

CLEA Japan provides a comprehensive support to develop high quality research and breeding environment.

■List of Items

- Clean Air System
- Biohazard System



Recent advancement in biotechnology is remarkable. The more advanced the technology, the stricter the required environmental control.

CLEA Japan develops clean air system and various kinds of animal care equipments and experimental devices relating to biohazard based on our broad experiences of breeding and supplying germfree animals (maintaining foundation colony) , SPF animals, immunodeficiency animals and other experimental animals.

We provide not only those equipments and devices, but also services to support facility planning.

This brochure introduces our total systems to users.

CLEA
JAPAN

CLEA CATALOG 5 Contents

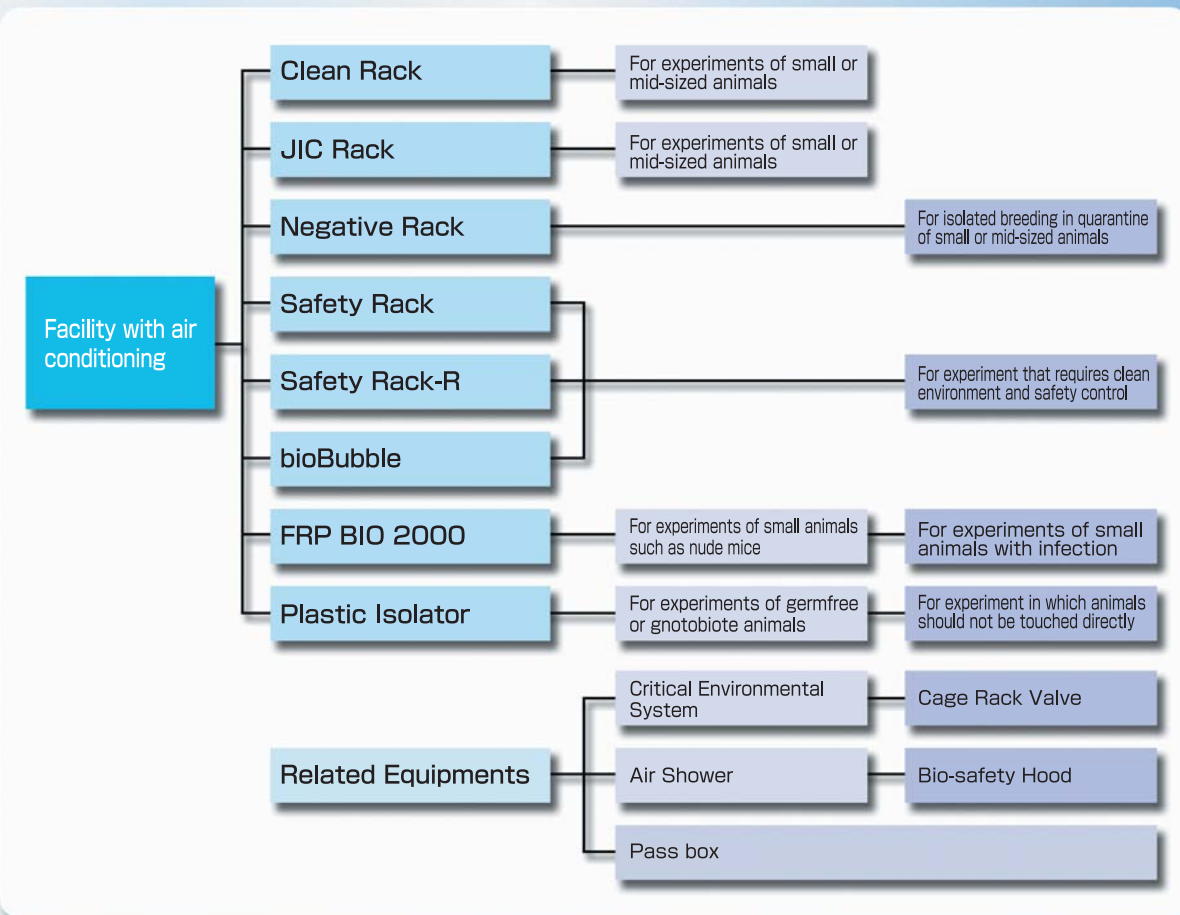
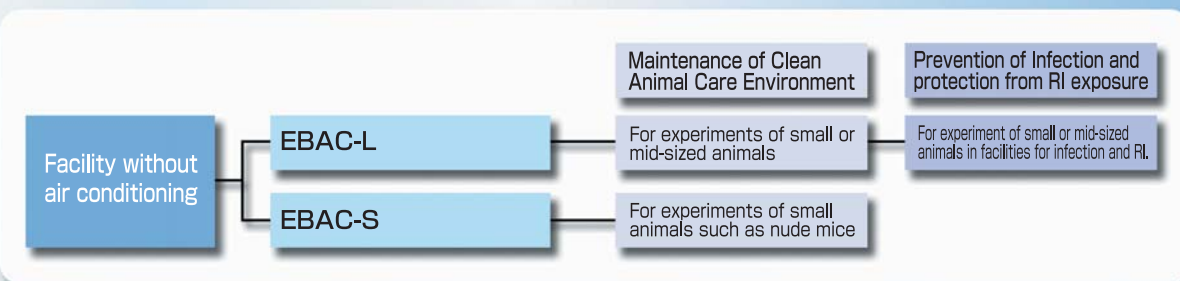
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※Dimensions and designs are subject to change without notice due to continuous improvements.

About Clean Air System

Recent technical advancement in animal experiments is remarkable. With this advancement, maintenance of cleaner and lower-risk animal care environment has become essential.

In response to this requirement, CLEA Japan has been developing and providing wide varieties of systems that can be introduced in from facilities with air conditioning to a corner of small laboratories without air conditioning. It covers from experiments using SPF/Germ free animals to infection/RI experiments.

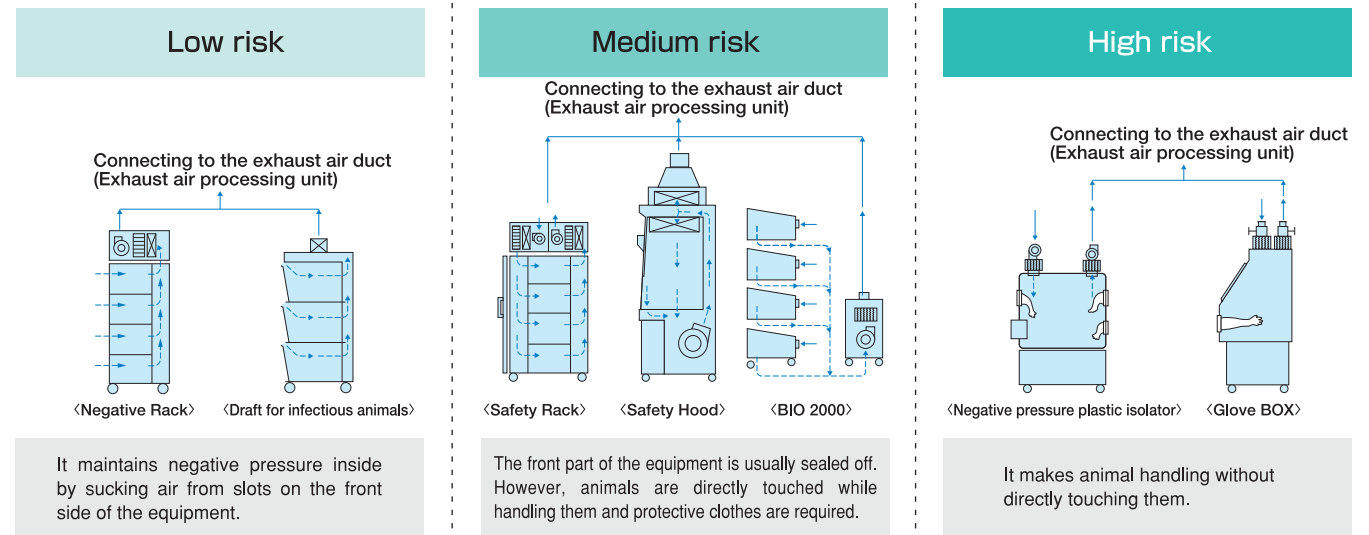


CLEAN AIR SYSTEM

Hazard Contrds on infected animal experiments

CAUTION

Care and management of animals are different from that of bacteria and requires daily care, such as feeding, supplying water, and cleaning. The safety measures for them tend to become complicated unlike the clear specification for other simple equipment, such as, safety cabinets. Thorough consideration to match your purpose is required before choosing system.



Cage layouts accommodated in each Clean Air System.

For Mice and Rats

System	Animal	Configuration	Model
CL-5301 EBAC-L	Mice	11 Rows × 5 Shelves	CL-0113 (Mouse S PC•PP•TPX•PSF)
		8 Rows × 5 Shelves	CL-0103 (Mouse PC•TPX) CL-0123 (White PSF)
		6 Rows × 5 Shelves	CL-0104 (Clean S PC•TPX•PSF) CL-0124 (White S)
	Rats	5 Rows × 5 Shelves	CL-0105 (Clean) CL-0108 (Clean 200 TPX•PSF) CL-0125 (White L)
		4 Rows × 5 Shelves	CL-0106 (Econ PC•TPX)
CL-5351 EBAC-S	Mice	11 Rows × 4 Shelves	CL-0113 (Mouse S PC•PP•TPX•PSF)
		8 Rows × 4 Shelves	CL-0103 (Mouse PC•TPX) CL-0123 (White PSF)
		6 Rows × 4 Shelves	CL-0104 (Clean S PC•TPX•PSF) CL-0124 (White S)
	Rats	5 Rows × 4 Shelves	CL-0105 (Clean) CL-0125 (White L)
		4 Rows × 4 Shelves	CL-0106 (Econ PC•TPX)
CL-5412 Clean Rack CL-5422 Negative Rack CL-5442 Safety Rack	Rats	4 Rows × 4 Shelves	CL-0420 (R-IS) CL-0408 (FRP) CL-0108 (Clean 200 TPX•PSF) CL-0128 (White 200)
	Mice	8 Rows × 5 Shelves	CL-0113 (Mouse S PC•PP•TPX•PSF)
		6 Rows × 5 Shelves	CL-0103 (Mouse PC•TPX) CL-0123 (White PSF)
5 Rows × 5 Shelves		CL-0104 (Clean S PC•TPX•PSF) CL-0124 (White S)	
Rats	4 Rows × 5 Shelves	CL-0105 (Clean) CL-0125 (White L)	
	3 Rows × 5 Shelves	CL-0106 (Econ PC•TPX)	
CL-5417 JIC Rack	Mice	4 Rows (W) × 6 Shelves	CL-0103 (Mouse PC•TPX) CL-0123 (White PSF)
		3 Rows × 6 Shelves	CL-0104 (Clean S PC•TPX•PSF) CL-0124 (White S)
		3 Rows × 6 Shelves	CL-0105 (Clean) CL-0125 (White L)
	Rats	2 Rows × 6 Shelves	CL-0106 (Econ PC•TPX)

For Rabbits and Guinea Pigs

CL-5302 EBAC-L	Rabbits	4 Rows × 3 Shelves	CL-0221 (CU-2) CL-0220 (CU-3)	Guinea Pigs	4 Rows × 3 Shelves	CL-0230 (CGP-2)
CL-5411 Clean Rack CL-5421 Negative Rack CL-5441 Safety Rack	Rabbits	3 Rows × 3 Shelves	CL-0221 (CU-2) CL-0220 (CU-3)	Guinea Pigs	3 Rows × 3 Shelves	CL-0230 (CGP-2)



CL-5351
EBAC-S

The Features of EBAC-S

- Compact design that can be installed in the most of laboratories.
- Constantly maintain positive pressure by tightly enclosed with double-door system: swinging front doors and sliding inside doors.
- Maintain appropriate and uniform temperature and humidity.

Specifications of EBAC-S

Dimensions	W1,730×D750×H1,930 mm
Temperature and humidity	23°C±1°C 55%±7%
Blast Volume	About 1.2m³/min 50/60Hz
Refrigerator	Water cooling
Heater	Electric heater
Dust removal efficiency of filter	0.3μ/99.97%
Primary AC power supply	1φ100V30A (1.8kw/1.9kw)
Primary water supply, drain	15A(3L/min)・40A
Primary exhaust power	65A(VU) and more
Power consumption	0.7kw/0.8kw
Application	Clean handling for mice and rats
Weight	350kg

※Hygrothermograph (dimensions 150 x 550 x 850mm) and exhaust air processing unit can be installed upon request.
 ※Other custom design is also accepted upon request.



EBAC-L

The Features of EBAC-L

- Experiment and observation of animals can be done near at hand.
- It can be installed in a corner of a laboratory room.
- It maintains appropriate and uniform temperature and humidity for animals.
- HEPA filter provides high dust holding capacity (0.3μ/99.97%).

Specifications of EBAC-L Inside sliding doors are standard for all the models

Model number	EBAC-L (For Mice and Rats)		EBAC-L (For Rabbits)	
	CL-5301-1	CL-5301-2	CL-5302-1	CL-5302-2
Dimensions	W1,800×D800×H1,900A		W1,800×D970×H1,900A	
Type	P type (positive pressure)	N type (negative pressure)	P type (positive pressure)	N type (negative pressure)
Blower Unit	Not required	Required	Not required	Required
Application	Clean handling	Infection and RI handling	Clean handling	Infection and RI handling
Weight kg	160	160	180	180

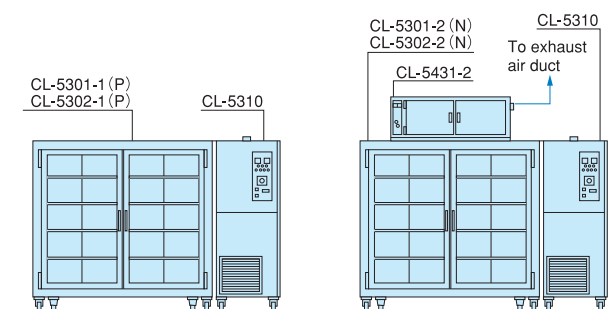
※EBAC-L requires multi-spot air conditioner. A blower unit, CL-5431-2, is also required for negative pressure type.

Specifications of multi-spot air conditioner

	Multi-spot air conditioner for one unit.	Multi-spot air conditioner for two units.
Model number	CL-5310-1	CL-5311-1
Material	SUS 304	
Dimensions	W700×D800×H2,140mm	
Temperature and humidity	23°C±1°C 55%±7%	
Blast Volume	1.0/1.5m³/min 50/60Hz	2.0/3.0m³/min 50/60Hz
Refrigerator	Water cooling	
Heater	Electric heater	
Dust removal efficiency of filter	0.3μ/99.97%	
Primary AC power supply	3φ200V20A 2.47/2.46kw	3φ200V20A 3.62/3.61kw
Primary water supply, drain	15A(2~4L/min)・40A and more	15A(3~6L/min)・40A and more
Primary exhaust power	100A (VU)	100A (VU)
Power consumption	1kw	1.2kw
Weight kg	200	210

Configuration of EBAC-L

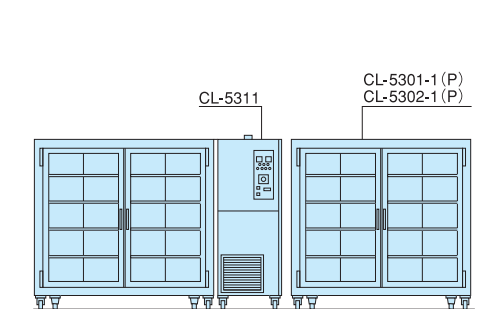
For one unit



<Clean animal rearing>

<Infection and RI experiments>

For two units



<Clean animal rearing>



Separate System

Clean Racks Negative Racks

Features of Clean Racks

- Room air is supplied to racks through HEPA filters by the dedicated P type (positive pressure) blower unit.
- Positive pressure is maintained with clean air in the racks. You can keep SPF animals and nude mice in a conventional room in which temperature and humidity are suitably controlled.
- Animals can be observed from the front transparent sliding doors. Racks can be disinfected by flushing.
- Automatic watering nozzle can be installed.

Features of Negative Racks

- This system a negative pressured Clean Rack. The air in the rack is exhausted through HEPA filters by dedicated N type (negative pressure) blower unit.
- Negative pressure is maintained in the racks. You can use it for quarantine isolation.
- Other features are the same as Clean Rack.

Built-in System



Specifications of Clean Rack, Negative Rack

Clean Rack, Model Number	Negative Rack, Model Number	Usage	Dimensions mm			Weight kg	Number of shelves	Material	Cages
			W	D	H				
CL-5411	CL-5421	Rabbit Guinea Pig	1,310	740	1,580	85	3	Stainless steel	Metal Cage
CL-5412	CL-5422	Mouse Rat	1,310	630	1,550	85	4	Aluminum	Plastic Cage Bracket Cage
CL-5413	CL-5423	Mouse Rat	1,310	580	1,550	85	5	Acrylic plastic	Plastic Cage Except CLEAN 2000

Specifications of Blower Unit

Model Number	Type	Usage	Dimensions mm			Weight kg	Blast Volume ● 50/60Hz	Primary AC power supply 50/60Hz
			W	D	H			
CL-5431-1 -2	Built-in	For single unit	1,260	430	450	45	P 1.2/1.3m³/min	100V·2P 150/200W
		Negative Rack				50	N 1.1/1.2m³/min	
CL-5432-1 -2	For four unit	Clean Rack	700	700	1,440	100	P 4.2/4.5m³/min	100V·2P 240/300W
		Negative Rack				100	N 4.0/4.3m³/min	
CL-5433-1 -2	Separate	For eight unit	700	700	1,440	100	P 6.6/7.0m³/min	100V·2P 400/400W
		Negative Rack				100	N 6.3/6.7m³/min	
CL-5434-1 -2	For double unit	Clean Rack	600	600	1,440	70	P 3.2/3.6m³/min	100V·2P 240/300W
		Negative Rack				70	N 3.0/3.4m³/min	

● Clean Rack requires P type (positive pressure) Blower Unit and Negative Rack requires N type (Negative pressure) Blower Unit, respectively. (Refer to the upper figure on page 5-8)
N type is recommended to connect to the primary exhaust air outlet.

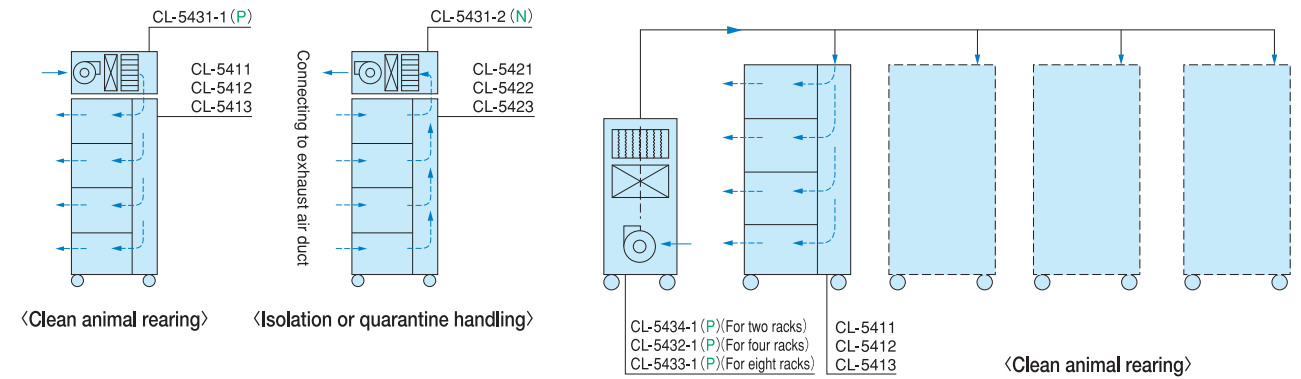
Systems of Clean Racks and Negative Racks

Built-in System

Each rack has a blower unit and can be moved easily.

Separate System

It is economical since one blower unit can supply air into multiple racks.

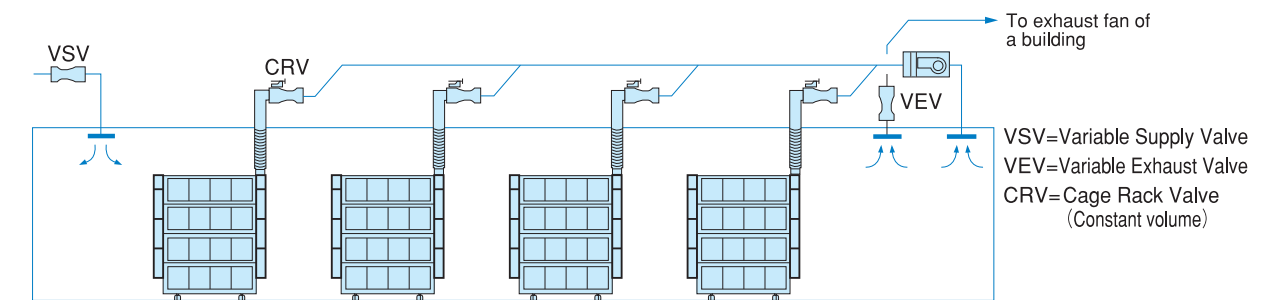


Critical Environmental™ System

Critical Environmental™ System is a trademark of **azbil** Corporation.

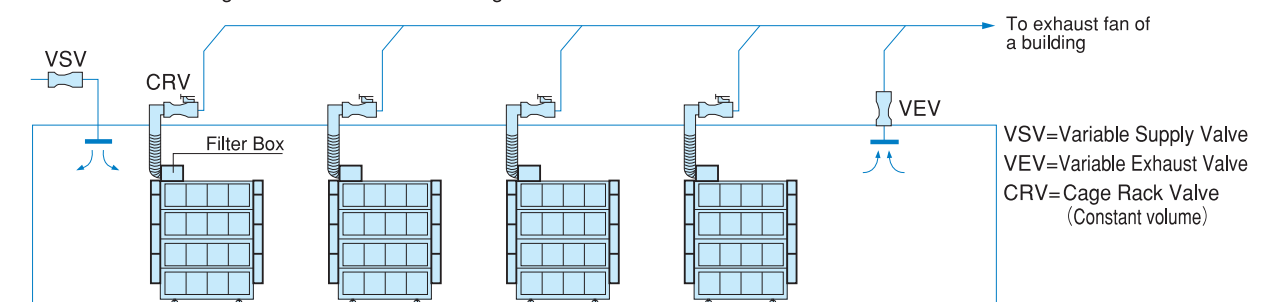
System of Clean Racks

Air flow to each rack is precisely and constantly regulated by Cage Rack Valve.



System of Negative Racks

Thermal load to animals and metabolite from animals in each rack are directly discharged to outside the room through exhaust ducts of a building.



Cage Rack Valve

Every Cage Rack Valve is carefully calibrated in the factory before shipping. Air flow is adjustable at each site with pressure independent way. It is easily accommodated with various type of cage racks connecting to the exhaust system of a building.



azbil



CL-5443 Safety Rack

Features of Safety Racks

Functions of Clean Rack and Negative Rack are combined into this unit. Supply and exhaust air are both filtered by HEPA filters. It is ideal to handle infected SPF animals or nude mice.

- Sterilization can be easily performed by a dedicated formalin gas generator (CL-5461).

Specifications of Safety Rack

Model Number	Application	Dimensions mm			Weight kg	Number of Shelves	Material	Cages
		W	D	H				
CL-5441	Rabbits Guinea Pigs	1,380	850	1,735	190	3	Stainless steel	Metal Cage
CL-5442	Rats Mice	1,380	740	1,645	190	4	Aluminum, Acrylic plastic	Plastic Cage Bracket Cage
CL-5443	Rats Mice	1,380	690	1,645	190	5	Glass	Plastic Cage Except CLEAN 200



Example: Installation of custom-designed Safety Rack

Specification of Blower Unit

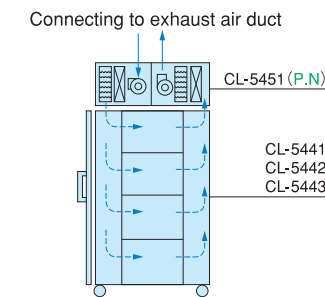
Model Number	Type		Dimensions mm			Weight kg	Blast Volume 50/60Hz	Primary AC power supply 50/60Hz	
			W	D	H				
CL-5431-2	Built-in	For single unit	1,260	430	450	50	N	1.1/1.2m³/min	100V·2P·150/200W
CL-5432-1	Separate	For four unit	700	700	1,440	100	P	4.2/4.5m³/min	100V·2P·240/300W
CL-5433-1		For eight unit	700	700	1,440	100	P	6.6/7.0m³/min	100V·2P·400/400W
CL-5434-1		For two unit	600	600	1,440	70	P	3.2/3.4m³/min	100V·2P·240/300W
CL-5451	Built-in	For single unit	1,380	550	500	65	P	1.3/1.4m³/min	100V·2P·300/400W
						N	1.3/1.4m³/min		
CL-5452	Separate	For single unit	600	675	1,565	75	P	1.3/1.4m³/min	100V·2P·300/400W
							N	1.3/1.4m³/min	

● Safety Rack requires P type (positive pressure) Blower Unit and N (Negative pressure) type Blower Unit (Refer the following figures). N type should be connected to the primary exhaust air outlet.

System of Safety Racks

Built-in System

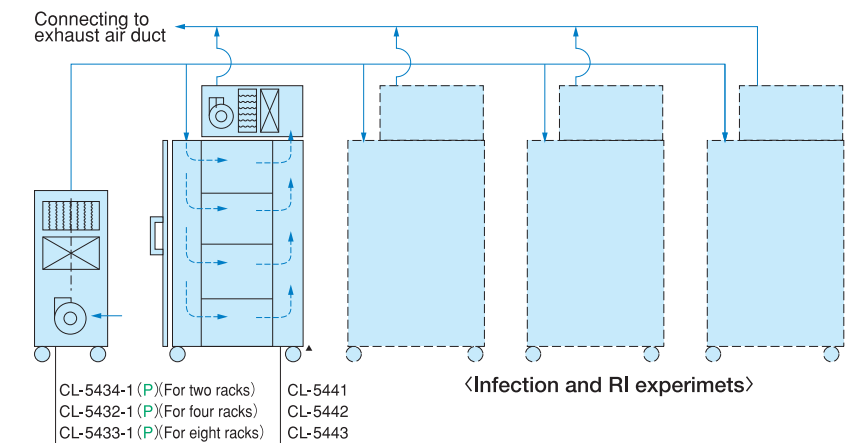
Each rack has two blower units, one for air supply and another for exhaust, and can be moved easily.



<Infection and RI experiments>

Separate System

It is economical since one blower unit can supply air into multiple racks. Each rack has an independent exhaust blower unit so that different experiment can be conducted using different microorganism at each rack.

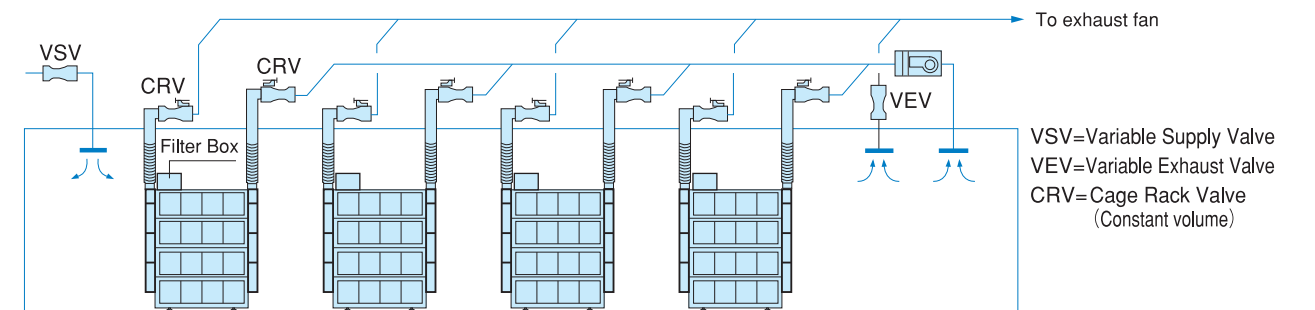


<Infection and RI experiments>

Critical Environmental™ System

Critical Environmental™ System is a trademark of **azbil** Corporation.

Thermal load to animals and metabolite from animals in each rack are directly discharged to outside the room through exhaust ducts of a building. Only a minimum air exchange is required for an animal room to maintain good in-room environment since no dirty air is exhausted in the room.



VSV=Variable Supply Valve
VEV=Variable Exhaust Valve
CRV=Cage Rack Valve (Constant volume)



Cage Rack Valve

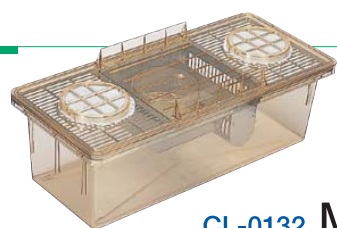
Every Cage Rack Valve is carefully calibrated in the factory before shipping. Air flow is adjustable at each site with pressure independent way. It is easily accommodated with various type of cage racks connecting to the exhaust system of a building.





CL-5601
Safety rack R

SAFETY
RACK R



CL-0132 Mouse R



CL-5417
JIC Rack

JIC Rack is clean breeding equipment for mice and rats. Clean breeding environment is insured and mutual infection can be avoided for nude mice or any other grade of animals.

A blower with filters is mounted on the top of the main body. It is also equipped with sliding doors at each shelf on the front and a wind tunnel with blowing openings to each shelf on the back.

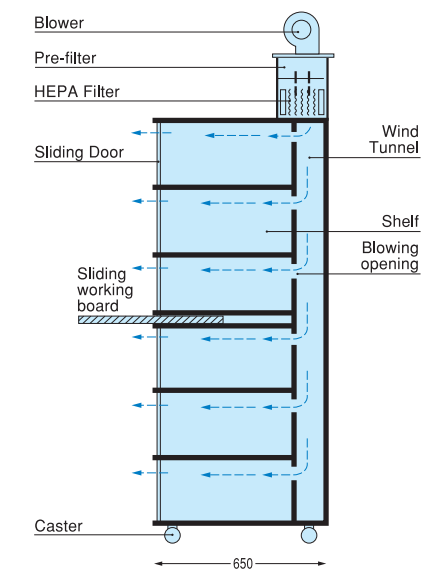
Air from the blower to a HEPA filter via a pre-filter is pooled in the wind tunnel on the back. The air is sent to each shelf through blowing openings and exhausted from exhaust slots of the front sliding doors. Sliding doors prevent contamination from outside.

Features of JIC Rack

- Air is supplied equally into each shelf through HEPA filter.
 - HEPA filter and blower are compact in size.
 - Replacement of pre-filter and HEPA filter is easy.
 - Sliding doors prevent backward air flow.
 - Sliding working boards are standard.
 - It can be used for either negative or positive pressure.
 - Disinfection and cleaning are easy to be performed (plastic cover should be attached on the front). Please note that the usage of chemical solution should be minimum.
- ※JIC Rack made of stainless steel is optional.

Specifications of JIC Rack

Dimensions	W900×D650×H2,222 mm
Blast Volume	2.9 m ³ /min
Filtering power	0.3μ/99.97%
Primary AC power supply	100V・0.4A・2P
Material of Main Frame	Plywood
Front Doors	Polyvinyl resin (transparent)





Free standing type

CL-5801
bioBubble Clean Rooms

Immunodeficiency animals and transgenic animals can be bred under microbiologically controlled environment.

bioBubble Clean Rooms is the innovative clean room that has been developed by bioBubble, Inc., Colorado, U.S. It achieves durable, lightweight, and ease of cleaning and maintenance, since the technology used here is based on military aircraft- and NASA-spec materials. Suitable clean rooms matching to any space availability and any environment can be easily constructed.

Two configurations of bioBubble Clean Rooms are available: free standing type and architectural renovation type which can be accommodated with any existing building structure. You can choose any combination of these two types according to your needs.



Architectural Renovation Type

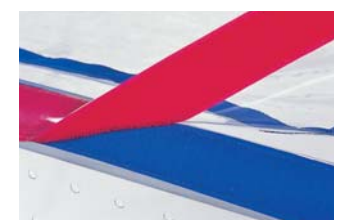
Features of bioBubble Clean Rooms

- 1 Protection against infection (Positive pressures)**
A large volume of HEPA-filtered clean air is blown into a room and high level cleanness is maintained.
- 2 Prevention of Spreading Contamination (Negative pressure)**
Infected animals can be quickly contained in the event of an outbreak. It can be used to quarantine incoming animals as well.
- 3 Various sizes and designs**
Custom design is available to match with your needs and research subjects.
- 4 No reconstruction of the existing facility is required.**
It can be installed in available spaces in the existing facility.
- 5 Easy to install and relocate**
With just one wrench, you can assemble and disassemble it. All the parts are made of lightweight and durable materials.
- 6 Highly Economical**
It not only reduces installation and running costs, but also efficiently houses a large number of animals.
- 7 High Working Efficiency**
You can follow your existing breeding control. Disinfection of the clean rooms is easy.

bioBubble™



Upper-side Porous Film



Velcro



Aluminum Frame



Blower (Sirocco Fan Type)



Vinyl Film

■ Specifications of bioBubble Clean Rooms

Design	Size and style are fully adjustable
Outer skin	Durable Verilon Vinyl Film (Velcro Joint)
Frame	Aluminum Pipe
Filter	HEPA Filter (U.L.class 1 Military Spec 209B)
Blower	Sirocco Fan Type (Maintenance-free)

Two configurations of bioBubble Clean Rooms

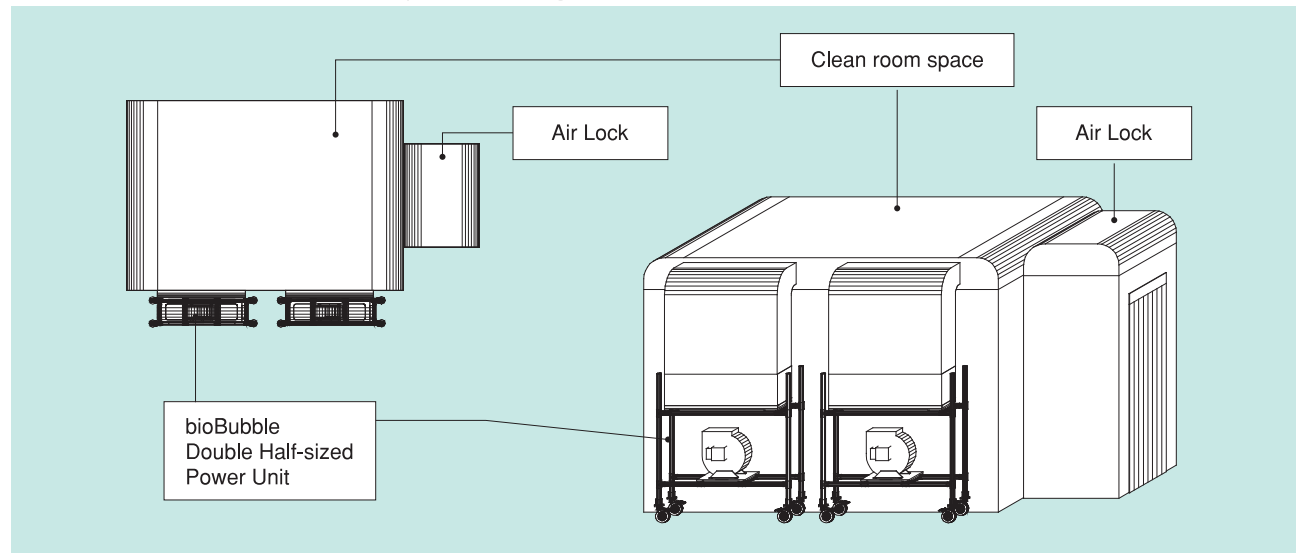
Free Standing

Free Standing Type

With just one wrench, you can assemble and disassemble it. It is lightweight and easy to relocate. It is very flexible and expandable to match with any size of facility.



bioBubble for 4 racks Sample drawing



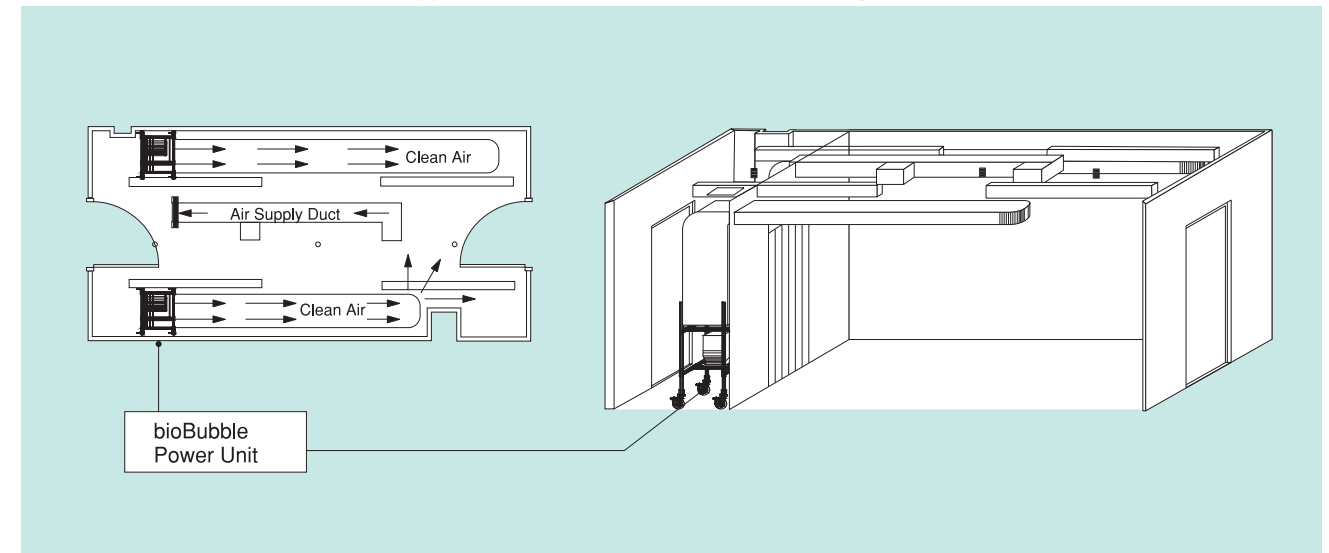
Renovation

Architectural Renovation Type

It maximizes available floor space and housing capacity by adjusting the design to best fit to a building.



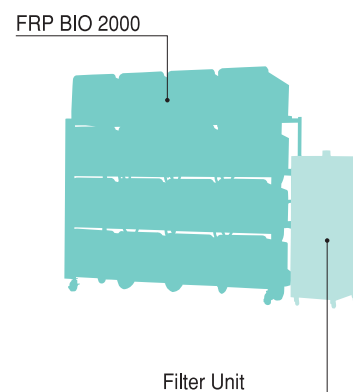
Architectural Renovation Type bioBubble Sample Drawing





CL-5608
FRP BIO 2000

CL-5623
Filter Unit



It is dedicatedly designed to conduct infectious experiments using animals, as well as breeding and operation of the animals and sterilization.

Features of FRP BIO 2000

- It works as a draft for breeding animals to completely isolate the source of contamination of infection from surrounding environment in an animal breeding room or a laboratory.
- Mutual infection can be occurred with the similar type of conventional equipment. However, this unit has no risk of mutual contamination since each breeding cage is completely independent with each other with perfect sealing.
- Sealed boxes and intake/exhaust air pipes are easy to be attached or detached. It can be, therefore, relocated to another room or another space with fixed equipment without taking out and putting in animals.
- In case that a sealed box is taken out from a main rack as a carrying box, a closing valve attached on the box insures that inside air will never leak out.
- Each sealed box can be separately autoclaved before or after experiment.
- Box-by-box based control provides the highest safety for caretakers, compared with similar equipment. High level experiment can be performed combining with other safety equipment such as a safety cabinet.
- A low noise blower insures quiet environment to minimize the stress on animals. It is durable and best fit to long term experiment as well.
- It is also used for quarantine observation in a quarantine room because of the preventive design for animal-to-human transmission.



•Example of installation

FRP BIO 2000



FRP Box
Material/FRP

■ Specifications of FRP BIO 2000 and Filter Unit

	Filter Unit	Main Box (for Rats)	Main Box (for Mice)
Model Number	CL-5623	CL-5608-1	CL-5608-2
Dimensions mm	W380×D540×H1,160	W1,950×D550×H1,795	W1,830×D540×H1,720
Weight	63kg	190kg	150kg
Number of Rows and Shelves	—	4 rows and 4 shelves	4 rows and 5 shelves
Dust collection efficiency	0.3μ/99.99% and more		
AC power supply	AC100V・120W・50/60Hz		

※Filter Units for 2 racks and 4 racks are also available.

A formalin gas generator dedicated to BIO 2000 is available.
(For sterilizing the exhaust pipes of the main stand)

■ Sterilization Equipment for BIO2000

Model Number	CL-5609
Dimensions mm	W650×D480×H1,450
Weight	47kg
AC power supply	AC100V・300W・50/60Hz

Prior discussion in every detail is required for the installation

Features of Bio Safety Hoods

Experiments and operations for infected animals can be safely performed.

Working area is always maintained in negative pressure to prevent leaking contaminated air to the outside. Exhaust and circulating air is cleaned through HEPA filter. Washing water stored in a water tank is available in the working area of the existing safety cabinet.

- Pathogen up to biohazard level 3 is covered. Microbiological examination by Bacillus subtilis was conducted for safety assurance based on the NSF standard.
- There are two HEPA filters for exhaust and circulating air. Dust collection efficiency of the both filters exceeds 99.99% for particles of 0.3 micron in size.
- Dirty experimental instruments can be cleaned inside the barrier and 15 liter of clean washing water is available at a time.
- Operation is easy and alarm goes off for motor failure.
- Main flame of gas burner can be ignited or extinguished by a foot switch.
- A high-powered motor is carefully selected for the air blower.
- Two 40-watt fluorescent bulbs, attached on the outside front face in a lighting box that does not obstruct experiments, illuminate the inside of the cabinet and provide good visibility for users.



CL-5531 Bio Safety Hoods

Specifications of Bio Safety Hoods

Model Number	Dimensions mm			Material		AC power supply
	W	D	H	Main body	Working Area	
CL-5531	1,000			Baked coating Steel plate	SUS304	AC100V50/60Hz・375/545W
CL-5532	1,440	760	2,120			AC100V50/60Hz・570/820W
CL-5533	2,090					AC100V50/60Hz・940/1,090W

Specifications of CL-4035

Model Number	CL-4035-1	CL-4035-2	CL-4035-3
Usage	One twofold carton dedicated to animals	Two twofold cartons dedicated to animals	Equipment only
Dimensions mm (outside frame)	W520×D970×H995	W1,000×D750×H870	W580×D470×H580
Dimensions mm (inside frame)	W450×D970×H925	W930×D680×H800	W500×D400×H500
Door opening/closing	Interlock		
Sterilization	Two 100V/15W sterilamps		
Material	Stainless steel SUS-304		
AC power supply	100V		
Indication light	Door-opening indication light		

Specifications of Pass boxes

Model Number	Dimensions mm								Structure and Material		
	Door inter lock		Passage Area		Outside frame		Depth		Main Body	Floor face	Observation window
	Yes	No	W	H	W ₂	H ₂	D	D ₂			
CL-4036-1	PRB	PB	500	500	660	600	400	550	Steel plate	Melamine plate (Stainless steel, SUS304, is also available)	Glass plate
CL-4036-2			750	500	910	600					
CL-4036-3			500	750	660	850					
CL-4036-4			750	750	910	850					
CL-4037-1	PRB	PB	500	500	660	600	800	950	Tub grey Melamine baked coating	Melamine plate (Stainless steel, SUS304, is also available)	Glass plate
CL-4037-2			750	500	910	600					
CL-4037-3			500	750	660	850					
CL-4037-4			750	750	910	850					



CL-4035 Pass boxes



CL-5750 Air Lock Room

Air Lock Room, with safety room modules, blocks airflow between confined area and general area (non-contaminated area).

Features of Air Lock Room

- Unit system allows easy installation on site.
- Airtight door can be locked easily and offers extremely high airtightness.
- Hazard light flashes for entrance and warning buzzer goes off when one side of doors is opened.
- Sterilamps works very effectively since the surface of the interior is covered by reflective aluminum plates.
- HEPA filter for air supply/exhaust and UV barrier can be installed.

Specifications of Air lock Room

Outside Dimensions	W1500×D1200×H2200mm
Exterior	Steel plate finished with melamine baked coating
Interior	Wall: Reflective aluminum plates affixed Floor: LONLEUM sheets affixed
Door	Airtight structure, Double door interlock
Door window	Wire glass window (6.8t)
Panel light	Two 20W reverse Fuji type cool fluorescent lights
Sterilamp	Two 15W direct-mount
Status indication	Blue Entrance Permission Light Red Entrance Inhibition Light Buzzer ON when one side of doors is open. Emergency Interlock is released
Interlock device	Electromagnetic (Lock to inhibit both doors opened at the same time.)
AC power supply	AC100V1φ 50/60Hz
Power Consumption	105/120W
Installation method	Anchor bolting to the floor (Installed between experimental area and general area)
Unit weight	About 190kg

AIR LOCK ROOM

Prior discussion in every detail is required for the installation

CL-5700
Air Shower



Air Shower, installed at the doorway to clean room, removes dust and germs attached to entering persons.

Features of Air Shower

- Combining air-curtain and air-jet provides high efficiency in dust removal.
- Automatic operation can be set. When a person enters a room, sensor is activated to start air jet for eight seconds.

■ Specification of Air Shower

Circulating air volume	28.4 / 33.1 m ³ /min
Dust collection efficiency	Exceeds 99.99% for particles of 0.3 micron in size
Dust collecting elements	Pre-filter Nylon nonwoven fabric
	Main Filter HEPA filter
	Floor Dust removal for shoes by gelatin mat (optional)
Blowing air speed of air-curtain	0.25 / 0.27 m/s (At the outlet)
Blowing air speed of air jet	25 / 30 m/s (At the outlet)
Control method	Programmed control by PLC (Programmable Logic Controller)
Air-jet blowing nozzle	20 nozzles
Lightening	One 20W fluorescent bulb
Main body	Steel Plate
Door	Aluminum door with door closer and Glass window
Floor	Hair-line finished stainless steel boarding (optional)
Coating	White melamine baked coating
AC power supply	AC 3φ 200V 50Hz/60Hz
Power consumption	With air-curtain 140/200W
	With air-jet 850/1,350W
Required AC power specification	1,440/1,880VA and more
Weight	About 250kg
Status indication	Pilot light (Indication light for electric system check)
Protective device	Thermal relay for protecting motor on phase failure
Accessories	Four M8 plug bolts
Configuration in shipping	Assembled complete product (Disassembled parts are also available upon request.)

AIR SHOWER

Japanese government-owned patent ,Six utility model , One design registration



CL-1002
Plastic Isolator
(No.2)



CL-1001
Plastic Isolator
(No.1)

■ Environment in Plastic Isolator

	Item	Breeding room	Inside of Plastic Isolator
Temperature	Without mice	23°C±2°C	0.5~1°C higher
	With 30 mice	23°C±2°C	0.5~1°C higher
Humidity	Without mice	55%±5%	3~4% lower
	With 30 mice	55%±5%	4~5% higher
Ventilation frequency		15~20times/h	17.3times/h
Air circulation		—	No stagnation
Airflow speed		—	0.05~0.13m/sec
Static pressure		30~50PA	80~100PA

※ Isolator should be used in an air-conditioned room since temperature and humidity in the isolator coincide with those in a breeding room.

PLASTIC ISOLATOR



CL-1003
Plastic Isolator
(No.10)

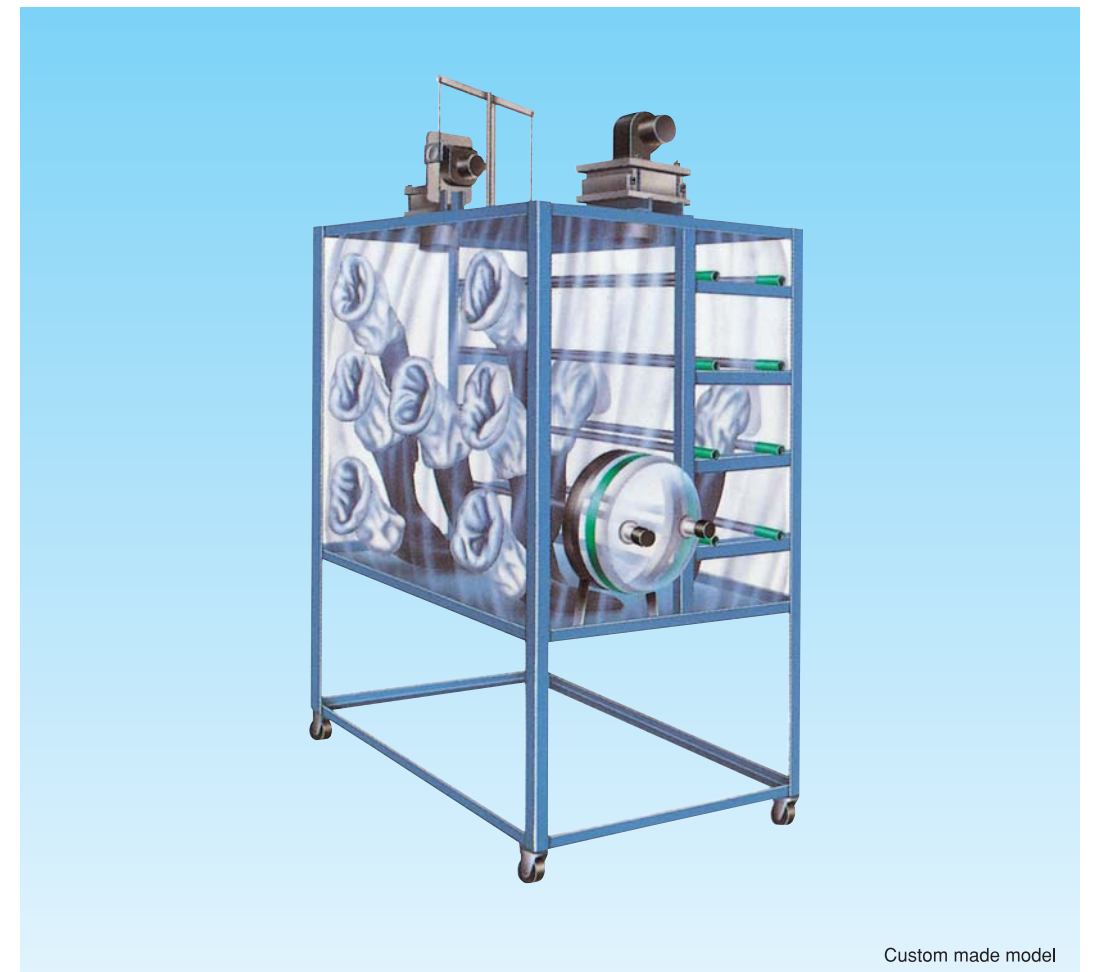
CL-2944
Plastic Isolator
Stand for #10
Dimensions / 1,210×610×770mm



Accessories required for Plastic Isolators

- CL-3406 Operation gloves for the isolator (CLEA Tight-A, 0.8mm thickness)
- CL-3431 Spray Gun (Acid and corrosion resistant)
- CL-3432 Air compressor (1/4HP and more)
- CL-3433 Gas mask
- CL-3434 Protective gloves
- CL-3435 Sterile can (with American air filter)
- CL-3436 Lumilar film 500mm of width (60m long)
- CL-3437 Polytape 20mm of width
- CL-3438-2 Connecting sleeve (Drum-shaped)
- CL-3439 American air filter (FG-50) One roll (30m long)
- CL-3440 Tank for spray guns
- CL-3441-1 Filament tape 19mm of width (50m long)
- CL-3442 Plastic tape 25m of width

PLASTIC ISOLATOR



Custom made model

This is the plastic isolator developed for experiments with infected animals based on the technology of plastic isolators for breeding germ-free animals.

CL-1005
Negative pressured
plastic isolator

Features of negative pressured plastic isolator

- Flexible chamber makes operation easy.
- Air supply and exhaust blowers adjust the volume of exhaust air to maintains negative pressure inside the chamber.
- Animals can be handled and operated with operation gloves without touching animals directly.

Standard Specifications of Negative Pressured Plastic Isolator

Chamber	Dimensions : W1,680×D800×H1,070mm
Table	Dimensions : W1,680×D800×H700mm
Blower	1 for Air Supply / 1 for Air Exhaust
Primary AC power supply	100V·2P·100W
Primary exhaust outlet	50A (VU)

Custom made model is available upon request depending on breeding scale.

Air-conditioning system in animal experiment facility requires not only the control of temperature and humidity, but also the removal of dusts (microorganism) and gas (odor) such as ammonia, with energy saving and low cost. CLEA Japan has been exploring air-conditioning system suitable for animal experiment facilities of a new era over the years. We, now, proudly introduce AQUA-CLEAN air-conditioning system that has been developed based on dew point bath system. The system controls temperature and humidity with air filtration function by passing and circulating air through cold water shower to maintain stable condition. In addition, it saves energy and cost. We strongly recommend users to install it on the construction of new animal experimental facilities, as well as on the renewal of existing air-conditioning system.

Features of AQUA-CLEAN air-conditioning system

- High air purification and deodorization capability with energy-saving and low cost
- Humidity is well controlled without humidifier
- High accuracy and stable heat exchange system
- Water quality control is included



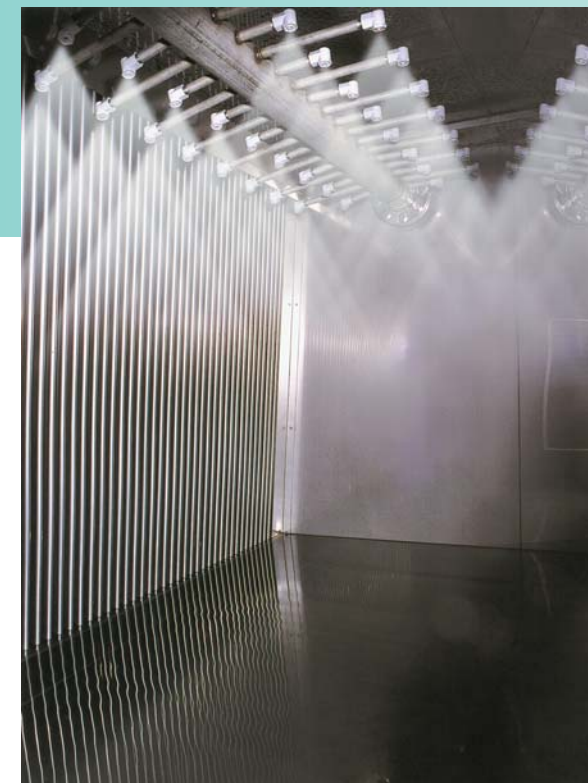
Air-processing unit



Overall view of the system installed in a machine room



Equipment around the air-processing unit



Inside of air-processing unit

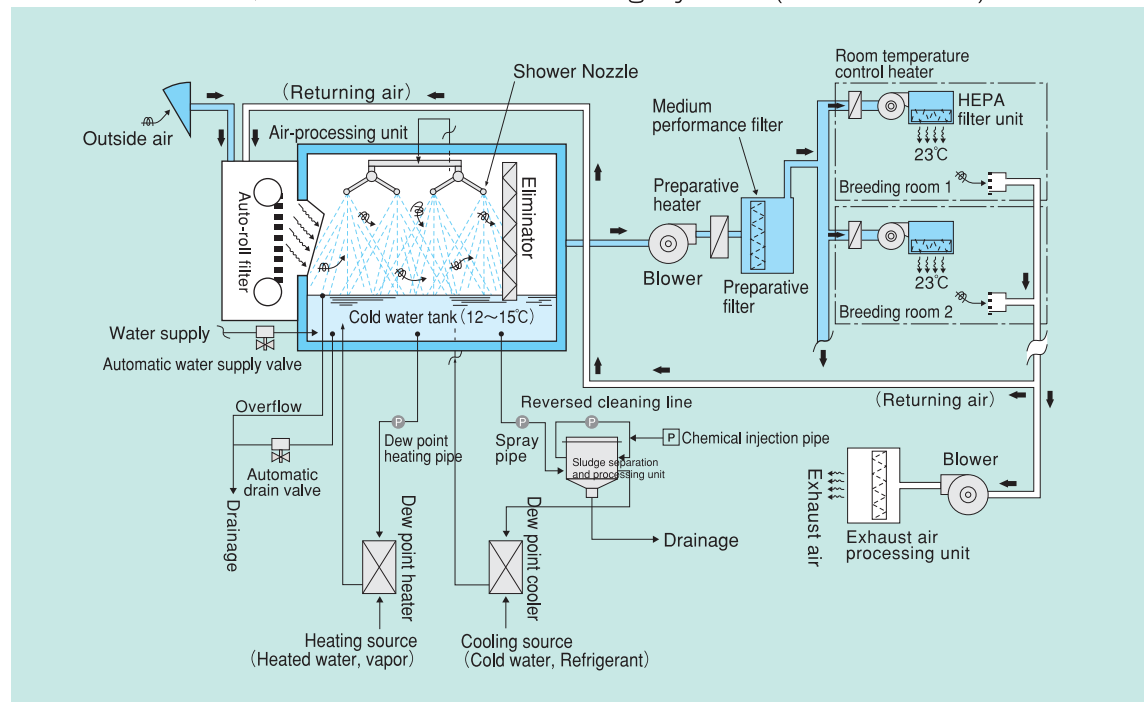


Deodorizing unit and Cooling tower



Medium performance filter

Flow sheet of AQUA-CLEAN air-conditioning system (water shower)



AQUA-CLEAN