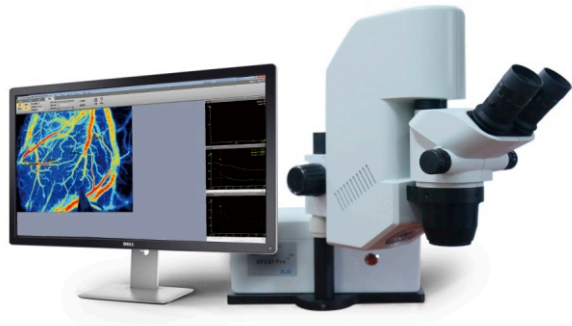
High time & spatial resolution, High contrast●   ●Continuous imaging, No need to scan

Product Features

Non-contact, No contrast agent●   ●Multi-output: Video, Image, Blood flow data, Diameter analysis

a   b   c   d   e   f
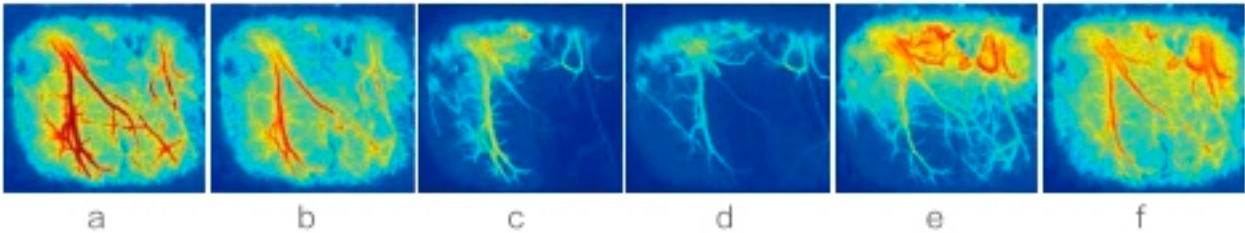
▶ Performance Advantages

● 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 | |

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New Products

Technical Parameters

- The range of the blood flow monitoring is from zero to infinity. The spatial resolution of the blood flow imaging is 3.3μm/pixel, and the maximum is 2μm/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^2; the monitoring pixel is 656*494 pixels.
- With two modes of continuous recording and interval recording.
- The image monitoring area is 14.4*10.9-2.15*1.62mm, and the imaging speed is not less than 60 fps in full amplitude state.
- ROI area and vessel diameter measurements are be 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.

Frame Grabber · CCD Camera · Microscope · Laser · Computer · Scatters
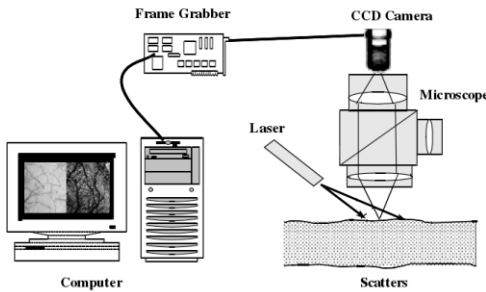
### Tree shrew (nonhuman primate) cerebral cortical blood flow imaging ▶
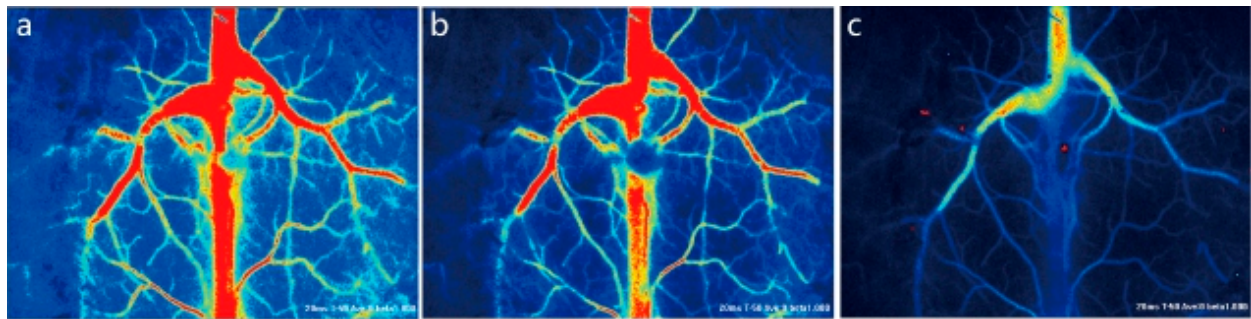
(a) Normal cerebral cortical blood flow distribution of tree shrew; (b) The distribution of cerebral cortical blood flow when start to over anesthesia; (c) The distribution of dying cerebral cortical blood flow when severe overdose of anesthesia.

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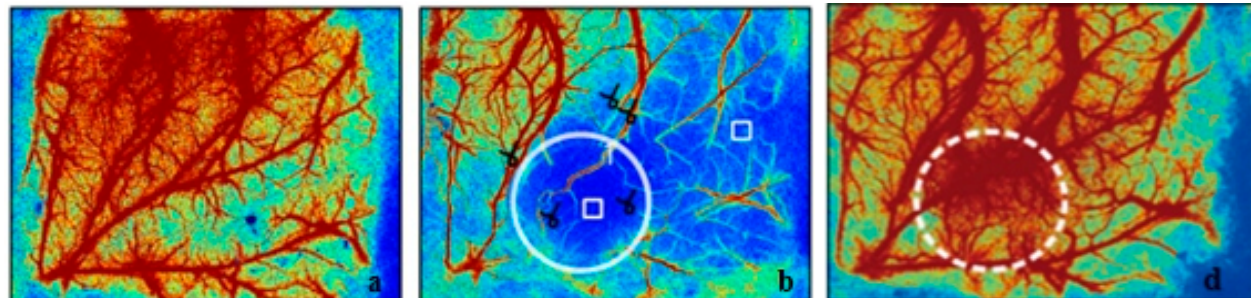
(a) Normal cerebral cortical blood flow distrbution; (b) Cortical blood flow distribution after established the mini-stroke model; (c) Cortical blood flow distribution after removal of the mini-stroke model for 24h

Photochemical induction of mouse cerebral cortex ischemia model ▶
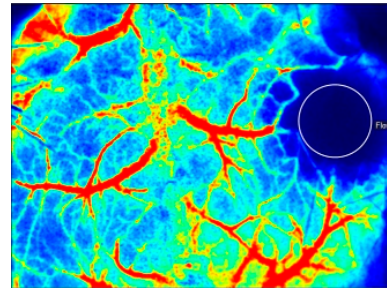
The blood flow imaging of the rat dorsal skin window model ▶
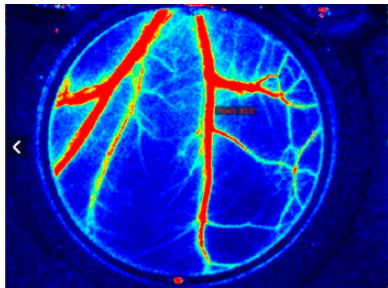
Precise Impactor new

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 cumber some 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.

Speed Range:0.5-3.0m/s
Speed 2.5 m/s
Depth 10 mm
Dwell Time 3 sec
Confirm Cancel
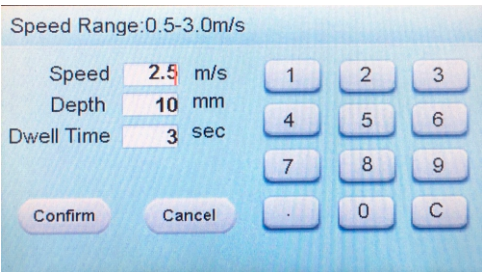
- Control the dwell time and strike depth, the time range: 0-5.00s, accuracy: 0.01s, the depth range: 0-5.00mm, accuracy: 0.01mm.
- A variety of cylindrical flat head hammers, the outer diameters are 1mm, 2mm, , 3mm, 4mm and 5mm.

5mm
1mm
head hammers

68095
68094
Spinal Cord Adapters for Mice and Rats
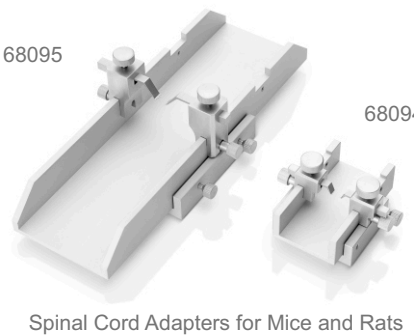
- High efficiency, automatic detection of zero interface, avoid the cumbersome manual process before the strike.
- Use ball screw to control displacement, stable and reliable rotation, large screw handle, easy operation.
- Support a variety of gas supply, containing 9/16 "and φ8 quick connection, easy 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

|			
☑Neurology	☑Surgery	☑Chinese Medicine	☑Emergency Medicine
☑Pediatrics	☑Psychiatry	☑Pharmacy	☑Endocrinology
☑Clinical Medicine	☑Biology	☑Oncology	☑Psychology	☑Related Researches

Implantable Osmotic Pump

new

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 µl/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.

100ul   200ul   2ml

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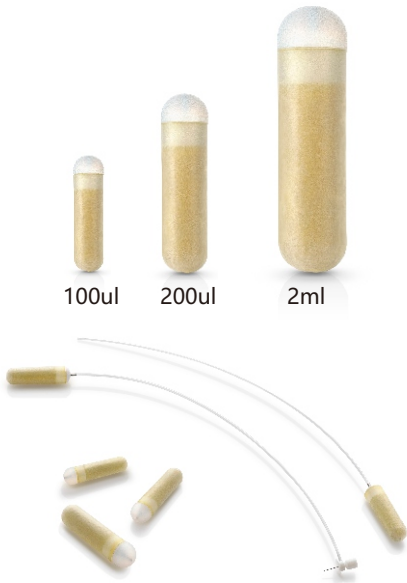
The catheter can be introduced into different sites, such as: the cranial cavity and spinal cord, intravascular, liver, spleen and other organs and trauma.
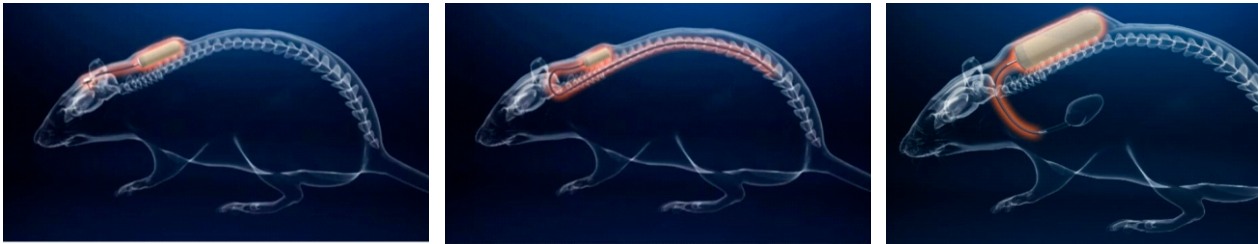
Features:

- 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.

Flow regulator   Storage capsules   Pellicle   Salt interlayer
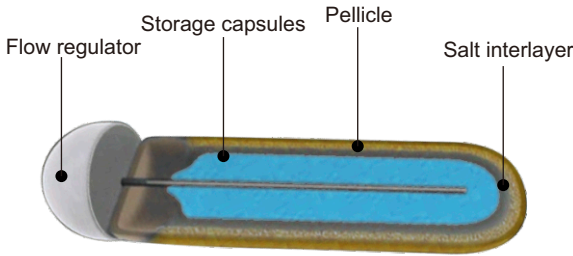
Specifications:

	Drug capacity	100uL				200uL						2mL		
Capsule	Cat No.	1003D	1001W	1002W	1004W	2001D	2003D	2001W	2002W	2004W	2006W	2ml1W	2ml2W	2ml4W
	Cycle	3d	1w	2w	4w	1d	3d	1w	2w	4w	6w	1w	2w	4w
	Injection rate (ul/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												

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
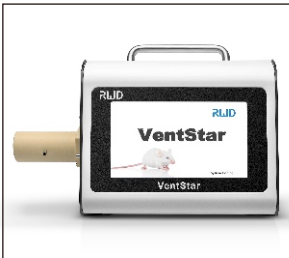
Compact (see P08)   Tabletop(see P09)   Multi-output(see P10)   Portable(see P11)

VentStar Ventilator(see P21)

Veterinary Anesthesia Machine

Tabletop(see P14)   Portable(see P12)   Smart Wall-hung(see P13)   Smart Portable(see P13)
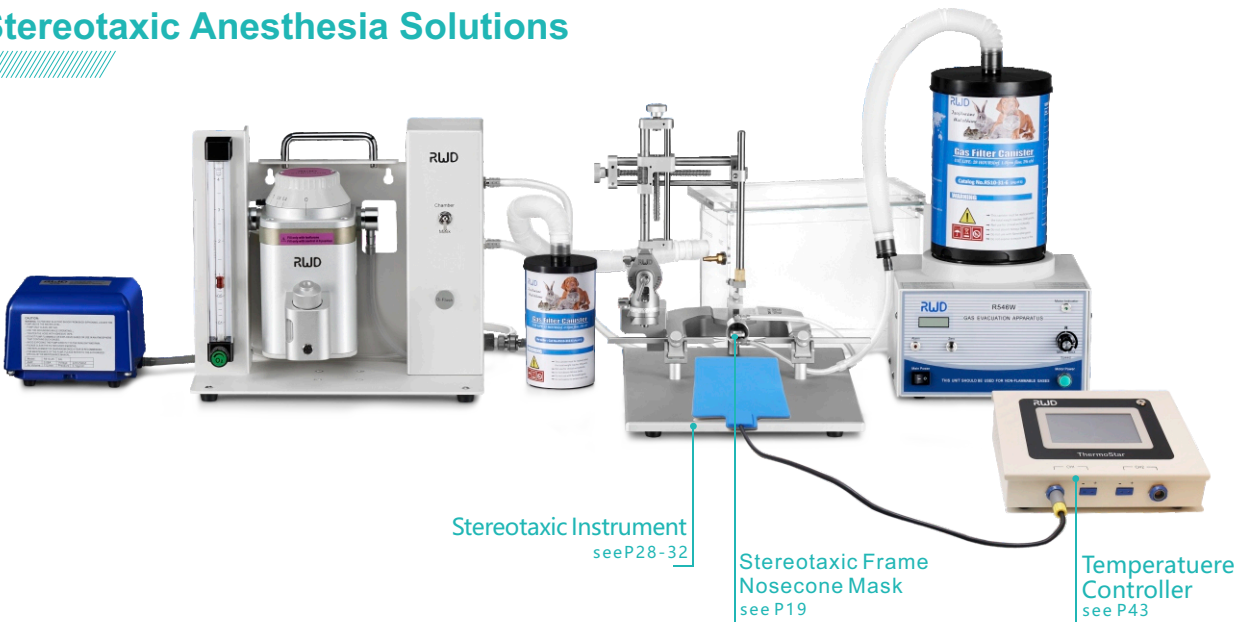
R409plus Ventilator(see P23)

New Products

Animal Anesthesia

Complete Anesthesia and Respiration Solutions

Multi-function Anesthesia Solutions

Gas Supply
see P24

Small Animal
Anesthesia Machine
see P07-10

Mask
see P17-19

Induction Chamber
see P20

Gas Evacuation
Apparatus
see P16

Gas Filter Canister
see P16

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

Stereotaxic Instrument
see P28-32

Stereotaxic Frame
Nosecone Mask
see P19

Temperatuere
Controller
see P43

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

Small animal ventilator
see P21

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

Mounting Bracket for R409 Ventilator

Veterinary Ventilator
see P23

Gas supply(see P24)

Circular anaesthetic mask(see P24)

Automatic Weighing
Mecharism for Gas
Filter Canister
see P16

Endotracheal Tubes

Calcium lime

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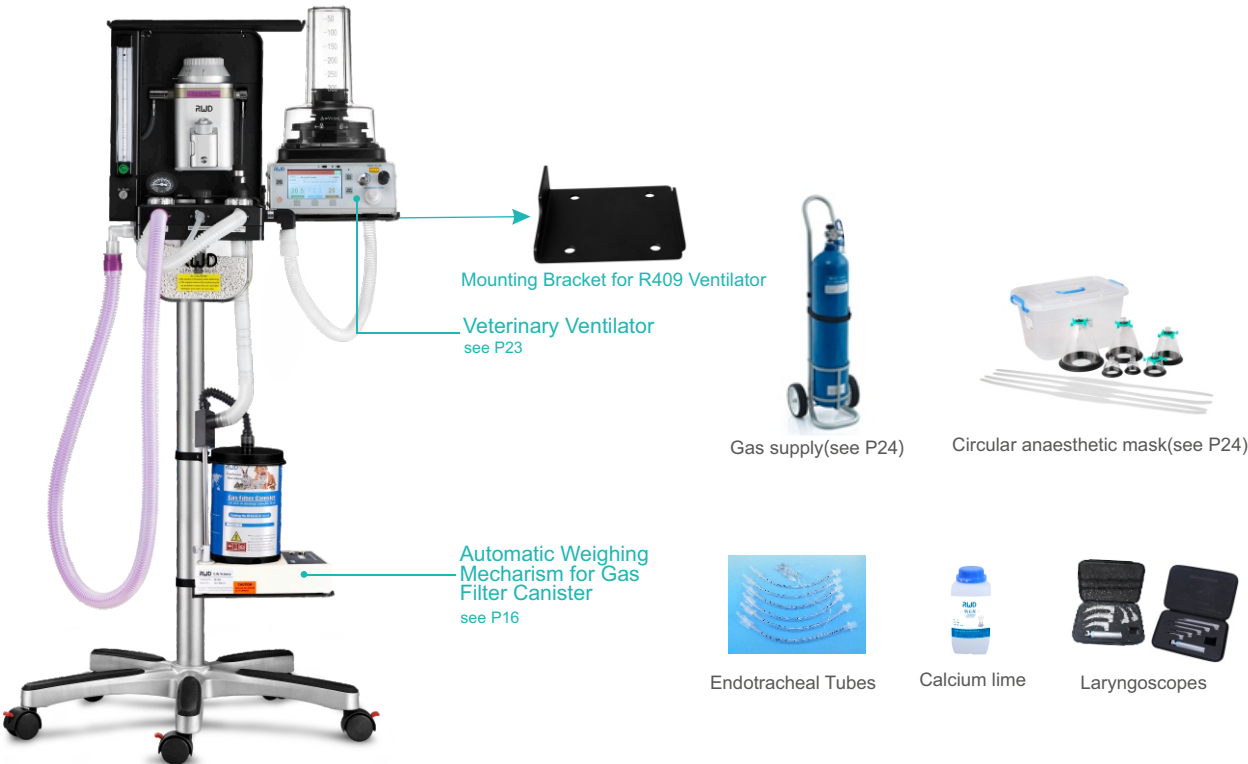
This program is suitable for the anesthesia and auxiliary respiration of animals within 50kg, such as pigs, monkeys, dogs and cats.

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 oterr animals within 7kg

120ml internal capacity,isoflurane concentration adjustment range 0-5% (sevoflurance 0-8%)

0.1-1L/min or 0.1-4L/min oxygen flowmeter optional, reserved additional flowmeter mounting hole ,makes dual flowmeter is achievable (see. P20)

Isoflurane or sevoflurane vaporizer is optional

You can choose Pour Fil or Easy Fil for adding drugs (see P15)

Stable concentration output unaffected by flow; temperature and pressure

Can be upgraded into portable anesthesia machine to save space and facilitate movement

Aluminum alloy material, the whole weight less than 7.5kg

The double flowmeters installation space on the back to meet the simultaneous anesthesia for two animals

Toggle switch, quick switching of gas circuit, more than 100 thousand times of life

Oxygen flush button, flush rate is up to 10L / min

Oxygen or air can be chosen as gas supply(see P24)

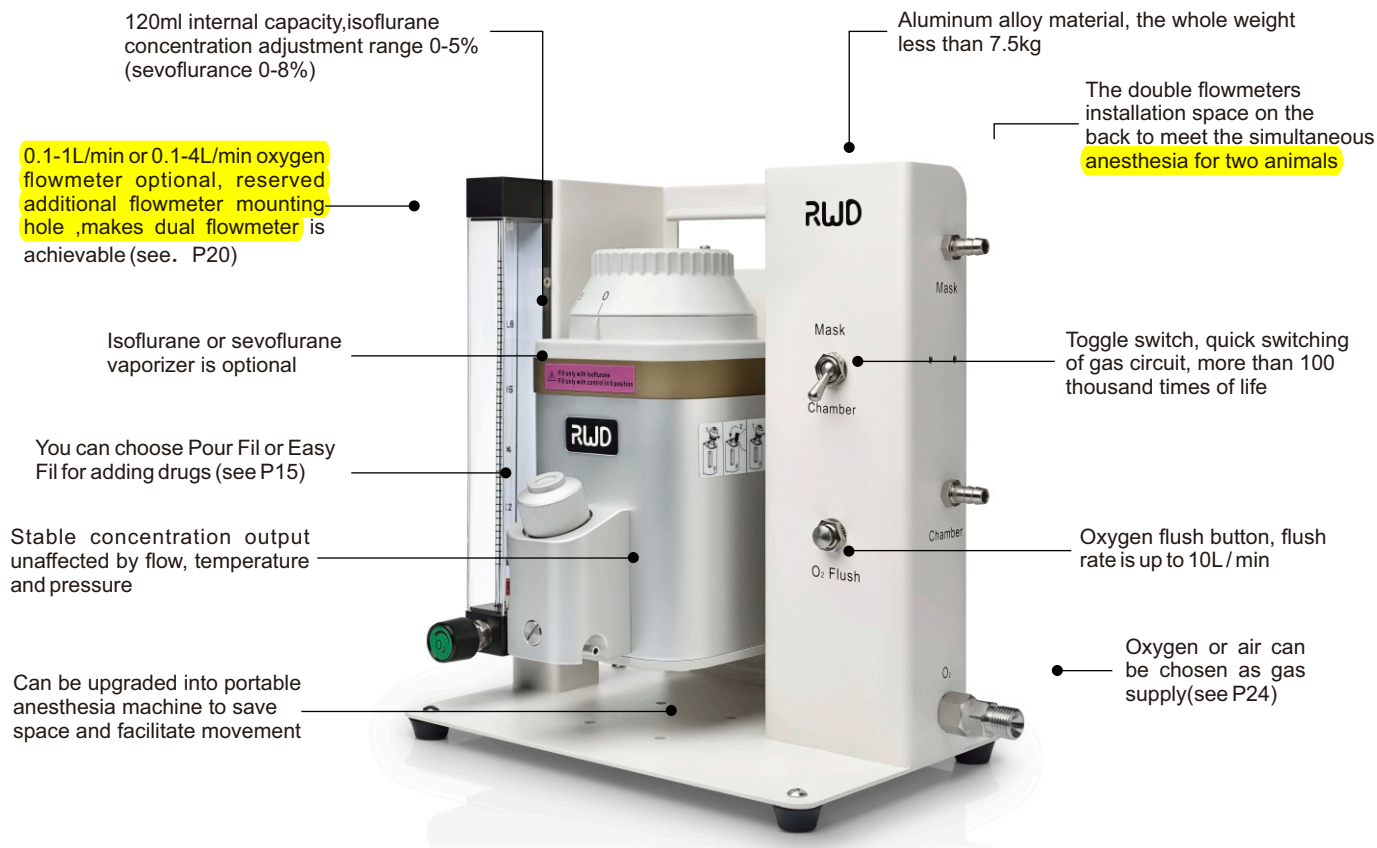Note: Oxygen flush is commonly used to flush out anesthetic gas to the filter canister before opening the induction chamber to avoid the escape of anesthetic gas into the personnel.

Order Information:

Cat No.	Product Description	Configuration	Remarks
R500IE	Compact Small Animal Anesthesia Device-Isoflurane, Easy Fill, 0-1L/0-4L	●	Contains connection tubing for mask&induction chamber
R500IP	Compact Small Animal Anesthesia Device-Isoflurane, Pour Fill, 0-1L/0-4L	●	
R500SE	Compact Small Animal Anesthesia Device-Sevoflurane, Easy Fill, 0-1L/0-4L	●	
R500SP	Compact Small Animal Anesthesia Device-Sevoflurane, Pour Fill, 0-1L/0-4L	●	
R510-S	Portable Stand for R510 Series Anesthesia Machine	○	Upgrade to portable type
R600-N2O-4E	Expansion Assembly with 0.1-4LPM N$_2$O Flowmeter	○	
R510-09	2ch Flowmeter for Anesthesia, range 0.1-1.0L/min each	○	Simultaneous anesthesia for two animals (adjusted independently)

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

120ml internal capacity, isoflurane concentration adjustment range 0-5%

0.1-4L/min oxygen flowmeter, reserved additional flowmeter mounting hole, makes dual flowmeter is achievable (see P20)

Isoflurane or sevoflurane vaporizer is optional

You can choose Pour Fil or Easy Fil for adding drugs (see P15)

Stable concentration output unaffected by flow, temperature and pressure

Can be upgraded into portable anesthesia machine to save space and facilitate movement

Aluminum alloy material, the whole weight less than 7.5kg

The double flowmeters installation space on the back to meet the simultaneous anesthesia for two animals

Toggle switch, quick switching of gas circuit, more than 100 thousand times of life

Oxygen flush button, flush rate is up to 10L / min

Oxygen or air can be chosen as gas supply(see P24)

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.
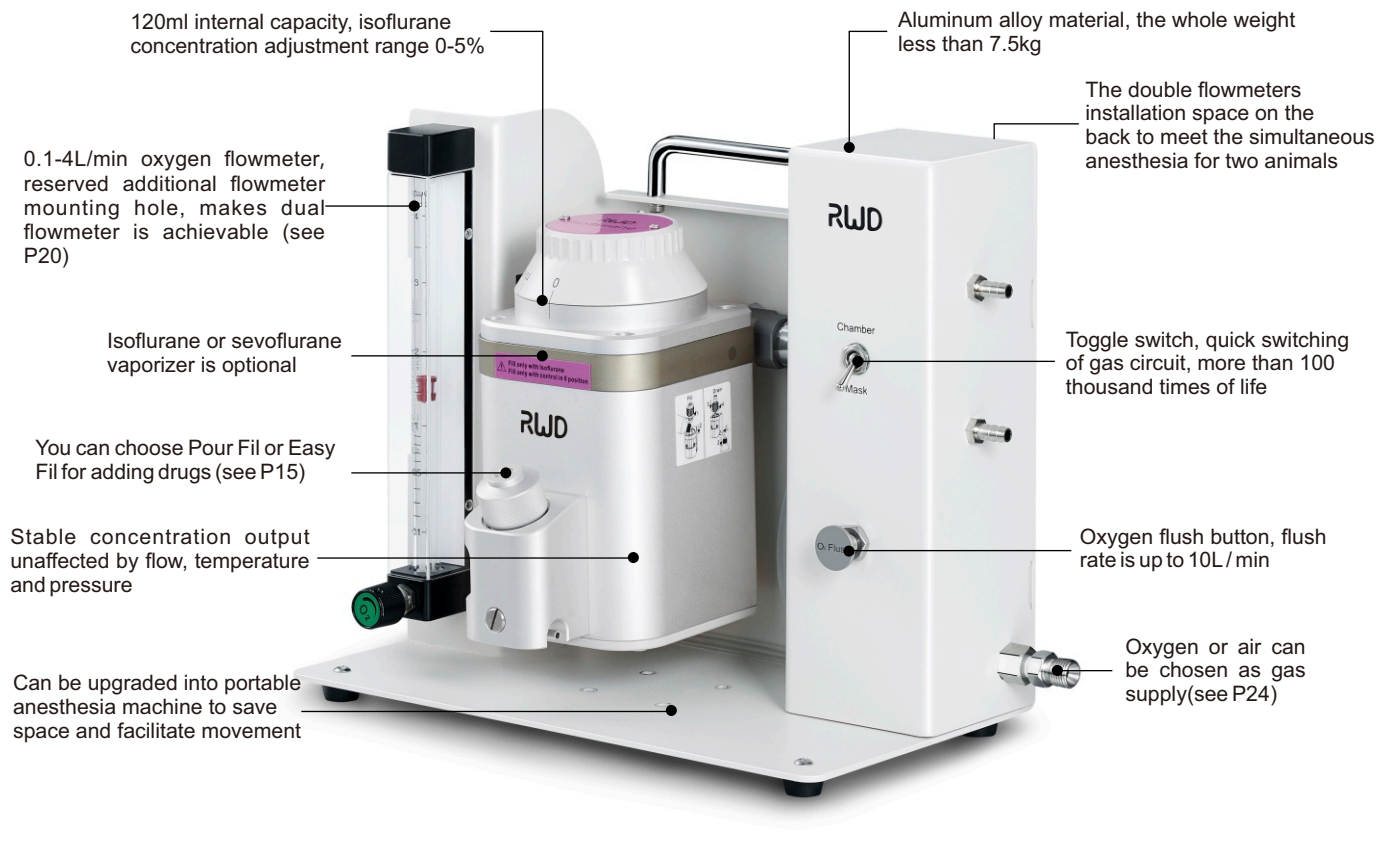
Order Information:

Cat No.	Product Description	Configuration	Remarks
R540IE	Enhanced Small Animal Anesthesia Device-Isoflurane,Easy Fil,0-4L	●	Contains connection tubing for mask&induction chamber
R540IP	Enhanced Small Animal Anesthesia Device-Isoflurane,Pour Fil,0-4L	●	
R540SE	Enhanced Small Animal Anesthesia Device-Sevoflurane,Easy Fil,0-4L	●	
R540SP	Enhanced Small Animal Anesthesia Device-Sevoflurane,Pour Fil,0-4L	●	
R510-S	Portable Stand for R510 Series Anesthesia Machine	○	Upgrade to portable type
R600-N2O-4E	Expansion Assembly with 0.1-4LPM N$_2$O Flowmeter	○	
R510-09	2ch Flowmeter for Anesthesia, range 0.1-1.0L/min each	○	Simultaneous anesthesia for two animals (adjusted independently)

Note: ●Recommended configuration   ○ Optional

Animal Anesthesia

Animal Anesthesia

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 applies to simultaneous anesthesia of multiple mice, rats, cats, rabbits and other animals (1-5 small animals), and every channel can be controlled independently.

Aluminum alloy material, the whole weight less than 7.5kg

0.1-4L/min oxygen flowmeter, reserved additional flowmeter mounting hole, makes dual flowmeter is achievable (see P20)

Stable concentration output, unaffected by flow, temperature and pressure

Can be upgraded into portable anesthesia machine to save space and facilitate movement

Gas flow of induction chamber can be adjusted independently, ranging from 0 to 2.5 L/min

Toggle switch, quick switching of gas circuit, 100 thousand times of life

Order Information:

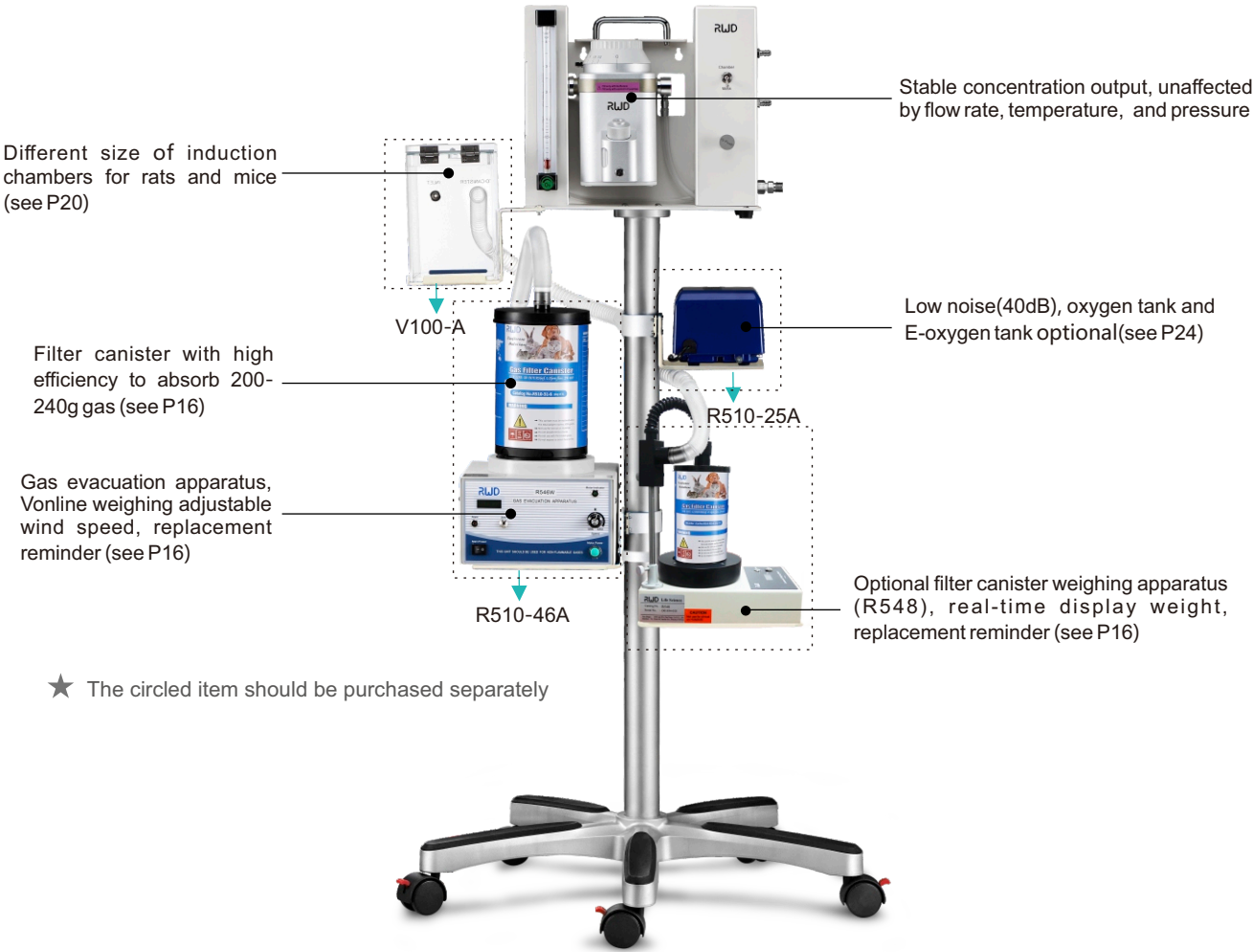| Cat No.	Product Description	Configuration	Remarks
R550IE	5ch Small Animal Anesthesia Machine-Isoflurane,Easy Fil,0-4L	●	Contains connection tubing for mask & induction chamber
R550IP	5ch Small Animal Anesthesia Device-Isoflurane,Pour Fil,0-4L	●	
R550SE	5ch Small Animal Anesthesia Machine-Sevoflurane,Easy Fil,0-4L	●	
R550SP	5ch Small Animal Anesthesia Machine-Sevoflurane,Pour Fil,0-4L	●	
R510-S	Portable Stand for R510 Series Anesthesia Machine	○	Upgrade to portable type
R600-N2O-4E	Expansion Assembly with 0.1-4LPM N$_2$O Flowmeter	○	

Note: ●Recommended configuration   ○ Optional

R520 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.

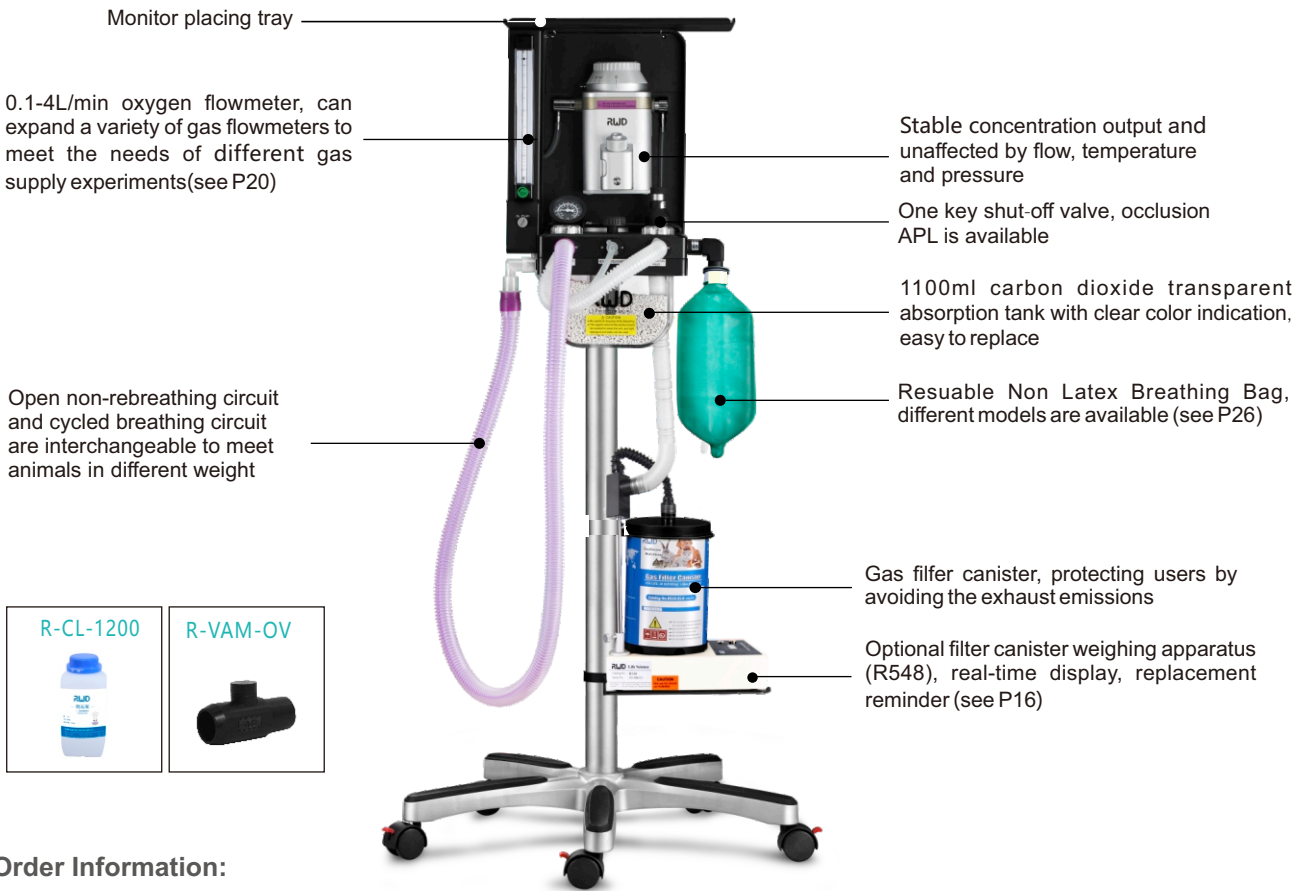Different size of induction chambers for rats and mice (see P20)

Filter canister with high efficiency to absorb 200-240g gas (see P16)

Gas evacuation apparatus, Vonline weighing adjustable wind speed, replacement reminder (see P16)

Stable concentration output, unaffected by flow rate, temperature, and pressure

Low noise(40dB), oxygen tank and E-oxygen tank optional(see P24)

Optional filter canister weighing apparatus (R548), real-time display weight, replacement reminder (see P16)

V100-A

R510-25A

R510-46A

★ The circled item should be purchased separately

Order Information:

Cat No.	Product Description	Configuration	Remarks
R520IE	Movable Small Animal Anesthesia Machine-Isoflurane,Easy Fil,0-4L	●	Including fixed bracket for induction chamber, evacuation apparatus, filter canister.
R520IP	Movable Small Animal Anesthesia Machine-Isoflurane,Pour Fil,0-4L	●	
R520SE	Movable Small Animal Anesthesia Machine-Sevoflurane,Easy Fil,0-4L	●	
R520SP	Movable Small Animal Anesthesia Machine-Sevoflurane,Pour Fil,0-4L	●	
R600-N2O-4E	Expansion Assembly with 0.1-4LPM N$_2$O Flowmeter	○	
R510-09	2ch Flowmeter for Anesthesia, range 0.1-1.0L/min each	○	simultaneous anesthesia for two animals (adjust independently)

Note: ●Recommended configuration   ○ Optional

R620 Portable Anesthesia Machine

Applicable to the inhalation anesthesia of cat, dog, monkey, pig and other animals within 50 kg, save space, easy to move.

Oxygen tube (R-AH-80), anesthesia machine mounting kit (R620-A), vaporizer(R580 Series), Inlet/Outlet End Caps(R580-IO), breathing circuits (Circulating R-BC-DL and acyclic R-NBC-F (JR)), endotracheal tube(R600-ET), the gas filter canister (R510-31) are included in the R620 anesthesia machine. And the anesthetics, gas supply, calcium lime, laryngoscope, mask should be purchased separately.
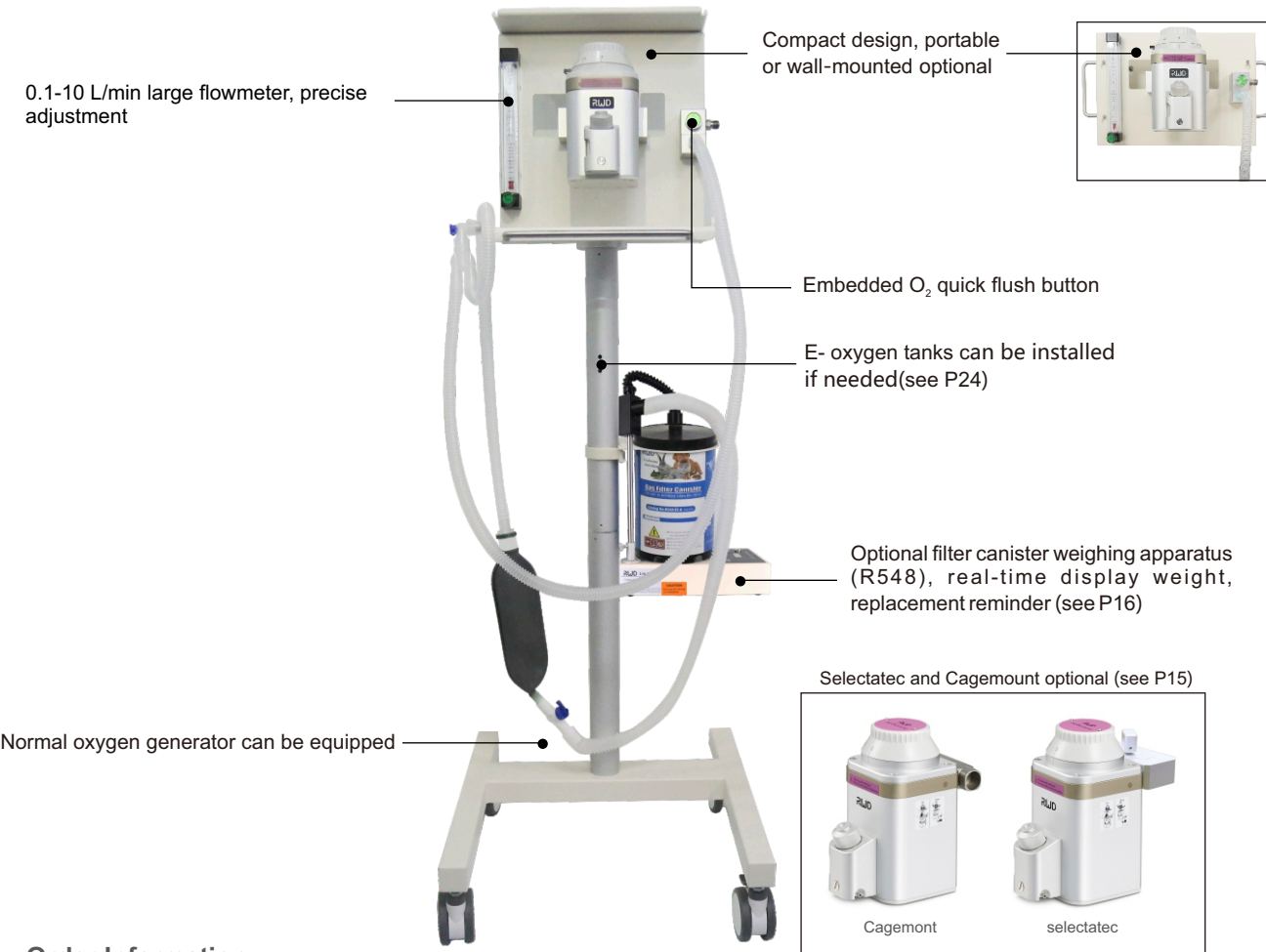
Monitor placing tray

0.1-4L/min oxygen flowmeter, can expand a variety of gas flowmeters to meet the needs of different gas supply experiments(see P20)

Stable concentration output and unaffected by flow, temperature and pressure

One key shut-off valve, occlusion APL is available

1100ml carbon dioxide transparent absorption tank with clear color indication, easy to replace

Open non-rebreathing circuit and cycled breathing circuit are interchangeable to meet animals in different weight

Resuable Non Latex Breathing Bag, different models are available (see P26)

R-CL-1200   R-VAM-OV

Gas filter canister, protecting users by avoiding the exhaust emissions

Optional filter canister weighing apparatus (R548), real-time display, replacement reminder (see P16)

Order Information:

Cat No.	Product Description	Configuration	Remarks
R620IE	Veterinary Anesthesia Machine -Portable,Isoflurane, Easy Fil,0-4L	●	Basic package. One filter canister is included. And the isoflurane, gas supply, calcium lime, laryngoscope, masks should be purchased separately.
R620IP	Veterinary Anesthesia Machine-Portable,Isoflurane, Pour Fil,0-4L	●	
R620SE	Veterinary Anesthesia Machine-Portable,Sevoflurane, Easy Fil,0-4L	●	
R620SP	Veterinary Anesthesia Machine-Portable,Sevoflurane, Pour Fil Fil,0-4L	●	
R620IES	Veterinary Animal Anesthesia Machine - Portable, Isoflurane, Easy Fil,0-4L	●	Super package. Compared with the basic package, an additional oxygen valve, calcium lime and a bottle of trial isoflurane are included.
R620IPS	Veterinary Animal Anesthesia Machine - Portable, Isoflurane, Pour Fil,0-4L	●	
R620SES	Veterinary Animal Anesthesia Machine - Portable, sevoflurane, Easy Fil,0-4L	●	
R620SPS	Veterinary Animal Anesthesia Machine - Portable, Sevoflurane, Pour Fil,0-4L	●	
R620IEP	Veterinary Animal Anesthesia Machine - Portable, Isoflurane, Easy Fil,0-4L	●	Luxury package. Compared with the super package, an extra mask kit 68643 and lamp laryngoscope C45001-00 are included. (see P24)
R620IPP	Veterinary Animal Anesthesia Machine - Portable, Isoflurane, Pour Fil,0-4L	●	
R620SEP	Veterinary Animal Anesthesia Machine - Portable, sevoflurane, Easy Fil,0-4L	●	
R620SPP	Veterinary Animal Anesthesia Machine - Portable, Sevoflurane, Pour Fil,0-4L	●	
R-VAM-OV	one button shut-off valve	○	
R-CL-1200	Calcium Lime (1.2Kg / barrel)	○	

Note: ● Recommended configuration   ○ Optional

R640 Smart Animal Anesthesia Machine

The R640 is a non-circulating inhalation anesthesia system designed for small animals and is a newly launched product based on the extensive collection of customer needs. With the advantages of stylish, compact design, and simple operation, suitable for the anesthesia application of small dogs, cats, rabbits, monkeys and other animals.
Oxygen tube (R-AH-80), anesthesia machine bracket(portable or Wall-mounted), vaporizer(R580 Series), vaporizer accessories, breathing circuit (non-circulating R-NBC-F (JR)), endotracheal tube(R600-ET), gas filter canister (R510-31) are included in the R640 anesthesia machine. And the anesthetics, gas supply, calcium lime, laryngoscope, mask and filter canister weighing mecharism should be purchased separately.

0.1-10 L/min large flowmeter, precise adjustment

Compact design, portable or wall-mounted optional

Embedded O_2 quick flush button

E- oxygen tanks can be installed if needed(see P24)

Optional filter canister weighing apparatus (R548), real-time display weight, replacement reminder (see P16)

Selectatec and Cagemount optional (see P15)

Normal oxygen generator can be equipped

Cagemont   selectatec

Order Information:

Cat No.	Product Description	Configuration	Remarks
R640IES	Veterinary Anesthesia Machine - Portable/Isoflurane/Easy Fil/Selectatec,0-10L	●	
R640IEC	Veterinary Anesthesia Machine - Portable/Isoflurane/Easy Fil/Selectatec,0-10L	●	
R640IESS	Veterinary Animal Anesthesia Machine - Portable/Isoflurane/Easy Fil/Selectatec,0-10L	●	
R640IECS	Veterinary Animal Anesthesia Machine - Portable/Isoflurane/Easy Fil/Cagemont,0-10L	●	
R640IESP	Veterinary Animal Anesthesia Machine - Portable/Isoflurane/Easy Fil/Selectatec,0-10L	●	
R640IECP	Veterinary Animal Anesthesia Machine - Portable/Isoflurane/Easy Fil/Cagemont,0-10L	●	
R640-H	R640 Animal anesthesia machine bracket - Wall-mounted	○	
R640-EP	R640 Loop extensions (Portable)	○	
R640-EH	R640 Loop extension (wall-mounted)	○	

Note: ● Recommended configuration   ○ Optional

Veterinary Anesthesia Machines ▶

R610 Tabletop Anesthesia Machine (customized)

Apply to the inhalation anesthesia of cats, dogs, monkeys, pigs and other animals within 50 kg.

Note:oxygen tube (R-AH-80), Manifold with 4LPM O_2 flowmeter, vaporizer (R580), Inlet/Outlet End Caps(R580-IO), endotracheal tubes, gas filter canister, (R510-31) are included in R610 anesthesia machine. And the anaesthetic, calcium lime laryngoscope, mask should to be purchased separately.

APL automatic pressure relief safety function, pressure range: -20~120 cmH$_2$O

One key shut-off valve, Occlusion APL available

Pour Fil or Easy Fil is available (see P15)

0.1-4L/min oxygen flowmeter, can expand a variety of gas flowmeters to meet the needs of a variety of gas supply experiments

Oxygen flush button, flush rate is up to 10L/min

1100ml carbon dioxide transparent absorption tank with clear color indication, easy to replace

Gas evacuation apparatus, protecting users by avoiding the exhaust emissions

Open non-rebreathing circuit and cycled breathing circuit are interchangeable to meet animals in different weight

Note: Non-rebreathing circuit (for animals within 7kg)
      Cycled breathing circuit (for animals above 7kg)

Order Information:

Cat No.	Product Description	Configuration	Remarks
R610IE	Veterinary Anesthesia Machine-Tabletop, Isoflurane, Easy Fil,0-4L (customized)	●	
R610IP	Veterinary Anesthesia Machine-Tabletop, Isoflurane, Pour Fil,0-4L (customized)	●	
R610SP	Veterinary Anesthesia Machine-Tabletop, Sevoflurane, Pour Fil,0-4L (customized)	●	
R610SE	Veterinary Anesthesia Machine-Tabletop, Sevoflurane, Pour Fil,0-4L (customized)	●	

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 Fil and Easy Fil, Cagemont and Selectatec.

Two kinds of vaporizers, two dosing methods, two installation

Isoflurane vaporizer   Sevoflurane vaporizer

R583-01 (Purple, isoflurane)
R582-01 (Yellow, sevoflurane)

Pour-Fil   Easy-Fil

R580-IO   R580-SA

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 △P ≤ 2.5kPa
- Applicable temperature range: 10-35 ℃
- 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

Order Information:

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

Cat No.	Product Description
R580SS	Vaporizer - Isoflurane/Pour Fil/Selectatec
R581SS	Vaporizer - Sevoflurane/Pour Fil/Selectatec
R582SS	Vaporizer - Sevoflurane/Easy Fil/Selectatec
R583SS	Vaporizer - Isoflurane/Easy Fil/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 Fil includes adapter R582-01 or R583-01.

Isoflurane & Sevoflurane

Isoflurane   Sevoflurane

Order Information:

Cat No.	Product Description
R510-22-04	Isoflurane-100ml (4 bottles/box)
R510-22-08	Isoflurane-100ml (8 bottles/box)
R510-22-16	Isoflurane-100ml (16 bottles/box)
R511-22	Sevoflurane-100ml
R511-22-04	Sevoflurane-100ml (4 bottles/box)

Animal Anesthesia   Animal Anesthesia

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.
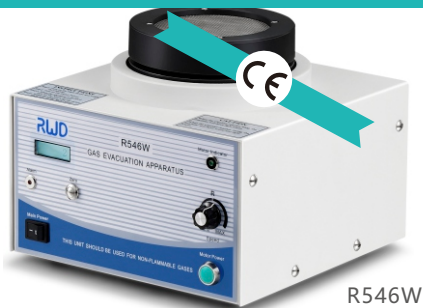
R546W

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 it's effectiveness.

Order Information:

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

Automatic Weighing Apparatus

Exhaust gas inlet
(from mask or induction chamber)

- 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 Mecharism for Gas Filter Canister
R548-MB	Weighing Bracket

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

# 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

R510-31

68625

68626

R510-87　　R546W

R510-89

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

R-FM-EOC

68625

R510-31

R510-54

R546W

○ Universal bracket (R510-55) can be used to fix the R510-32, R510-33 Tubing mask.

R510-55

R510-33　　R510-32
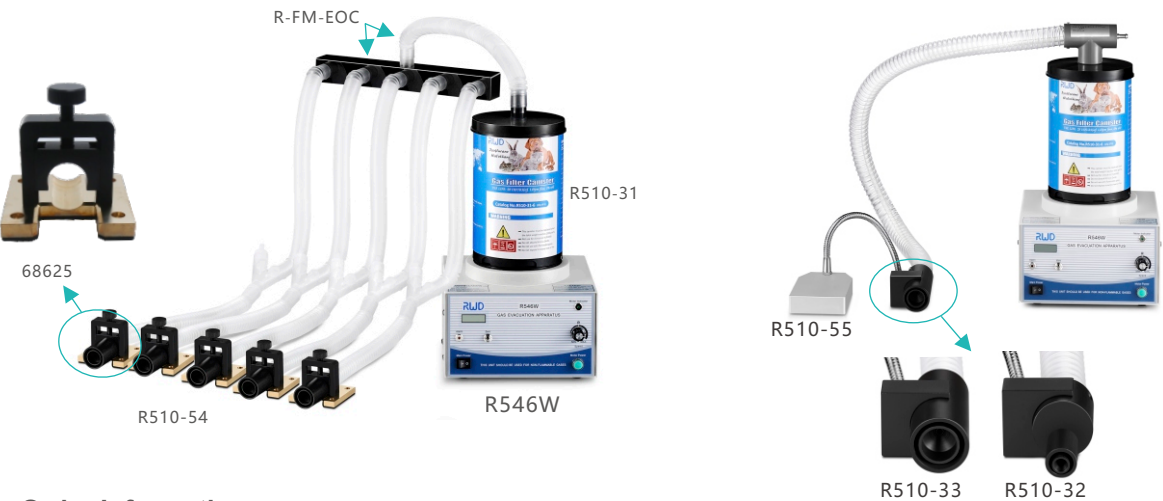
Order Information:

Cat No.	Product Description	Cat No.	Product Description
R510-86	SGL MRI Compatible Mask for Mouse	R510-87	SGL MRI Compatible Mask for Rat
R510-88	Dual MRI Compatible Masks for Mouse	R510-89	Dual MRI Compatible Masks for Rat
R510-54	Five-channel Tubing Anesthesia Mask Kits-rat/mouse		
68625	MRI Compatible Mounting Bracket for Tubing or Cone Mask, optional	68626	MRI Compatible Mounting Platform for Tubing or Cone Mask-rat/mouse
R510-32	Mouse Mask-Dia.9mm-Evacuation System W/SGL.Tube	R510-33	Rat Mask-Dia.18mm-Evacuation System W/SGL.Tube
R510-55	Universal Stand for Tube Anesthesia Mask		

Animal Anesthesia

Animal Anesthesia

● 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.

R-CT-18

68634/68635/68636

R510-31

68620

R546W

Order Information:

Cat No.	Product Description
68620	Small Animal Anesthesia Operation Plarform (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
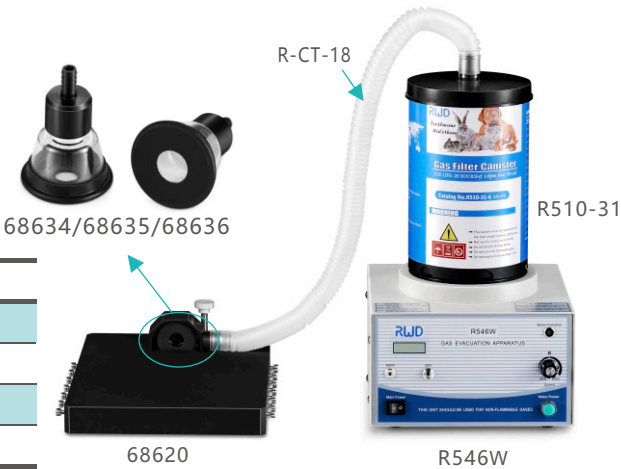
● Cone Masks

● Special designed with inlet tubing inside make the animal anesthesia exhaust gas can be absorbed by gas fillter 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.

R-CT-6/15

68685
68684
68683

68656

R510-31

68682

R510-31

68657

R510-31

68630
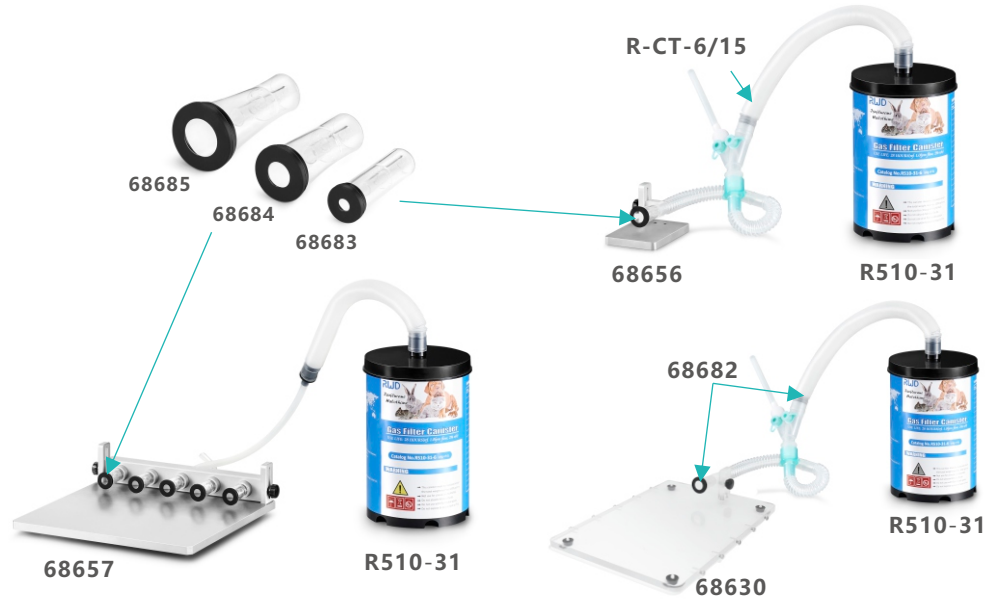
Order Information:

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. Tthe "passive" mask is used with charcoal canister only, and the "active" mask can be used with evacuation apparatus.

68663
68665

(only be for 68030, 68036 and 68055 mouse adaptors)

Recovery mask matching tube

68666
68667

(only be for 68021 and 68088 rat adaptors.)

68601

68602

68055

(only be for 68030, 68036 and 68055 mouse adaptors)

(only be for68021 and 68088 rat adapters)
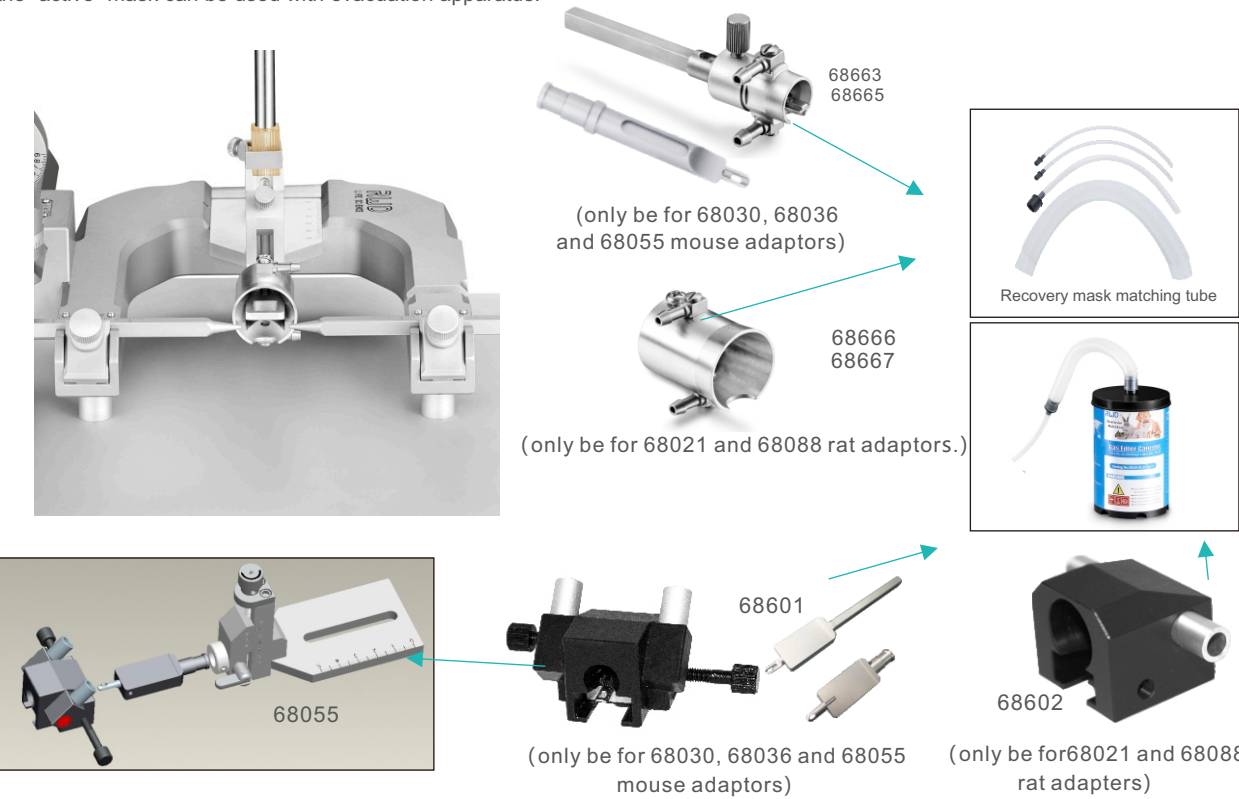
Order Information:

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 works with ultrasound animal imaging heating platform and the anesthetic mask for 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 inducted 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

Extended 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.

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_2O Flowmeter	Silicone tube and Y-three way and other accessories
R600-O2-4E	Expansion Assembly with 0.1-4LPM O_2 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

Input power range: 100 ~ 240V, 50/60Hz, 24V, 40W, 1.67A adapter DC power supply, safe and effective

Small size, compact layout, flexible operation

Provide safe and effective intermittent positive pressure ventilation (IPPV), volume and pressure modes are available.

7 inches LCD touch screen, wide-angle visual

The pressure－time graph can be displayed in real time in volume and pressure modes

Sound, intelligent text, error code and other fault alarm alerts

10 groups of different respiratory parameters can be stored and called, which is convenient and efficient

R415-AP

Set the respiratory parameters such as PIP/PEEP/Sigh/INSP.Hold/EXP.Hold

The breathing frequency can be switched between 10 ~ 300bpm

Tidal volume range:0.05ml ~ 5ml

After sumitting the animal weight, and the device automatically sets the reference breathing parameters

Airway pressure range: 1~50cmH$_2$O, the accuracy range: ±0.7 cmH$_2$O; positive end expiratory pressure (PEEP) range is 0~10cmH$_2$O

The adjustable range of I:E ratio is from 20% to 80%; the sigh increases the tidal volume from 0 to 20%, and can set auto-sigh once after every 10 to 999 breaths or manual control

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.
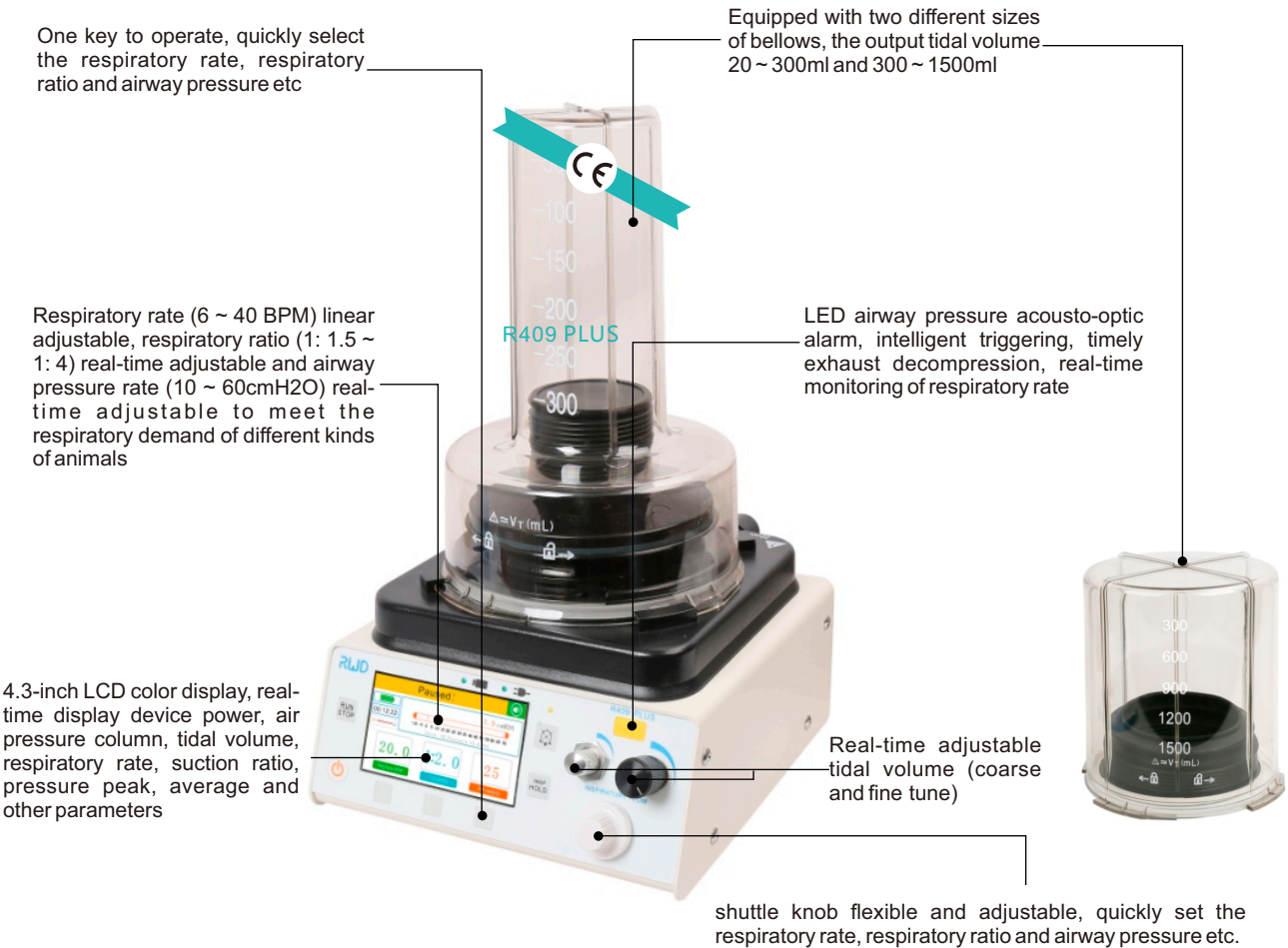
Veterinary Ventilator

R409 Plus is a pneumatic control ventilator which is particularly suitable for animal laboratories, pet hospital, clinics etc. clinics etc, is specially designed to help the respiration of animals within 100 kg including rabbits, dogs, monkeys, pigs, sheep etc, and can be used in conjunction with various anesthesia systems.

R510-27

Tubing and gas cannula

● 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 respiratary rate in real time
● Tidal volume and respiratary 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 beaths / min
● Control positive end expiratory pressure (PEEP)

One key to operate, quickly select the respiratory rate, respiratory ratio and airway pressure etc

Equipped with two different sizes of bellows, the output tidal volume 20～300ml and 300～1500ml

Respiratory rate (6 ~ 40 BPM) linear adjustable, respiratory ratio (1: 1.5 ~ 1: 4) real-time adjustable and airway pressure rate (10 ~ 60cmH2O) real-time adjustable to meet the respiratory demand of different kinds of animals

LED airway pressure acousto-optic alarm, intelligent triggering, timely exhaust decompression, real-time monitoring of respiratory rate

R409 PLUS

4.3-inch LCD color display, real-time display device power, air pressure column, tidal volume, respiratory rate, suction ratio, pressure peak, average and other parameters

Real-time adjustable tidal volume (coarse and fine tune)

shuttle knob flexible and adjustable, quickly set the respiratory rate, respiratory ratio and airway pressure etc.

● 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	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	

Order Information:

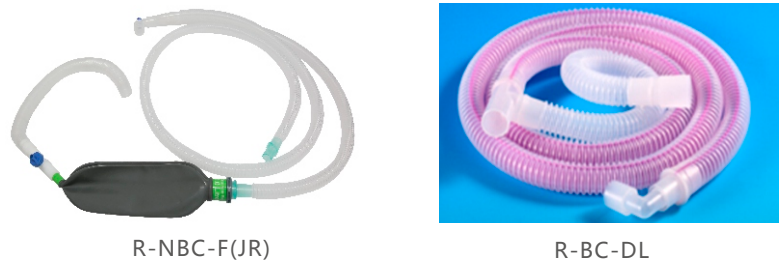| Cat No.	Product Description
R409 PLUS	Veterinary Ventilator - Color Screen/ Battery (100-240V)
R409-MB	Mounting Bracket for R409 Ventilator

Anesthesia and Respiration Accessories ▶

Gas Supply

Air Pump
(R510-29/R510-30)

R-PG-O2-1M(CN)Pro

Medical Oxygen Tank

R-GM-ET(S)

R-GM-ET(D)

E- Oxygen Tank

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.

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

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

Macintosh Laryngoscope

Miller Laryngoscope

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
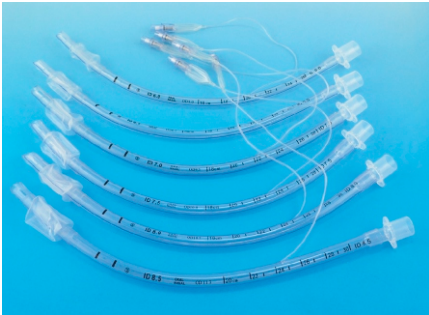
Stereotaxic Instrument Solutions

Breathing Bags

Order Information:

Cat No.	Product Description	Cat No.	Product Description
R600-NL-0.5L	Resuable Non Latex Breathing Bag, 0.5L	R600-NL-2L	Resuable Non Latex Breathing Bag, 2L
R600-NL-1L	Resuable Non Latex Breathing Bag, 1L	R600-NL-3L	Resuable Non Latex Breathing Bag, 3L

Tubing Connector

R-LCM-1/8 R-T-1/4 R-LCF-1/4 R-LCM-1/4 R-RC-3/8-1/4 R-Y-7/8

R-Y-1/4 R-RC-15-15/22 R-TC-22-22/15 R510-25-86 R409-TC R-AH-C

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" x1/4"
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)
R510-25-86	9/16 TO Φ8 Cone Connector	R409-TC	T-connector – 9/16
R-AH-C	Oxygen Tube Connector-9/16(F)-M16*1.5(F)		

Tubes

R-PT-80 R-ST-15 R-ST-30 R-ST-60 R-CT-18 R-CT-22-03 R-AH-80 R409-AH-80

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_2 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_2 Hose - ID8.0-2*9/16 Connector, 1m
R-ST-60A	Silicone Tubing - ID:6.0,OD:10.0mm		

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 P28-34).

Standard type **Compact type** **Rail-mounted type** **Large animal type**
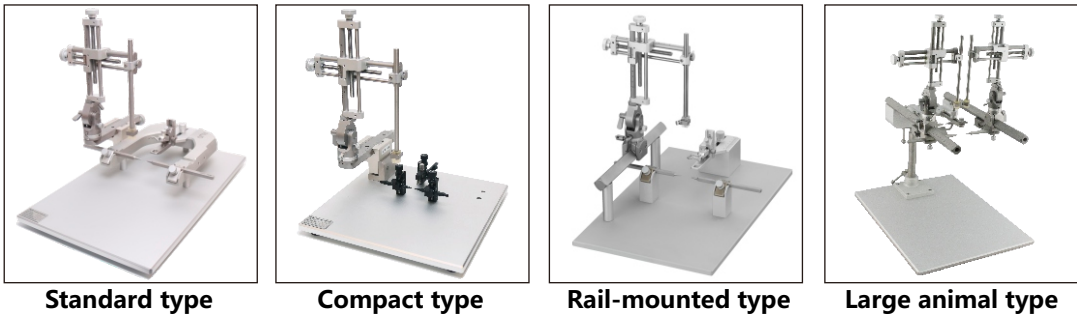
Secondly, according to the preferred experimental accuracy to choose the stereotaxic instruments with different accuary 100um, 10um, two different precision readings are available.

Standard (100um) **Digital (10um)**
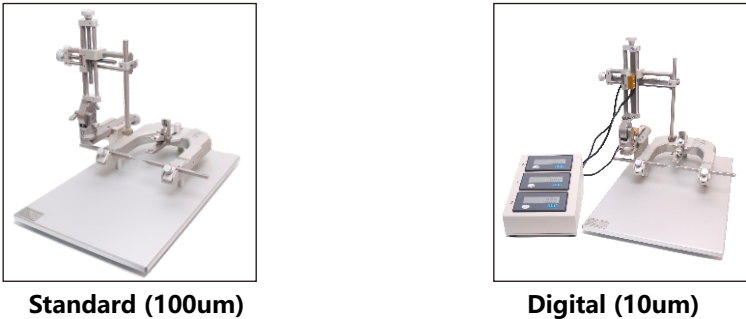
In addition, all of the manual stereotaxic instruments can be upgraded into digital stereotaxic instruments, while the single manipulator can be upgraded into double-manipulator and can be converted freely.

SGL M **Dual M**

Standard Stereotaxic Instruments

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

Relieve eyestrain by light-interrupted
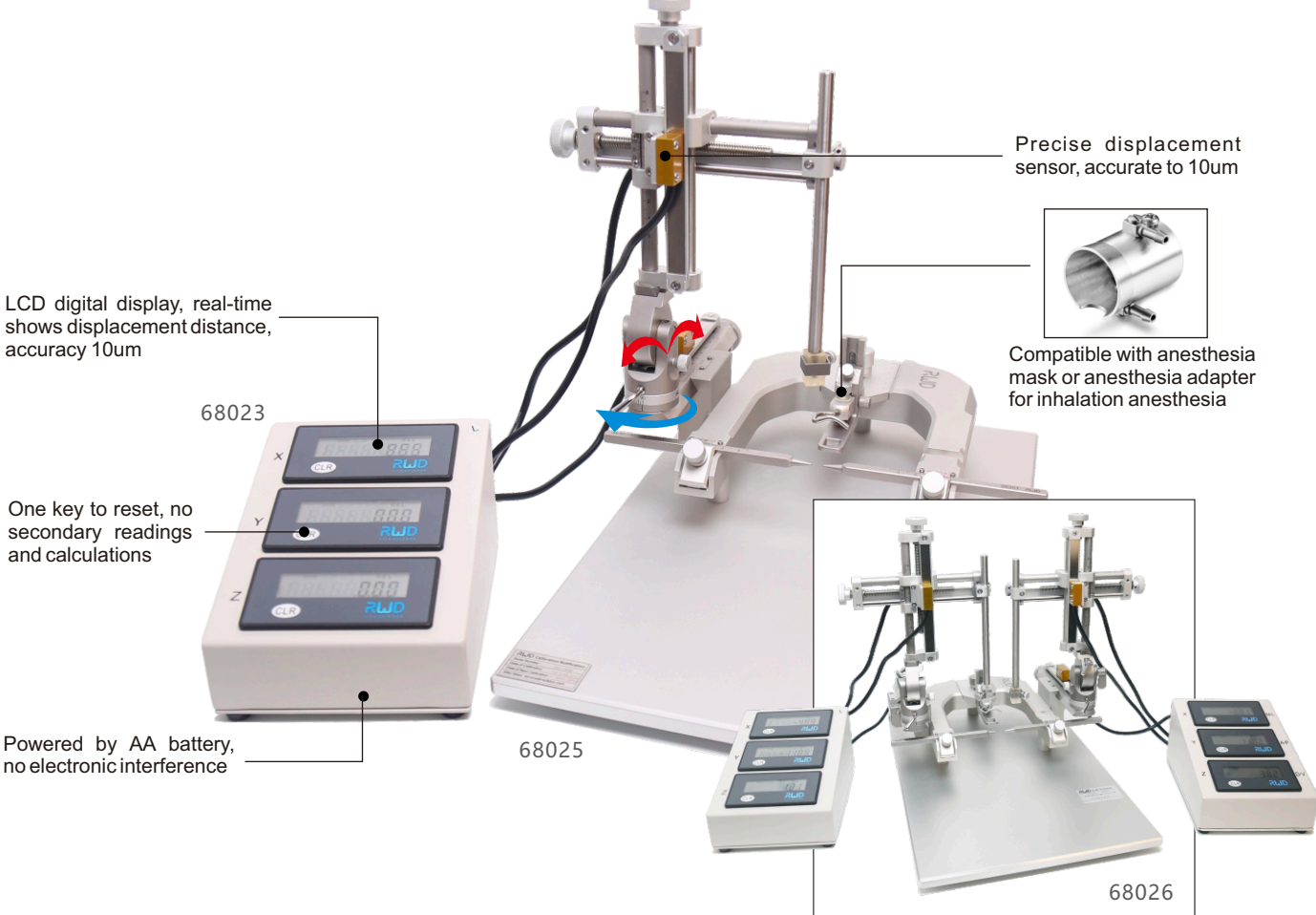
Double-lead screw design, more stable and accurate operation

Vertical locking and positioning button are separate to ensure absolute 90 ° vertical

Distance from tip of the ear bar to the base plate：51mm

U−frame base space 115mm

Extended base plate 400mm x 500mm

Unique UP indicator to prevent incorrect operation

Working distance 80mm, reading accuracy of 100microns

Wide Y-axis operating range, spacing is up to 28mm

Adaptors of rats, mice, birds, cats and other different animal are optional

Curved nose clamp secure the animal firmly

Ear bar plate pressing design, ensure more stability

68001

68002

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

Order Information:

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!

LCD digital display, real-time shows displacement distance, accuracy 10um

68023

One key to reset, no secondary readings and calculations

Powered by AA battery, no electronic interference

Precise displacement sensor, accurate to 10um

Compatible with anesthesia mask or anesthesia adapter for inhalation anesthesia

68025

68026

Composition:
68025 and 68026 are complete sets of stereotaxic (see figure), both containing 68861N base plate, 68401 three-dimensional manipulator - left, 68021 rat adaptor, 68301 rat 18 ° ear bar, 68201 standard holder, 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

Stereotaxic

Stereotaxic

Portable/Rail Rat Stereotaxic Instruments

Scale range of Ear bars: 35mm with 1mm resolution; Ear bar slots with vernier of 0.1mm resolution

D/V adjustment range for the adaptor is 30mm, A/P adjustment range is 43.5mm, with 0.1mm resolution

Replace the U-frame, enlarge the operating space, more economical and reliable

Double M6 screws fixed the base, more stable

68511

68505

68512

68506

Height of the ear bar is 35.5mm

Height of the ear bar: 35.5mm

Optional AP Micro-driver (68104 see P42), the resolution of Y-axis promoted to 50um

Y-axis slide design, longer moving range : ± 100mm, 1mm resolution

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 base plate 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-tpye
68512	Stereotaxic Frame for Rat, Portable, SGL M
68515	Stereotaxic for Rat, Digital and Rail-type, Dual M
68865S	Stereotaxic Base Plate for Rat or Mouse, Rail-type, SGL M
68865D	Stereotaxic Base Plate for Rat or Mouse, Rail-type, SGL M
68941	2-axis Manip for Rat Stereotaxic, Left Hand

Compact Mouse Stereotaxic Instruments

(One Mouse)   **(Two Mouse)**

Dorsal/Ventral adjustment range for adaptor and ear bar: 20mm

Unique UP indicator to prevent incorrect operation

The ear bar is made of polyoxymethylene resin, 4 different fixed points with 1mm resolution for scales.

Specific fixed base for mice, fixed more quickly

new

68513

68507

68517

68518

Extended base plate: 400mm x 255mm

Small base plate: 255mm x 255mm

New design

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 base plate, 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

Unique UP indicator, adjustable vertical direction range

Replace ear bar & adaptors, to hold different rodents

68306

68301

68526

68087
Mouse adaptor and 60° ear bar

68088
Rat adaptor and 18° ear bar

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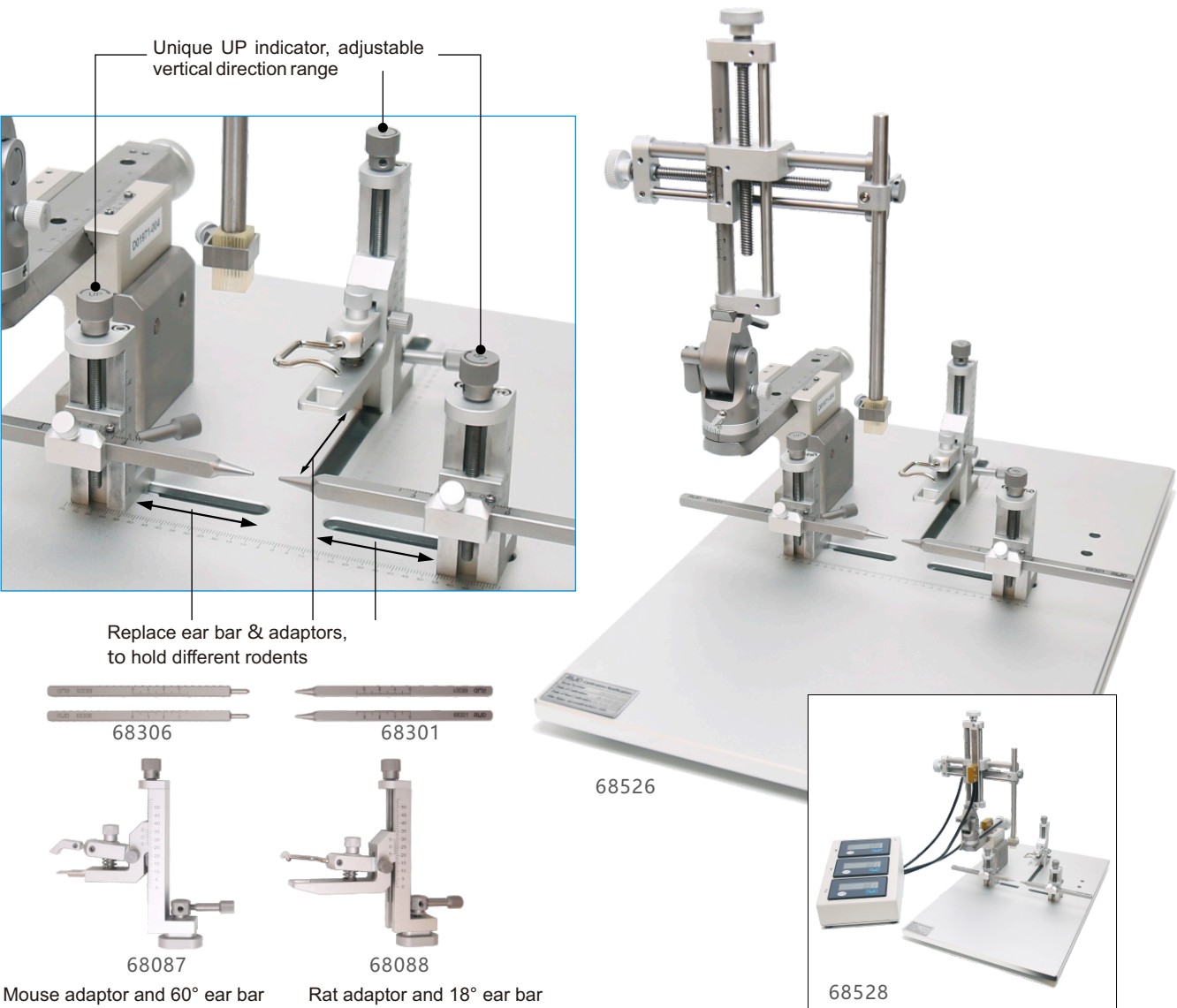
Composition:
68526 is a complete set stereotaxic configurations, containing 68867S base plate, 68401 three-dimensional manipulator - left, 68087 mouse adaptor and 68088 rat adaptor, 68301 rat 18° ear bars and 68306 mouse 60 ° ear bars, 68201 standard holder; Digital version 68528 adds 68023 three-dimensional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

Unique jaw plate design better stabilizes the heads of large animals of varying weights.

Adaptors are available for dogs, monkeys, pigs, and other large animals.

Y-axis rail design, longer moving range: ± 100mm, 1mm resolution

Combined with microdriver (68104, see P42), the resolution of vertical reading can be promoted to 50µm

Holds up to six manipulator arms
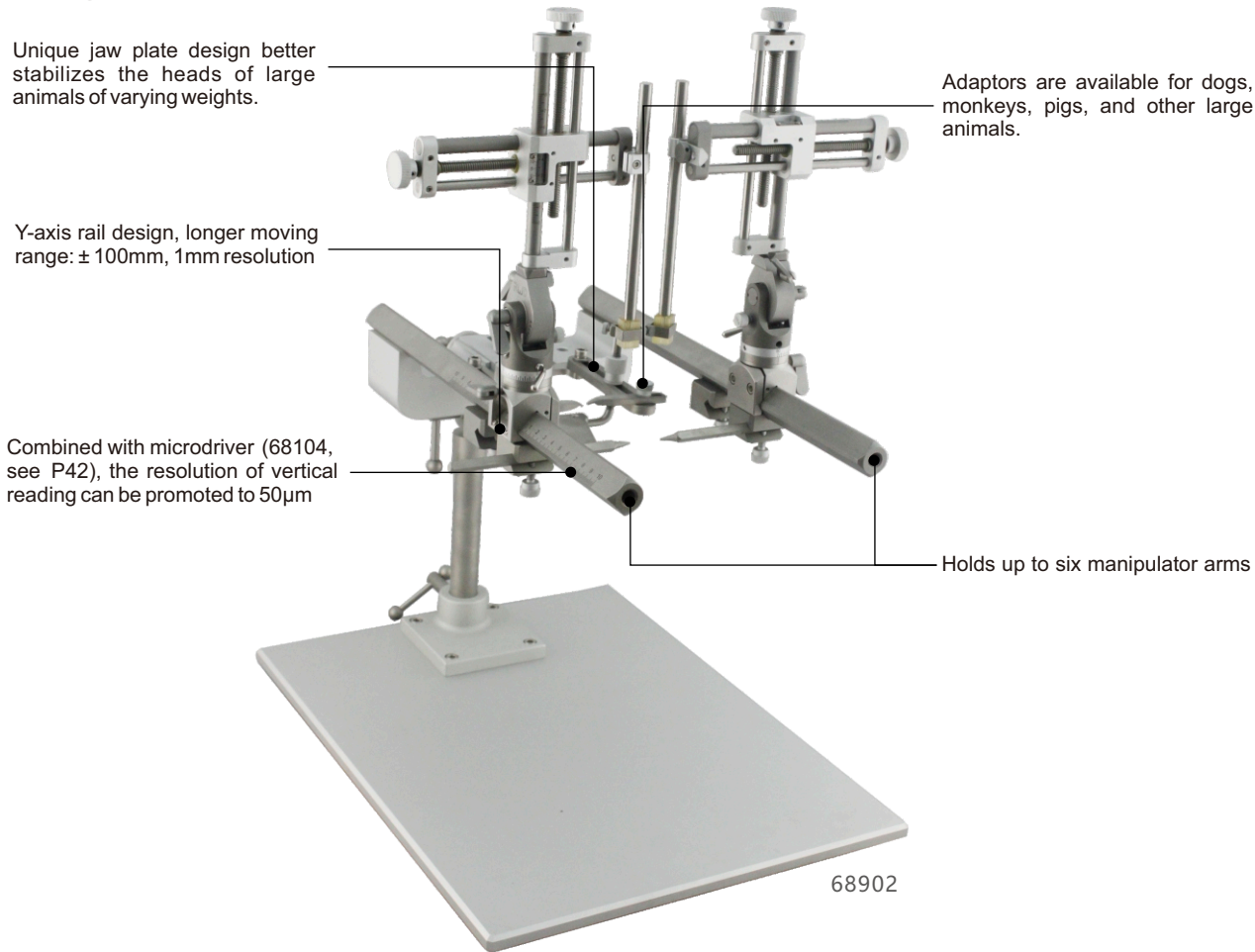
68902

Composition:
68902 is a complete set of stereotaxic, containing 68868N base plate, 68941 two-dimensional manipulator - left, 68942 two-dimensional manipulator - right,68081 dog/monkey adaptor, 68303 cat/ monkey 18 ° ear bar, 68201 standard holder; Digital version 68916 adds 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.	
68941	2-axis Manip for Dog/Monkey Stereotaxic, Left Hand	
68942	2-axis Manip for Dog/Monkey Stereotaxic, Right Hand	Adaptor/ear bar see P37-41
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)

Eye Bar A/P adjustment: 95mm

Palate Bar A/P adjustment: 80mm, D/V adjustment: 35mm

Combined with microdriver (68104, see P40), the resolution of vertical reading can be promoted to 50μm

Holds up to six manipulator arms

Base plate: 420mm(L) x 200mm(W)

Completely plastic materials, MRI compatible, also suitable for nuclear environment

Frame Bar centerline distance: 178.5mm, A/P Bar length: 325mm. A/P Bar scale: ±100mm (ear bar centerline) with 1mm resolution

A/P Bar: 190mm(W) x 190mm(H)

68024

68942

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 P37-41
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 (50μm)	

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
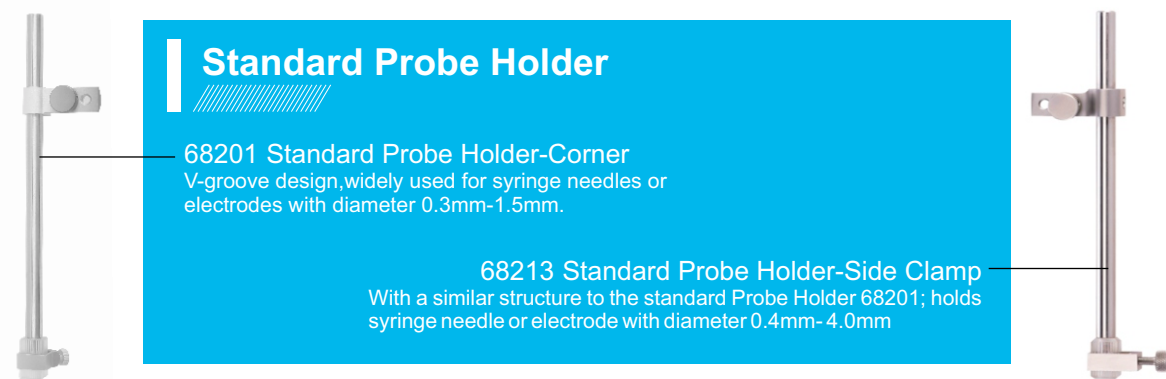
Cannula Holders

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.
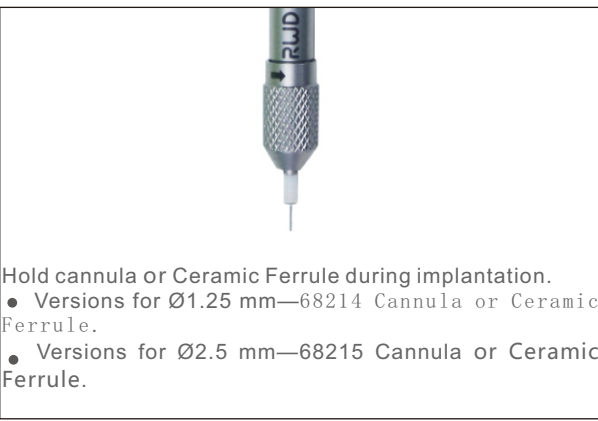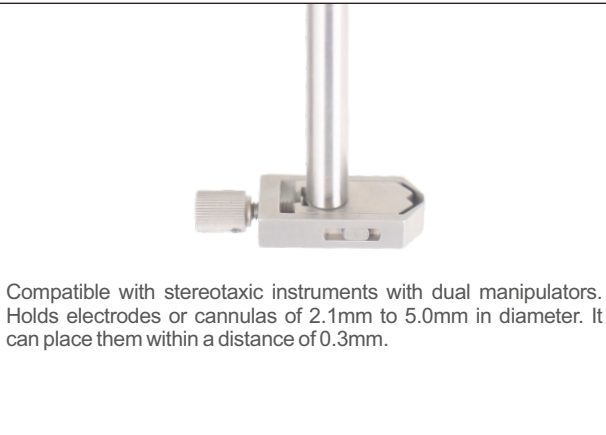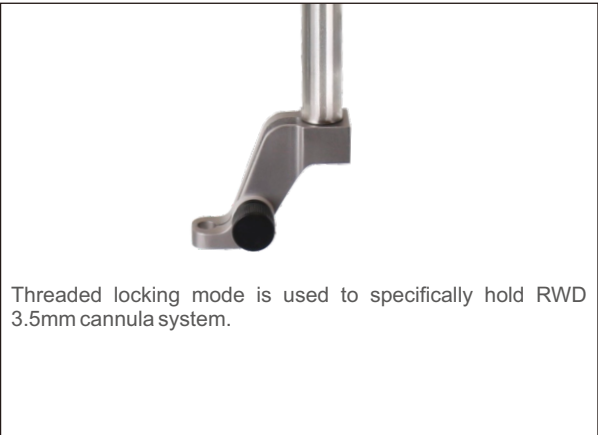
Electrode Holder

68210 Electrode Holder
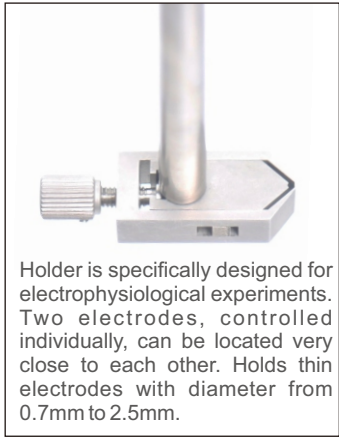
Holder is specifically designed for electrophysiological experiments. Two electrodes, controlled individually, can be located very close to each other. Holds thin electrodes with diameter from 0.7mm to 2.5mm.

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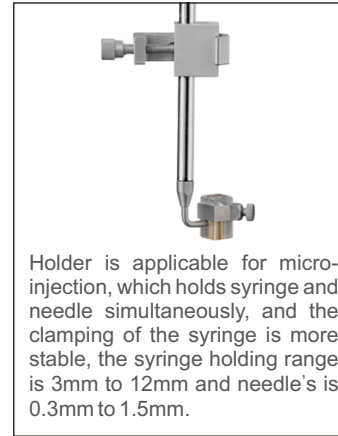
Holder is applicable for micro-injection, which holds syringe and needle simultaneously, and the clamping of the syringe is more stable, the syringe holding range is 3mm to 12mm and needle's is 0.3mm to 1.5mm.

68605 Microdrill Holder
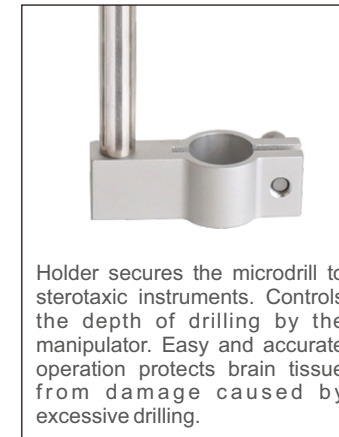
Holder secures the microdrill to sterotaxic instruments. Controls the depth of drilling by the manipulator. Easy and accurate operation protects brain tissue from damage caused by excessive drilling.

68397 Level Calibrator - Rat

B L B
2.25 0 0
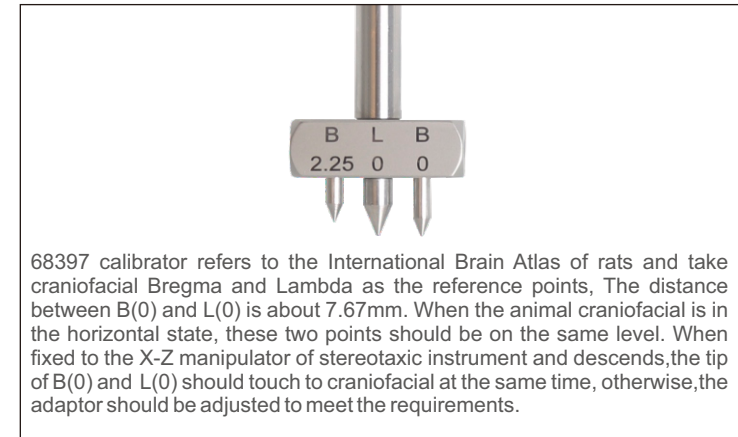
68397 calibrator refers to the International Brain Atlas of rats and take craniofacial Bregma and Lambda as the reference points, The distance between B(0) and L(0) is about 7.67mm. When the animal craniofacial is in the horizontal state, these two points should be on the same level. When fixed to the X-Z manipulator of stereotaxic instrument and descends,the tip of B(0) and L(0) should touch to craniofacial at the same time, otherwise,the adaptor should be adjusted to meet the requirements.

Adaptors ▶

Rat Adaptors

68021 Rat Adaptor
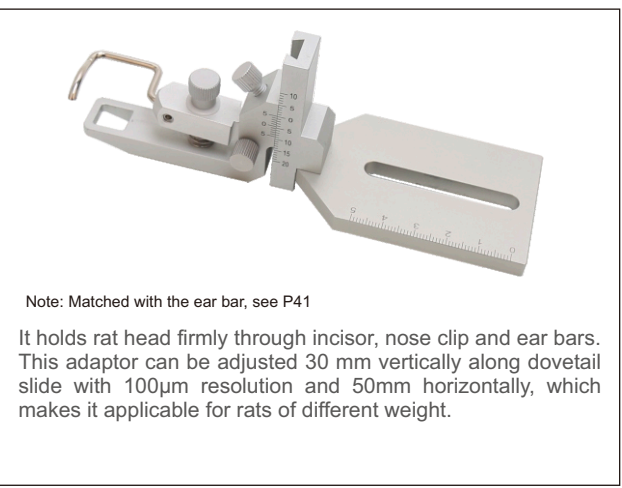
Note: Matched with the ear bar, see P41

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

68053 Rat Anesthesia Adaptor
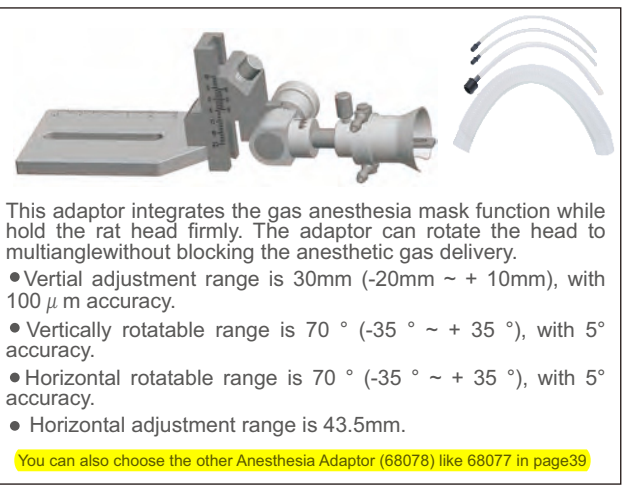
This adaptor integrates the gas anesthesia mask function while hold the rat head firmly. The adaptor can rotate the head to multianglewithout blocking the anesthetic gas delivery.
● Vertial adjustment range is 30mm (-20mm ~ + 10mm), with 100 μ m accuracy.
● Vertically rotatable range is 70 ° (-35 ° ~ + 35 °), with 5° accuracy.
● Horizontal rotatable range is 70 ° (-35 ° ~ + 35 °), with 5° accuracy.
● Horizontal adjustment range is 43.5mm.
You can also choose the other Anesthesia Adaptor (68078) like 68077 in page39

68011 MRI Rat Adaptor (customized)

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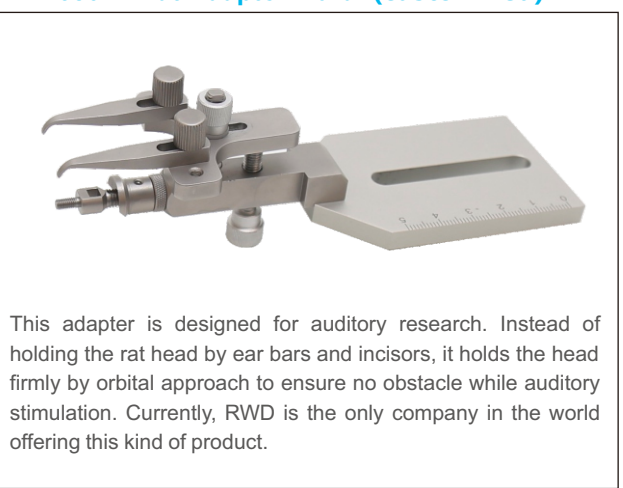
This adapter is designed for auditory research. Instead of holding the rat head by ear bars and incisors, it holds the head firmly by orbital approach to ensure no obstacle while auditory stimulation. Currently, RWD is the only company in the world offering this kind of product.

68063 Rat Rotation Adaptor (with 18 ° ear bar 68310)(customized)
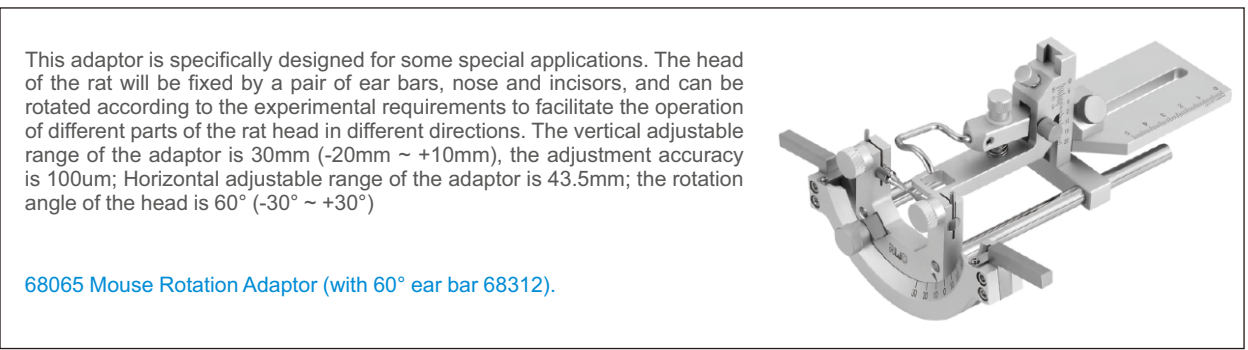
This adaptor is specifically designed for some special applications. The head of the rat will be fixed by a pair of ear bars, nose and incisors, and can be rotated according to the experimental requirements to facilitate the operation of different parts of the rat head in different directions. The vertical adjustable range of the adaptor is 30mm (-20mm ~ +10mm), the adjustment accuracy is 100um; 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).

Stereotaxic

Mouse Adaptors

68030 Mouse/Neonatal Rat Adaptor
(with 18° ear bars 68034 and 45° ear bars 68313)
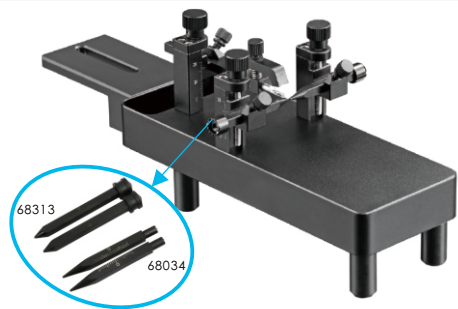
The ear bars of this adaptor are made of resin and the tips are specially treated, which ensures that the head is held firmly without damage to the skull. There are scales on the incisor and the earbars. The height can be adjusted flexibly, which is good for experiments from different angles.

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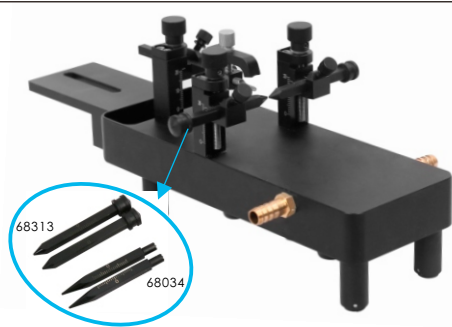
This unique stereotaxic adaptor is upgraded with water-cycled heating platform to use with warm water recirculator. The temperature of the platform surface is stable, uniform and comfortable. Warm water recirculator should be purchased separately(see P44).

68014 Neonatal Mouse Adaptor
(with 20°ear bars 68315 and 45°ear bars 68316)
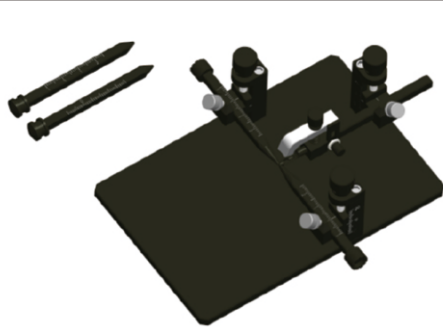
This adaptor is specifically for neonatal mice. It has extended base plate (150mm(L) x 100mm(W)) and provides more operating space for researchers. It can be easily placed on the RWD stereotactic instruments. The incisor, nose clip and ear bars can be adjusted up and down in 20mm range to ensure the skull level.

68072 Neonatal Mouse Anesthesia Adaptor
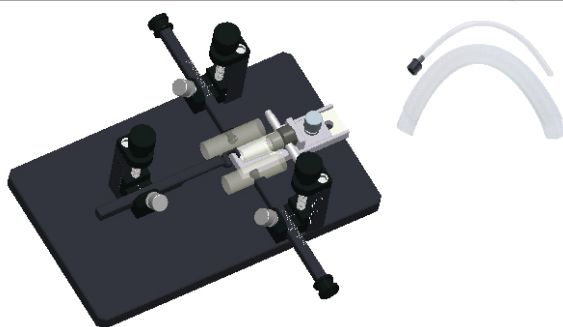
After repeated testing and validation, RWD researchers developed the neonatal mouse anesthesia adaptor suitable for stereotaxic instruments in conjunction with the needs of multiple laboratories. It can achieve lasting gas anesthesia and fixation on neonatal mice without affecting the physiological function. And it's easy to implement long-term brain experiments.

68055 Mouse Adaptor
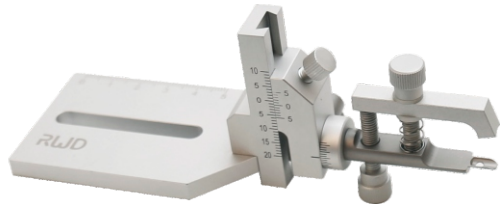
Note: Matched with the ear bar, see P41

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 100μm 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)
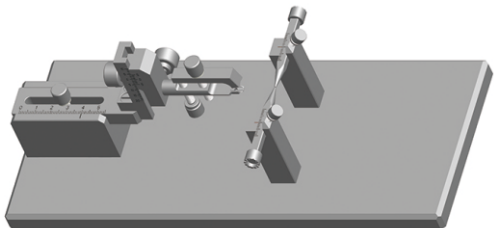
Vertical adjustable range: 30mm (+10mm~-20mm), with 100μm accuracy.
Horizontal adjustable range: 45mm.
Ear bars laser engraved scale, good for operation.
Two ear bar fixing modes for preventing damage to skull.

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 multianglewithout blocking the anesthetic gas delivery.

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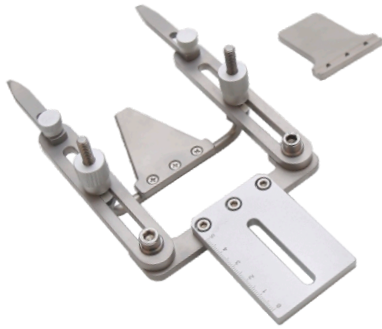● Diameter of inlet/outlet of the mask: 2mm.
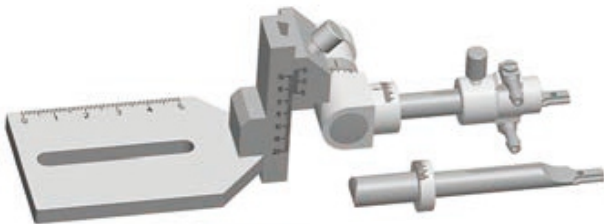
Other Adaptors

68041 Cat/Monkey Adaptor
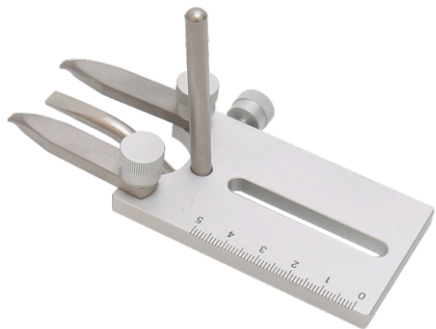
This adaptor includes ear bars and raising block (65mm). It holds the head through ear canal and eye socket. The adaptor can be used with standard stereotaxic instruments and large animal stereotaxic instruments.

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.

68085 Rabbit Adaptor (customized)
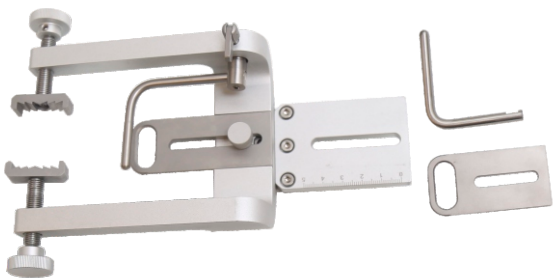
It holds the rabbit head by special malar clamp, adjustable incisor buckle and nose bar. The distance between the two zygomatic clamps can be precisely adjusted by the screw knob.

Ward and backward adjustable range of adult rabbit is 43.5mm, neonatal rabbit is 26.5mm and the adaptor is 40mm.

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.
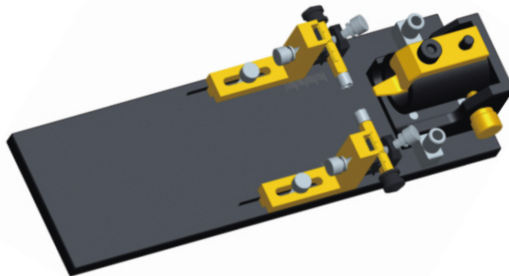
Multi-function Adaptor

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.
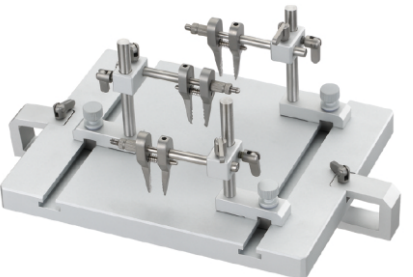
68073 Head Rotation Platform for Rats and Mice

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)
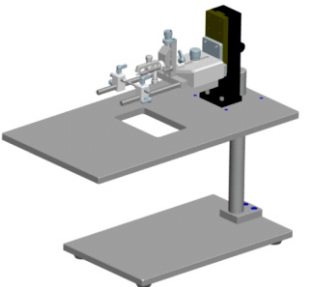
Ear Bars ▶

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

68301

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

68302

Ear Bars, Rat, 45 Deg (for guinea pigs, prairie rats, birds, squirrel monkeys 0.8mm tip)
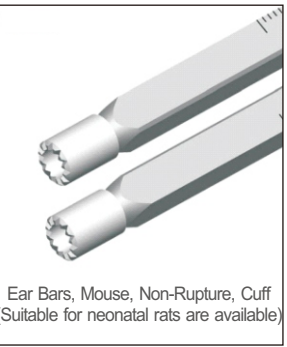
68305

Ear Bars, Rat, Hollow, 45 Deg (for grassland birds, rats, guinea pigs, monkeys 1.0mm aperture tip, 3.0mm aperture)
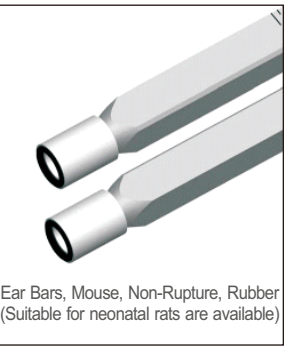
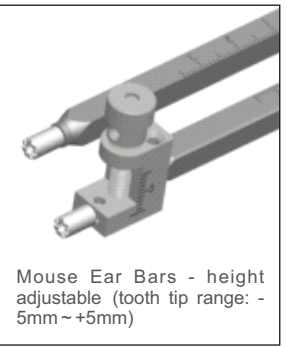#### 68306

Ear Bars, Mouse, 60 Deg

68307

Ear Bars, Mouse, Non-Rupture, Cuff (Suitable for neonatal rats are available)

68308

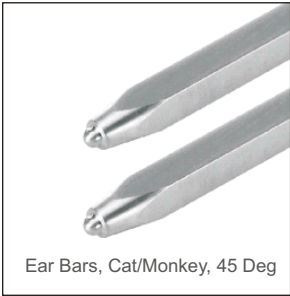Ear Bars, Mouse, Non-Rupture, Rubber (Suitable for neonatal rats are available)

68314

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

68303

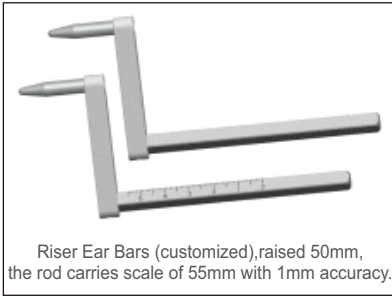Ear Bars, Cat/Monkey, 18 Deg

68304

Ear Bars, Cat/Monkey, 45 Deg

68060

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

68413

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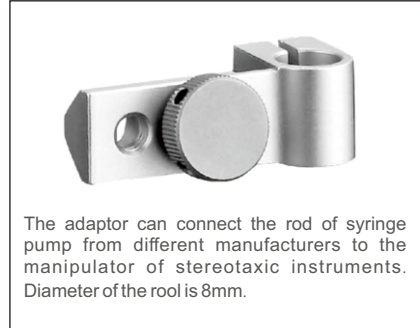the rod carries scale of 55mm with 1mm accuracy.

# 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 rool is 8mm.

R-VTA-08 V-clamp
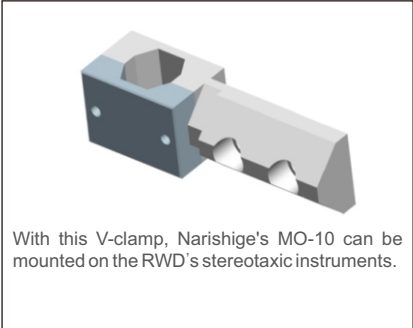
With this V-clamp, Narishige's MO-10 can be mounted on the RWD`s stereotaxic instruments.

68399 Electrode Zero Adjuster (customized)
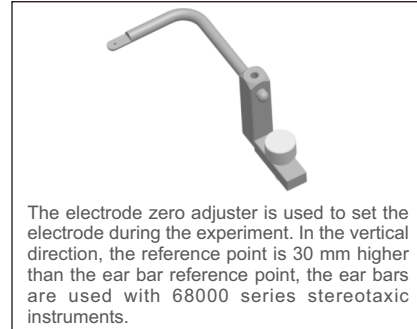
The electrode zero adjuster is used to set the electrode during the experiment. In the vertical direction, the reference point is 30 mm higher than the ear bar reference point, the ear bars are used with 68000 series stereotaxic instruments.

### 68400 Electrode Calibrator (customized)
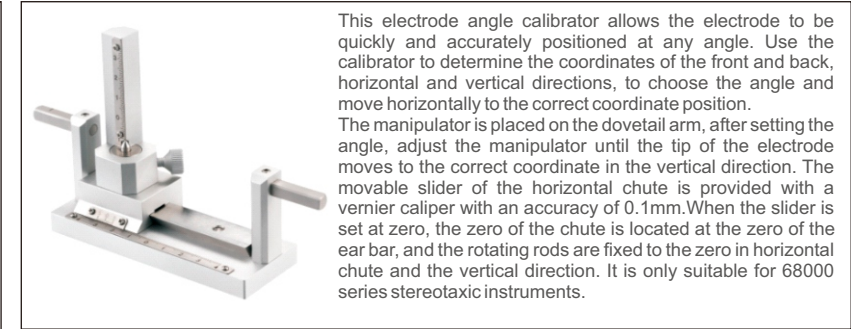
This electrode angle calibrator allows the electrode to be quickly and accurately positioned at any angle. Use the calibrator to determine the coordinates of the front and back, horizontal and vertical directions, to choose the angle and move horizontally to the correct coordinate position.
The manipulator 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)
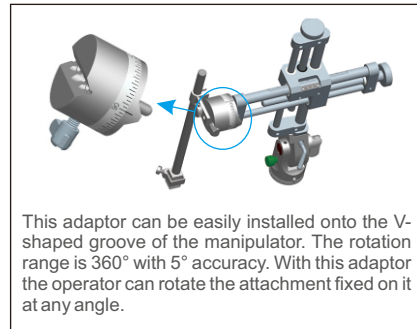
This adaptor can be easily installed onto the V-shaped groove of the manipulator. The rotation range is 360° with 5° accuracy. With this adaptor the operator can rotate the attachment fixed on it at any angle.
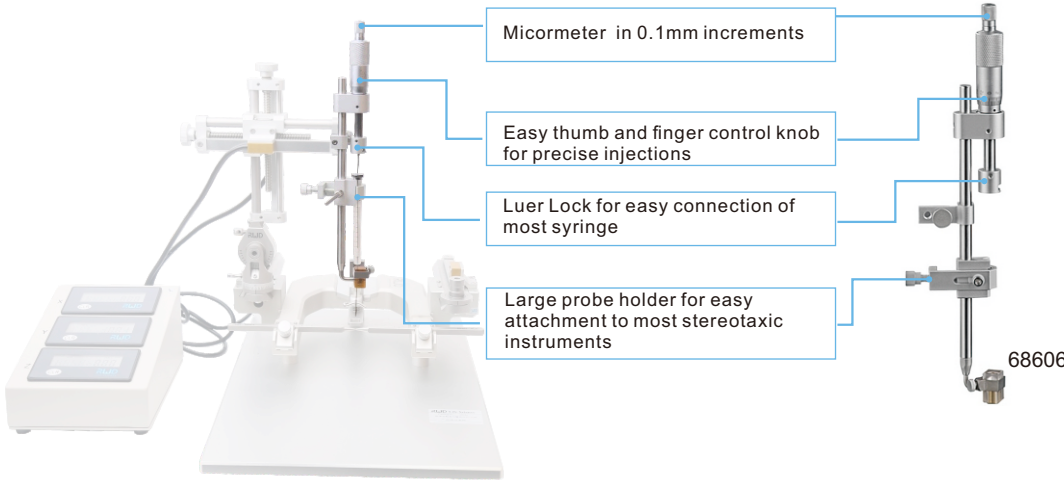
68398 A / P Zero Calibrator (customized)
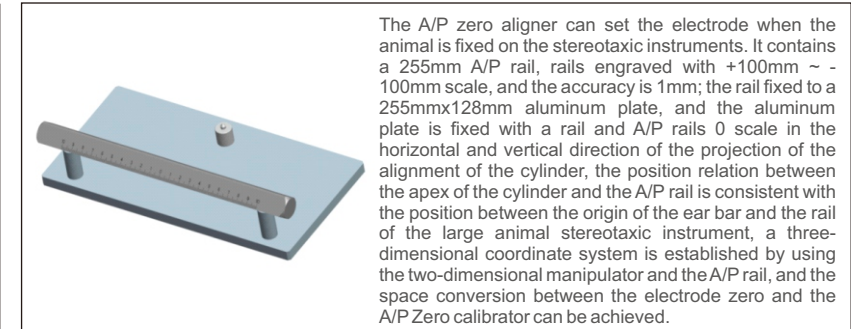
The A/P zero aligner can set the electrode when the animal is fixed on the stereotaxic instruments. It contains a 255mm A/P rail, rails engraved with +100mm ~ -100mm scale, and the accuracy is 1mm; the rail fixed to a 255mmx128mm aluminum plate, and the aluminum plate is fixed with a rail and A/P rails 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 up to 25mm distance, it is an economical and practical microinjection pump!

Micormeter in 0.1mm increments

Easy thumb and finger control knob for precise injections

Luer Lock for easy connection of most syringe

Large probe holder for easy attachment to most stereotaxic instruments

68606

- 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 pu 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 100ul sizes and enables a wide range of volumes to be deliverd-both infusion and withdrawal operation.
- The Manual Stereotaxic injector is graduated in 0.01mm increments. One complete revolution advances the plunger of the syring 0.5mm.

Microdrill

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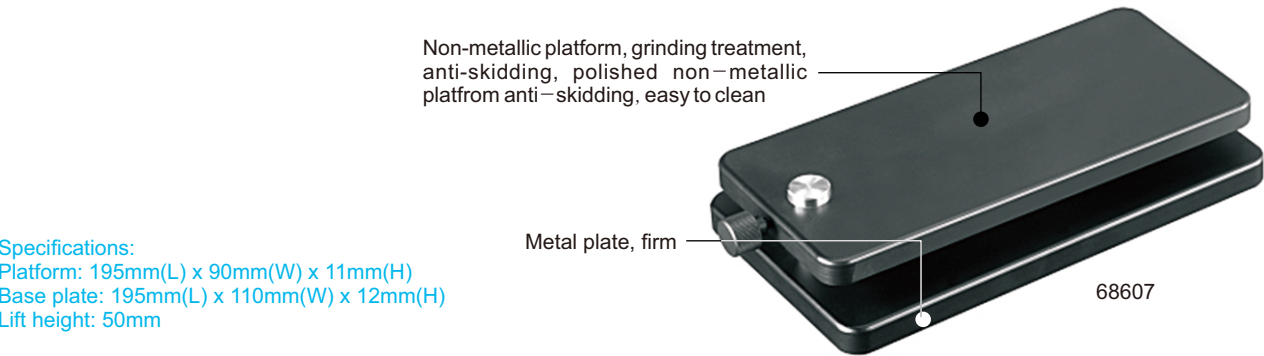
for drilling   for grinding

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		

Stereotaxic

Stereotaxic

Stage Platform

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

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

Metal plate, firm

68607

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

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 homothermic 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 , 0.1 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
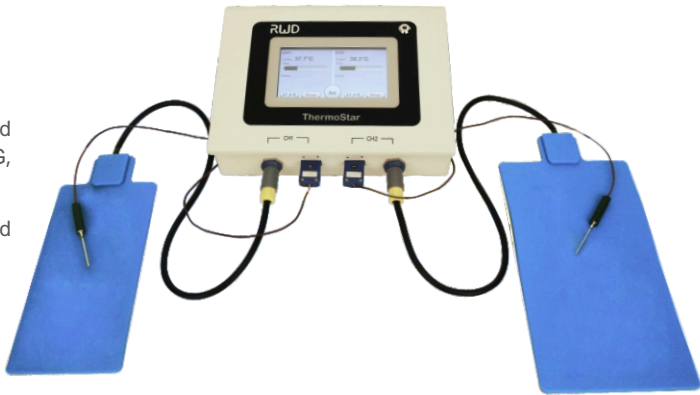
Order Information:

| Type	Cat No.	Product Description	Remarks
Complete system	69020	ThermoStar Temperatuere Controller, 69023 pad incl.	A heating pad (69023) and a temperature probe (69022) are included
	69026	ThermoStar Temperatuere Controller, 69024 pad incl.	A heating pad (69024) and a temperature probe (69022) are included
	69027	ThermoStar Temperatuere 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 55℃.
● Intelligent keys, easy to operate, simple and intuitive.
● Alarm and off-power due to water depletion and over temperature protection assure safety.
● Power: 110v/220v, 50/60Hz, 60W;
● Dimension: 236mm*160mm*115mm.

68661 68662

68036

68661 68662

68664

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
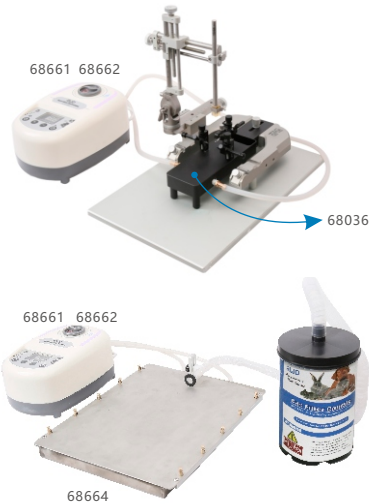
LED Fiber-lite Illuminator

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

The halogen fiber-lite illuminator adopts dual－piple 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, whith 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(1 pair)
76313	LED Fiber Optic Illuminator Controller, 20W, 90-260V	
76314	Double Fiber	
76315	Kohler Condenser (1)	

Stereotaxic

Stereotaxic

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 diameterφ20mm
2	Objective Lens	0.7X-4.5X Objective lens ratio 1:6.4
3	Binocular Drawtube	Pupil Distance 55-77mm Diopter adjustment±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
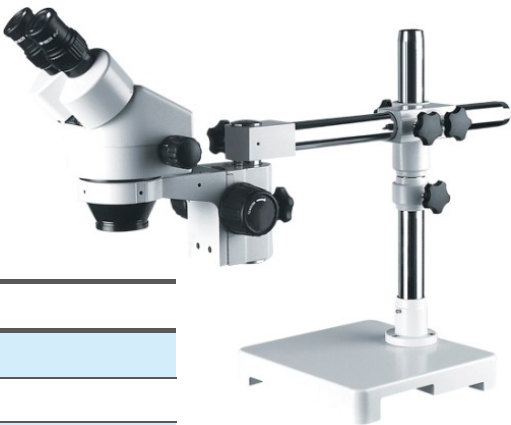
77001

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 coldreflection)
- 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±10%, 50Hz±1Hz   Input power: 120VA
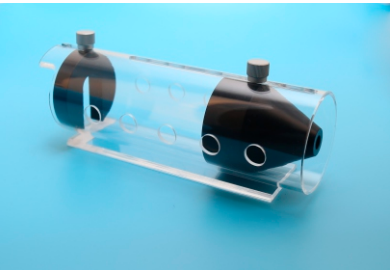- Fuse: AC250V T1.25A   Net weight: 41kg

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.

Restrainer

★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.

Taper restrainer

Ordering Information：

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

Rat & Mice Shaver

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

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