



Individually Ventilated Caging System (IVC)

Biocontainment IVC System

Animal Cage Washer

Animal Bedding Dispenser

Animal Water Bottle Filling System

Animal Cage Changing System

Bedding Disposal Unit

Laboratory Animal Cages & Equipements

Instruments for Teaching Pharmacology and Physiology

Instruments for Pharmaceutical Research

Instruments for Preclinical Research

Trackezi Video Tracking Software & Mazes

About Us

At Orchid Scientific one of our values is customer success, we are in constant contact with our customers working closely to ensure they are successful with our technology. We're always happy to discuss your needs. Our people come from different backgrounds: science, software, education, solutions, technology and more. What we all have in common is a passion for what we do and the field we work in.



Quality Policy

To manufacture and deliver quality products efficiently by performing the defect free correct tasks, on time, every time and surpass the expectations.

Manufacturing Facilities :



Laser Cutting Machine



Injection Molding Machine



CNC Router



Welding Area



Electronic Assembling Area



Mechanical Assembling Area



Quality Control



Sales Team

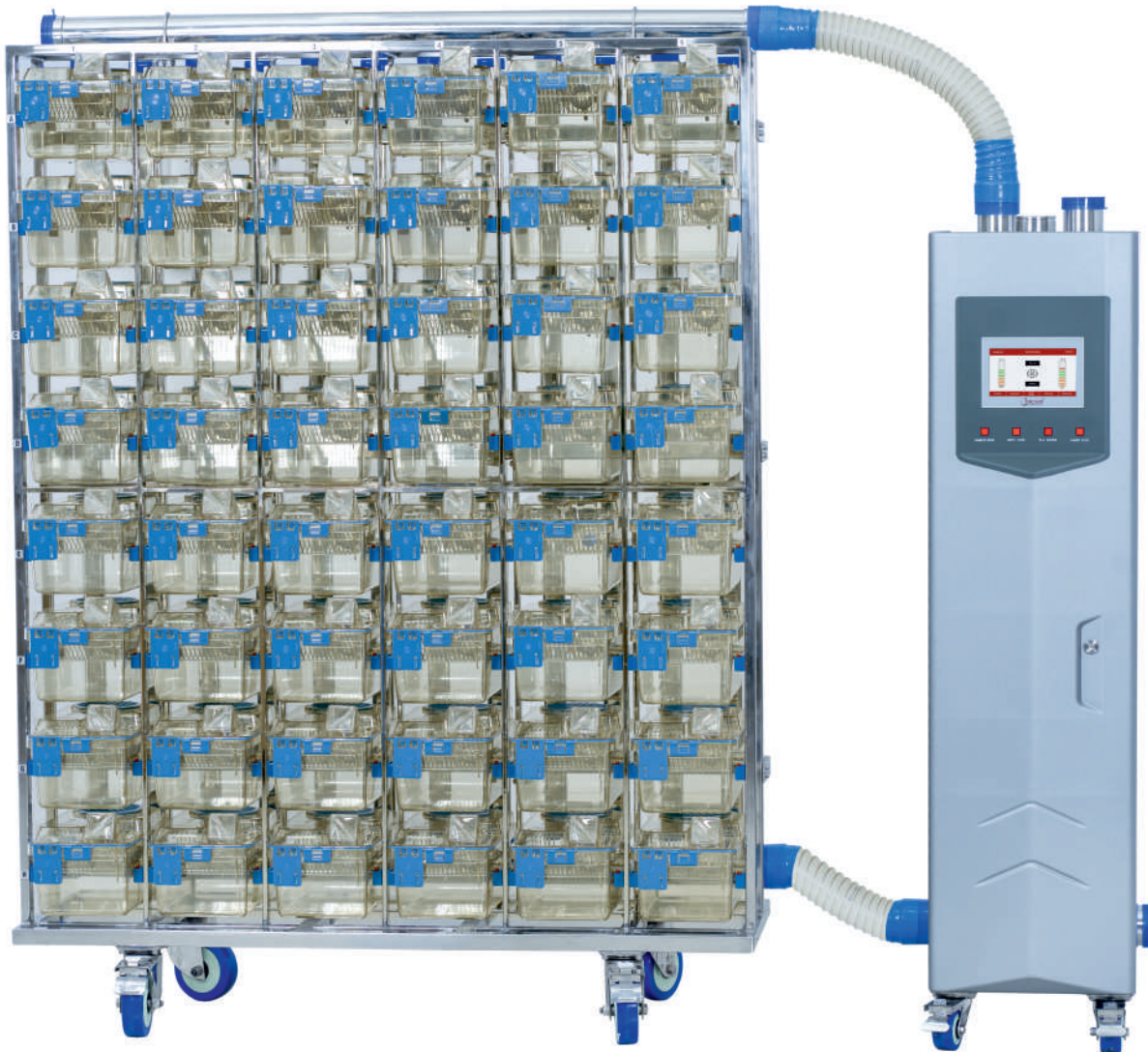
R & D

Orchid Scientific is continuously involved in the process of R & D and to achieve this we have our in house R & D centre. To test the developed products Orchid has signed M.O.U. with educational institutes like M.G.V. Pharmacy College, Sandip Institute of Pharmaceutical Sciences etc. to use laboratory animal house facilities for testing of developed products.



Individually Ventilated Caging System : (Technology built to protect animals and researchers)

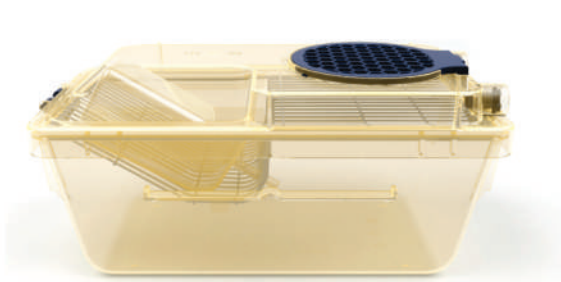
Orchid's IVC system not only ensures high biological safety for laboratory animals and scientists, but also matches the at par level of compliance for safety, animal welfare and ergonomics.



Unique Features :

- Silicon gasket in the cage lid giving advantage over the other systems using nylon gasket on the grill in terms of more sterilization cycles and protection from the dents.
- Larger breathing filter area giving more time for animal survival in case of power failure.
- Excellent lid stackability ensuring protection to locks and prevent damage to the lock during cleaning, washing and autoclaving.
- PLC error function in the air handling unit giving alarm in case of any error in the PLC controller and analogue mode to run the system in case of PLC error.
- Cage for rat and guinea pig is fitted with two air supply and two air exhaust ports for more efficient ventilation.
- H2O2 disinfection mode with logs.
- AHU is fitted with microprocessor based PLC device & differential pressure switch to control the parameters and maintain filter load compensation automatically.
- Air supply and Exhaust nozzles are fitted on lid that is above animal level avoiding stress to animals.

Individually Ventilated Cage for Mice & Rat :



US 300, US 500, US 530
(Mice)



US 900
(Rat & Guinea Pig)

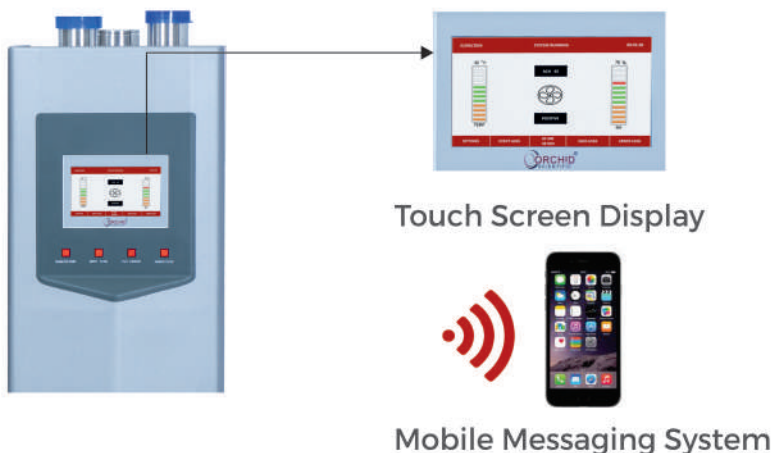
Ergonomics :

- Quick finger touch swing type locks enabling quick locking and unlocking at the same time giving safe locking.
- Card holder fitting on the edge gives visibility of animal inside the cage.
- External self centering water bottle enabling quick bottle change without removing cage.
- Snap fit filter holder enabling easy removal of filter.
- Excellent lid stacking without damaging cage locks.
- Cages are made of polysulfone polymer with transparency enough to reveal the contents inside.
- Systematical cage bottom from both end without any projections inside.
- All components of Cages like Cage lid, Tray, Lock, Card holder, Filter plates and bottle are made of polysulfone material, air tight spring loaded air inlet, air outlet and bottle inlet valves ensure no air leakage and sterilization.
- Silicone compression seal in the lid ensuring complete seal around the cage.

Safety :

- Air tight spring loaded air Inlet, air outlet and bottle inlet valves ensure no air leakage.
- Silicone compression seal in the lid ensuring complete seal around the cage.

Air Handling Unit : (Option of UV Disinfection)



Ergonomics :

- Light weight easy to move system with Touch screen display at eye level.
- Separate indicators on the control panel for indication of Parameters out of range, Supply HEPA filter change and exhaust HEPA filter change.
- Easy access to pre filters for routine cleaning.

Animal Welfare :

- Standalone separate Air Handling Unit gives less vibrations and noise level to cage level.
- Continuous monitoring of Temperature, % RH, and provision to set limits.
- Mobile messaging system for error logs enabling user to take immediate action to protect animals*. (*Optional)
- Multiple ventilator connectivity and control from computer or mobile through Ethernet port (*Optional)
- Data logs are downloaded on the computer through an Ethernet port.
- AHU unit is fitted with an inbuilt UV-C light inside the cabinet for disinfection of the exhaust air coming from cages before releasing to the external environment (*Optional)

Economics :

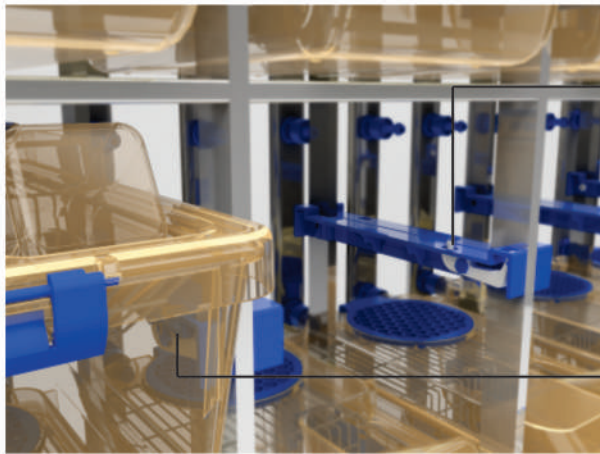
- Low power consumption and less maintenance blowers.
- Standalone Air Supply Unit can connect to 2 double sided or 4 single sided racks.
- Both supply & exhaust air streams are HEPA filtered. All HEPA filters are DOP tested for efficiency of 99.99% for 0.3 μ particles.

Compliance :

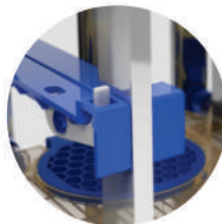
- Two level password protected system ensuring restricted access.
- Auto data logging of parameters after every 2hrs.
- Error logs for parameters out of upper and lower limits set.

Racks for individually Ventilated Cages :

Orchid's IVC Racking offers complete flexibility to meet any laboratory design. Fully mobile racks are available in wide range of cage capacities and in addition to that further racks can be added at any time to the existing Air Supply Unit.



Incorrect Fitting/ No Cage



Correct Fitting

- Cage holding rails fitted with visual docking indicators to ensuring proper fitting of cage.
- Spring loaded non rupture air supply and exhaust valve.
- Press fit air supply and exhaust valve allows easy removal for cleaning purpose.

Efficacy and Efficiency :

Orchid's IVC system is designed by taking into consideration air flow pattern, uniform air distribution air velocities at animal level and differential pressure.

Cage design is optimized by CFD analysis for ensuring the uniform air distribution without any deadspot in the cage.

Further system is tested for various parameters ensuring that product delivered performs to the highest level of biological safety at the same time ensuring animal welfare.

- Air velocity within the cage
- Air velocity at animal level
- Short circuit air flow
- Inleakage
- Sound level
- Vibrations within the cage
- Air leakage through silicon gasket using smoke test
- Pressure holding capacity of cage with lock.

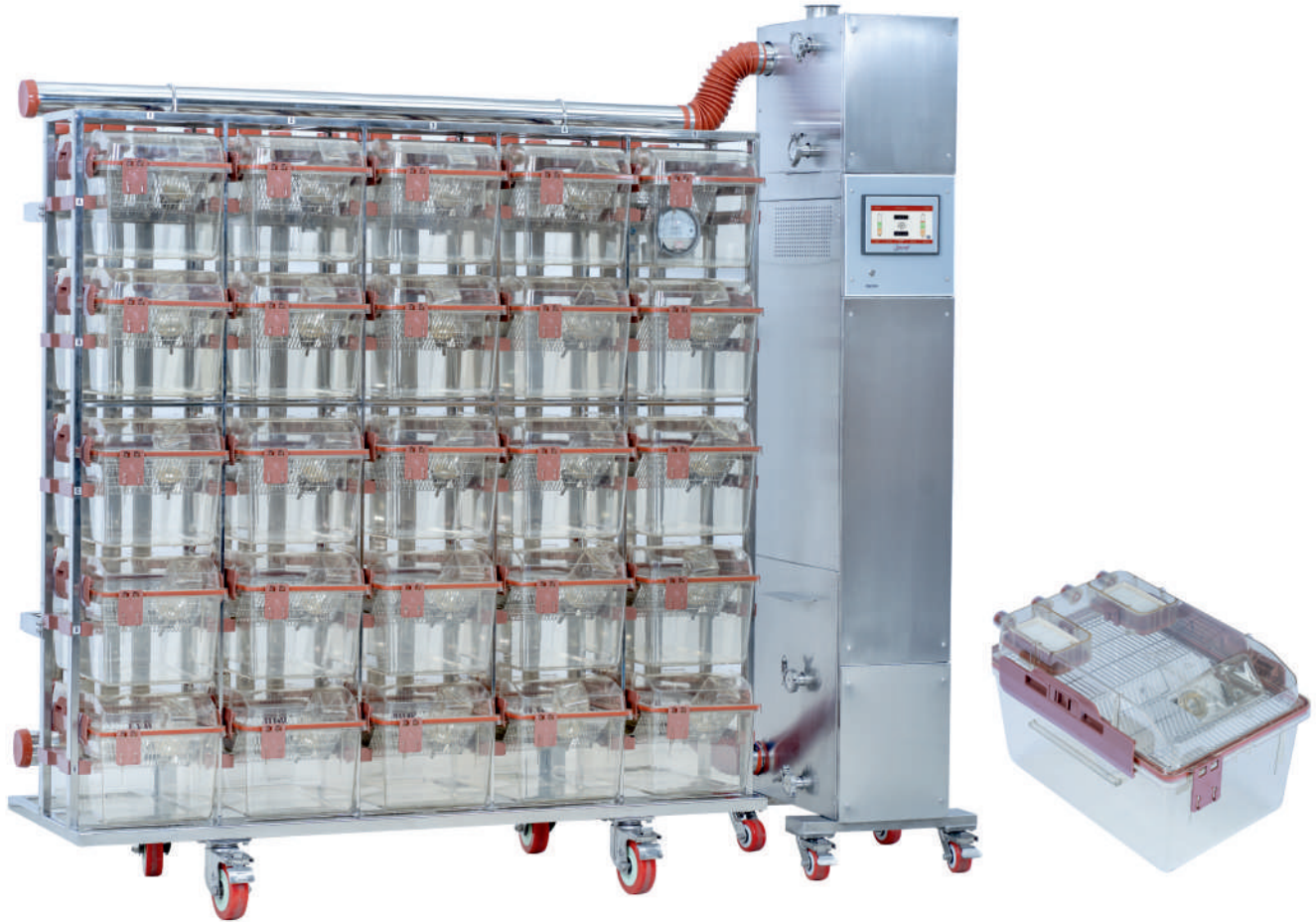
Advantages Of Orchid's IVC System Over Other Available Brands

Parameters	Orchid	Others
IVC Ventilator Unit (AHU) with UV-C light for disinfection of exhaust air.	Orchid's IVC Ventilator Unit (AHU) is fitted with inbuilt UV-C light inside the cabinet for disinfection of the exhaust air coming from cages before releasing to external environment. Providing Three-stage exhaust air treatment- Pre-filter, HEPA Filter, and UV-C lamp.	No additional protection for disinfection of exhaust air.
IVC Ventilator Unit (AHU) with PLC error indication & Analogue Mode.	Orchid's IVC Ventilator Unit (AHU) has PLC error indication provision, so in case of PLC failure, the error lamp will glow and user can run the system in manual mode without need of PLC. This will prevent immediate failure of system due to PLC error.	No alternative for PLC control. If PLC fails, complete system will stop.
IVC Ventilator Unit (AHU) with Hydrogen Peroxide Disinfection mode.	H2O2 disinfection mode is provided inbuilt and log for the disinfection cycle is also taken for compliance.	No H2O2 mode and logs.
Cage Lock Ergonomics.	Orchid's IVC Cages have specially designed finger touch lock which gives easy to operate air tight cage and these locks are made of Polysulfone material. Locks are designed in such a way that, when lids are stacked for cleaning and washing, locks of lid don't touch each other preventing any damage to the lock.	Cage lock are made from Nylon material. Cage locks are more prone to breakage as locks touch each other during lid stacking.

More secure Lid gasket – Less Maintenance	Special grade silicone gasket is securely positioned inside the groove of the cage lid protecting it from damage and at the same time imparting an air tight safe system	Hard nylon gasket gets dents during the handling and leads to air leakage. Nylon gasket is fitted on stainless steel grill which is open from all sides and easily gets damaged leading to more recurring maintenance cost. Some cages have silicon gasket fitted either on tray or on the grill so that gasket is open for any physical damage during cleaning, washing and autoclaving.
Rat IVC Cage floor space and Double supply and exhaust valves	Orchid's Rat IVC Cage has floor space of more than 900 cm sq. accommodating more number of animals compared with cages of other suppliers. Similarly, to achieve proper ventilation, Orchid's Rat IVC Cage is fitted with two air supply and two air exhaust valves giving sufficient ventilation.	Floor space equal to 800 cm sq. accommodating lesser animals. Cage is fitted with only one supply and exhaust valves giving lesser ventilation to the animals.
Cage with Enhanced breathing filter area	Orchid's Mice IVC Cage has breathing filter area of 105 cm sq whereas Rat IVC cage has breathing filter area of 208 cm sq.	Breathing filter area of Mice and Rat IVC Cage is just 45cm sq
Performance evaluation	Orchid's system is tested for different evaluation tests like Smoke recovery test, Aeraulic test, air velocity at animal level, air leakage test, Differential pressure test, Vibration test, sound level test on site.	Only sound level, Aeraulic test is done on site.
Low maintenance cost of Spares	All cage plastic parts like Cage filter plate, cage lock, rack valve are made from polysulfone polymer so they have more life compared to the parts made of Nylon.	Cage and rack plastic parts are made from nylon material, so there are more chances of breakage, leading to recurring maintenance cost.

Biocontainment IVC System :

The biocontainment mouse or rat IVC cage is developed for raising infected animals in the laboratory. It prevents release of contamination from cage to the environment and prevent cross-infection between different cages. Orchid's Biocontainment IVC System gives safety as of an isolator along with advantages of an IVC System. Exhaust air is HEPA filtered at cage level. Further in addition to the cage level HEPA filtration, Exhaust unit inside the Air Handling Unit is fitted with UV-C light for the disinfection of the exhaust air before releasing to the environment ensuring additional safety.



Features :

- Constant high negative pressure.
- Cage level HEPA filtration ensuring confinement of biocontainment within the cage.
- UVC light fitted inside Air Handling Unit gives additional disinfection ensuring complete safety.
- Additional locks and spring-loaded cage inlet and outlet valves ensure hermetic cage.
- Self-closing rack valves ensuring.
- Twin blower system ensuring safety even in case of blower failure.

Ergonomics :

- Card holder fitting on the edge gives visibility of animal inside the cage.
- Excellent lid stacking without damaging cage locks.

Animal Welfare :

- No direct air drift at animal level, air inlet and outlet at the top level ensures less animal stress and heat loss.
- System is fitted with battery back unit ensuring animal safety in power failure.

Safety :

- Air tight spring-loaded air inlet and air outlet valves ensure no air leakage.
- Silicone compression seal in the lid ensuring complete seal around the cage.

Animal Cage Washer (Cabinet Type) :

Orchid's Cage and Bottle Washer is designed for facilities that require a heavy-duty washer with the same features as a floor mounted cage washer but in a cabinet configuration. The automatic cage washer equipment designed by Orchid Scientific is according to the requirements of users in the laboratory animal industry for cage cleaning. It uses hot water combined with acidic or alkaline cleaning agent, high pressure and large flow spray method to achieve the automatic spray cleaning process for cage boxes, box covers, metal gride and drinking bottles.



Cleaning Principle

Water in the cleaning chamber is circulated using the circulating pump and sprayed at higher pressure over the uncleaned cages through the spraying arm and nozzles so as to clean the cages. High-temperature purified rinsing water is recycled as the cleaning water for the next process, saving resources.

Animal Bedding Dispenser :

Orchid's Bedding Dispensers are designed to fill animal bedding material quickly and accurately into the animal cages. By providing a consistent volume of bedding material, a bedding dispenser will help reduce overall waste and cost consumption. Animal bedding dispensing equipment helps to create a safer work environment by removing the dust generated while adding the bedding material in the cage. Our animal bedding dispensing equipment maximizes overall efficiency, while our simple-to-use and programmable screen make for easy operation. Equipment is fitted with Two-stage HEPA high efficiency air filtration system.



Animal Water Bottle Filling System :

Orchid's automatic Animal Water Bottle Filling System is useful for filling drinking water in the animal cage water bottles efficiently and accurately with minimum spillage. Equipment is fitted with touch screen display to set the volume of water to be dispensed. Tray for holding for the water bottles as per the size of bottles can be customized.



Animal Cage Changing Station :

Orchid's Animal Cage Change Station gives the best allergen, microbial, and product protection, at lowest energy consumption and noise, while giving the ultimate user comfort. Orchid's cage changing station has upstream and downstream dual air flow system which prevents hazardous allergens from escaping the work zone and external contaminated air from entering the work zone.

- CCS-01 (Fixed Height)
- CCS-02 (Adjustable Height)



Bedding Disposal Unit :

Orchid's animal cage bedding disposal units are portable units designed with the respiratory health of animal care workers in mind. Each unit draws bedding dust, dander, and allergens away from personnel and exhausts 99.99% HEPA-filtered air into ambient atmosphere.



Open Type Laboratory Animal Cages and Equipments

Housing For Mice & Rat :



Polypropylene Mice Cage
Model: SMP 01



Polycarbonate Mice Cage
Model: SMC 01



Euro Style Polysulfone Mice Cage
Model: EMUC 01



Polypropylene Rat Cage
Model: SRP 01



Polypropylene Rat Cage
Model: SRP 02



Polypropylene Rat Cage
Model: SRP 03



Polycarbonate Rat Cage
Model: SRC01



Polycarbonate Rat Cage
Model: SRC02



Euro Style Polysulfone
Rat Cage Model: ERUC01



Trolleys for Mice and
Rat Cages Hanging Type Rack



Trolleys for Mice and
Rat Cages Sliding Type Rack



Euro series Trolleys for
Mice and Rat Cages

Metabolic Cages :



Metabolic Cages
For Rat



Diuresis Cage
For Rat



Diuresis Cage
For Mouse



Metabolic Cages
For Rabbit & Guinea Pig

Housing For Rabbit :



Rabbit Cage Standard Type



Rabbit Cage Breeding Type



Trolley With Inbuilt Polypropylene Rabbit Cages

Housing For Guinea Pig :



Polypropylene Guinea Pig Cage (Raised Grill Type)



Polypropylene Guinea Pig Cage (Top Door Type)



Guinea Pig Cage (Standard Type)



Trolley For Polypropylene Guinea Pig Cages



Trolley With Inbuilt Polypropylene Guinea Pig Cages



Guinea Pig Pans

Others :



Quil Cage



Chicken Cage



Animal Restrainer For Mice & Rat



Animal Restrainer For Rabbit (Stainless Steel)



Animal Restrainer For Rabbit (Acrylic)



Euthanasia Chamber



Animal Identification Devices



Animal Feeding & Dosing Needles











Animal Water Feeding Bottles

Laboratory Animal Enrichment Devices :

Enrichment products designed to accommodate the behavior traits of individual animal species can stimulate lab animals' physical and mental activity. A research environment can be a stressful and unnatural setting for laboratory animals. Enrichment device enhances the animal's physiological and psychological well-being, prevent stereotypical behavior, promote the expression of species-specific behavior, and improve animal welfare. Therefore, Environmental Enrichment is an essential component of a successful research program. Environmental enrichment is an easy and efficient way of enhancing animal welfare in any species. As the importance of improving animal welfare has grown in significance, so has the range of Enrichment products.

Enrichment Devices for Mouse and Rat

 Biohut For Rat	 Biohut For Mouse	 Biotunnel For Rat	 Biotunnel for Mouse
 Crawl-Ball	 Rat Tunnel	 Mouse Tunnel	 Mouse fort

Enrichment Devices for Rabbit & Guinea Pig

 Guinea-Pig Huts	 Rabbit Huts	 Jingle Balls	 Dumbbells
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Laboratory Primate Cages

Orchid's Primate Cages have been designed with enhancements to improve the psychological wellbeing and environmental comfort of monkeys. Animals' natural behaviour and activity profile and behavioural assessment have been taken into consideration and evaluation for a suitable housing solution.

Features

- Stainless Steel Cages and Rack for Monkeys.
- Cage with Squeezer system.
- Cage with Physical Enrichment/sitting perch.
- Cage front with a suitable locking system to hold the door at 3 different positions (Bottom, middle & top) bottom Excreta Tray with an inclination for collection of urine.
- Provision of Feed hopper, water supply, and cardholder.
- Firm-appropriate advanced locking system at the bottom to prevent animals from escaping.
- Stainless Steel Rack/Trolley for holding 4 Monkey cages.



Metabolic Cages For Small Rodents :

(For Collection of Feces & Urine From Experimental Animal)



Rat



Mouse

Orchid's metabolic cage offer better separation efficiency of urine and feces assuring maximum purity of samples.

Components below the cage floor like collection tubes are removable without disturbing animals allowing tests to be conducted over a prolonged period of time without interruptions. Animal waste is directed through a collection funnel and onto a linear diffuser guide. The diffuser guide allows solid matter to travel down the top ridges of a 50% incline, passing over a urine port, and into a fecal collection vessel. Liquid waste flows along grooves down the inclined diffuser guide, passing through the urine port, and into a urine collection vessel. A urine deflector prevents excess urine from splashing and contaminating fecal specimen. Separate urine and feces samples are collected in two separate tubes.

Features :

- Reliable experiment results due to better separation efficiency.
- Food hopper design reducing the access or stay of animal inside food hopper.
- Practicality of use due to less components or parts.
- Minimal Animal Stress : Meets CPCSEA requirements, Sample removing is without stressing animal, access to all elements below the cage floor without disturbing animal.
- Durability : Most components are made from autoclavable polycarbonate and S.S. 304 material.
- Versatility : Unit accommodates various species with simple feeder and floor change.
- Space saving.
- Economy: Few parts, simple and rapid assembling.

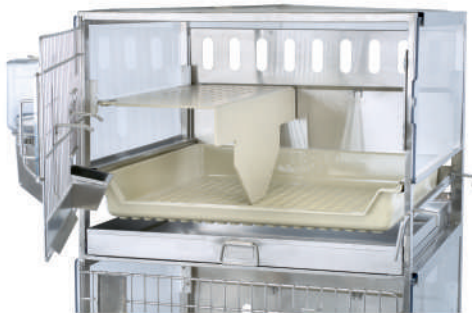
Trolley For Rat Metabolic Cages (Mode: RMC 03)

- Our mobile, stainless steel rack can accommodate up to four, eight or ten metabolic cages per rack.
- The two tier construction ergonomically positions metabolic cages at convenient height levels for easy observations and routine maintenance..
- Racks are designed to minimise the number of parts necessary, thus reducing labour and saving your valuable time.
- Racks are supplied in parts ready to assemble for ease of transportation.



Euroseries Rabbit Cages :

Euro Rabbit Cage System is the latest upgraded model with improved ergonomics, additional options like auto- water drinking system, and reduced costs all while providing a safe, secure, and long-lasting housing solution for our partners and their research. This system has an inbuilt feature of enrichment devices and large and comfortable spaces with the provision of removable partitions providing a facility for socializing for cage inhabitants.



Cage With Noryl Floor



Cage With P.P Floor

Animal Welfare :

- Noryl perforated floor assures no sharp edges enhancing animal comfort.
- Smooth and rounded extrusions adjacent to the perforations allow more efficient drain into to excreta tray and also provide warm, quiet walk space reducing sore animal hocks.
- Raised platform provides an ideal enrichment environment.
- The rack interlinking system gives provision to increase floor space and socializing for cage inhabitants.

Ergonomics and Quality :

- Noryl polymer ensures repeated and longer sterilization cycles.
- A fast-dry roof design results in quicker and easier washing procedures.
- A push-and-close system allows the gate to be closed easily even while holding animals reducing stress in the animals.
- Plastic cage body and pan-resistant to alkaline and acid detergents.
- Transparent removable side panels allow clear visibility of the entire cage.

Instruments For Teaching Pharmacology and Physiology



Muscle & Heart Bath



Automatic Organ Bath



Universal Kymograph
With Inbuilt Stimulator



Sherrington
Recording Drum

Instruments For Pharmaceutical Research



Diffusion Cell Apparatus
(Model - EMFDC- 06)



Diffusion Cell Apparatus
(Model - JFDC- 07)

Instruments For Preclinical Research

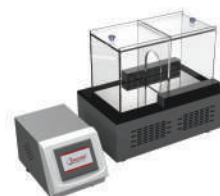
Pain and Inflammation :



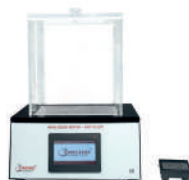
Analgesia Meter Tail Flick



Heat Flux Meter



Thermal Place Preference



Analgesia Meter
Hot Plate



Analgesia Meter
Hot & Cold Plate



Digital Paw Pressure
Analgesia Meter



Digital Plethysmometer

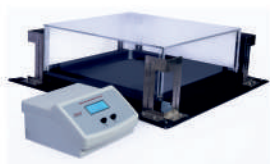


Incapacitance Meter
For Mouse and Rat



Rodent Activity Wheel

Motor Coordination :



Infrared Actimeter



Treadmill Apparatus
For Rat & Mice



Rotarod Apparatus
with Acceleration Mode



Grip Strength Meter

Other :



Cook's Pole Climbing Apparatus



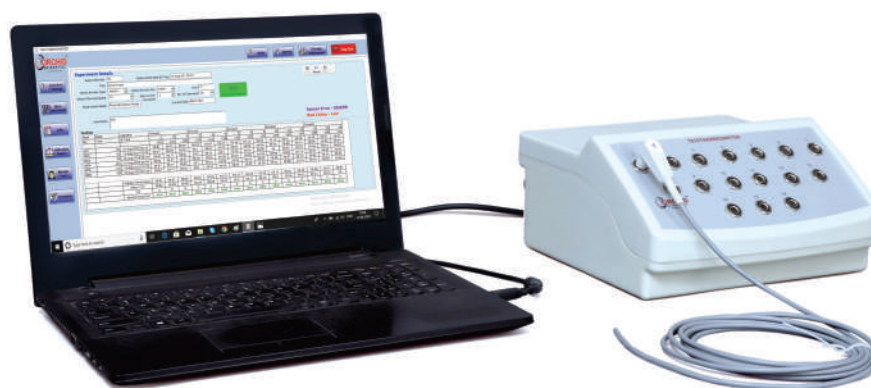
Vogel Test Apparatus



Electroconvulsimeter

Pyrogen Test Apparatus : (Telethermometer)

(Multichannel PC Based, Pharmacopoeia Protocol) For measuring the temperature of laboratory animals



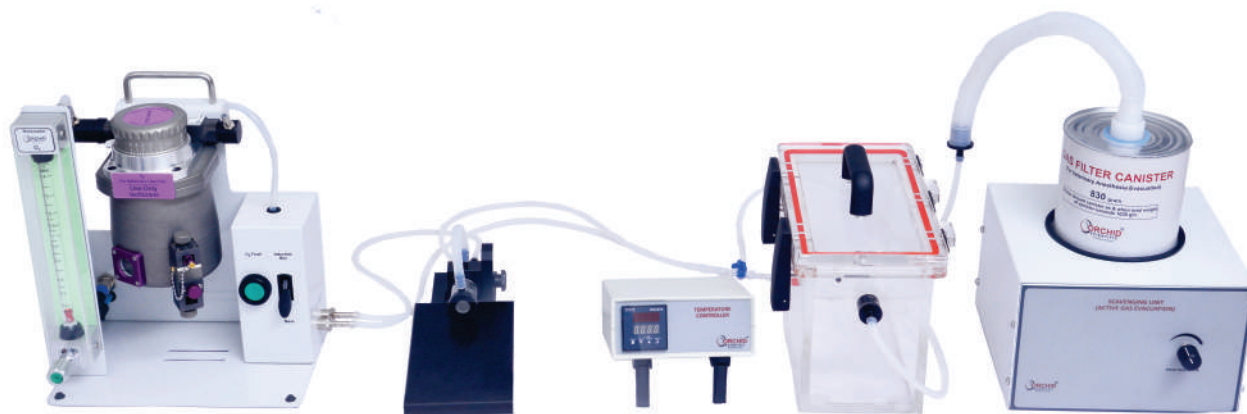
The Tele-Thermometer is ideal for continuous monitoring of temperature in laboratory animals for study and research in anaesthesia, cardiac surgery, hyperthermia & pyrogen testing.

Features :

- Facility to create different Pharmacopoeia protocols like USP, EP, JP, KP and BP.
- Facility to set Preliminary test and Main test protocols as per different Pharmacopoeias.
- Fast response time, Highly accurate and reliable results.
- Choice of 1 to 16 Channels (as per models).
- Password protected software and admin features.

Gas Anesthesia System For Animals :

(To carry out anesthesia in laboratory rodents)



Orchid's gas anesthesia system for rodent is one of the safest, user friendly and the most economical gas anesthesia system in the market. Our system successfully integrates efficient gas delivery at the same time minimizing excess gas exposure to lab personnel.

Features :

- Compact & modular.
- TEC3 vaporizers with Key fill adaptors making lesser exposure to anesthetic agents.
- Table top or trolley mounted options available.
- Depth of anesthesia can be easily adjusted.
- Suitable for different animals just by changing masks or induction chamber.
- Suitable for multiple animals using multichannel manifold.
- Options of oxygen concentrator or air pump available eliminating need of gas tank.

Anesthesia and Euthanasia System :



Orchid has designed an Anesthesia and Euthanasia System which is suitable to carry out anesthesia as well as euthanasia procedures on small rodents. Each system includes a trolley mounted with Tec 3 Isoflurane vaporizer, Oxygen and Carbon dioxide flow meter. The control panel is mounted with different options like quick flush switch for flushing oxygen, induction chamber or nose cone mask selection switch, active or passive evacuation switch and euthanasia supply and exhaust ports. This trolley is also fitted with three electrical sockets with switches for connecting the evacuation system, heating blanket or air pump. Trolley is fitted with four castor wheels for ease of movements.

Trackezi Video Tracking Software & Mazes : (Formerly known as All Maze Video Tracking & Mazes)

All Maze is a video tracking software package for automated analysis of rodent behavioural research studies. All Maze is the most widely applied video tracking software that tracks and analyses the behaviour, movement and activity of any animal without use of sensor.

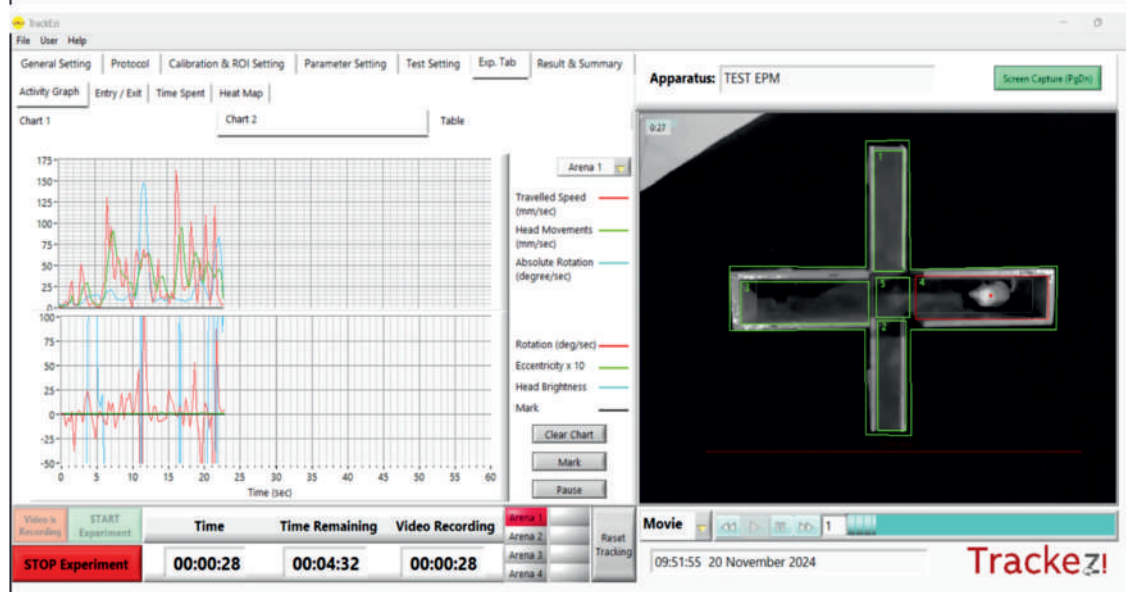
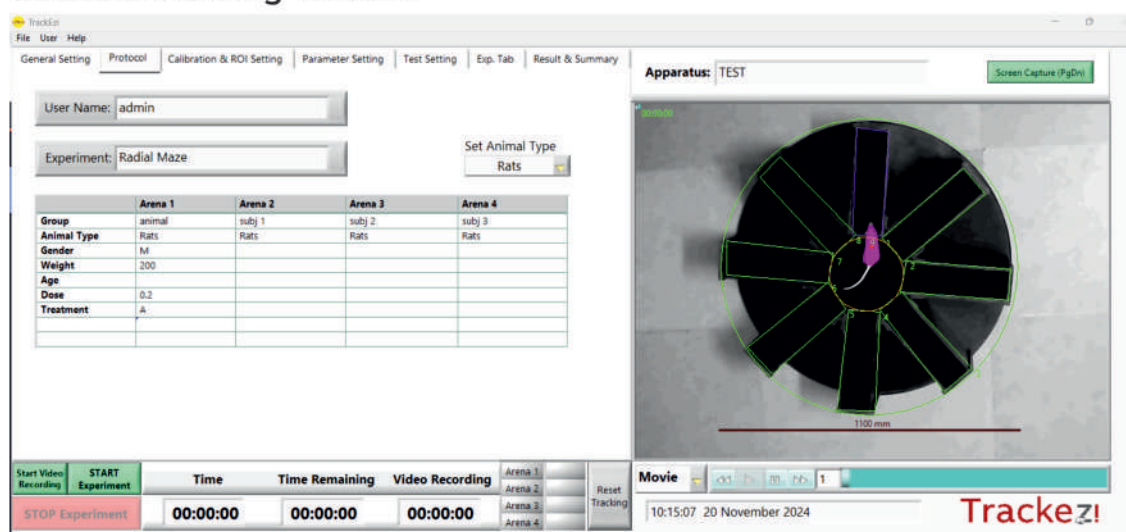
Trackezi system covers wide variety of applications

- Motor and Locomotor Activity
- Anxiety- Open Field, Plus Maze, O Maze, Black & White Box
- Depression , Forced Swimming, Tail Suspension Test
- Learning and Memory
- Water Maze, Radial Maze, T Maze, Y Maze
- Emergence test
- Conditioned Place Preference
- Novel Object Recognition
- Fear Conditioning

Parameters Studied :

- Distance Travelled
- Body Movement whilst Stationary
- Entering and Exiting Zones
- Time Spent in Zone
- Part of Body in Zone
- Rearing
- Head Orientation (degrees)

Software Working Window



Elevated Plus
Maze

Radial Arm
Maze

Zero Maze

Light & Dark
Box

Y Maze

T Maze



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