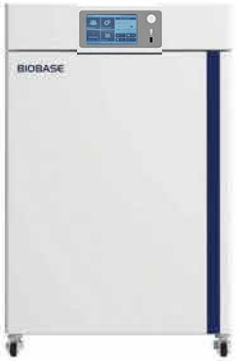
Incubator

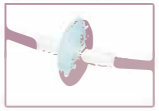
CO_2 Incubator



Features:

* Water tank for humidity in the chamber.
* Air jacket: equipped with UV Lamp for sterilizing; Water jacket: equipped with HEPA filter.
* Equipped with USB port and LCD touch screen, the incubator can save data in real time.
* High quality CO_2 gas filter ensures the inside gas quality.
* SMC brand gas circuit valves ensure more stable CO_2 concentration and less consumption of CO_2 gas.
* Microcomputer controller, LCD displays temperature curve, CO_2 concentration, run-time and timing.
* High quality infrared sensor for accurate CO_2 concentration.
* The working chamber adopts round angle structure, easy to clean.


LCD touch screen


CO_2 gas filter


HEPA filter (for water jacket)

Technical Parameters:

Model	BJPX-C50	BJPX-C80		BJPX-C160	
Capacity	50L	80L		160L	
Heating	Air jacket	Air jacket	Water jacket	Air jacket	Water jacket
Temp. Range	RT+5~60°C				
Control Type	Microcomputer controller				
Temp. Fluctuation	≤ ±0.2°C (at 37°C)				
Temp. Uniformity	≤ ±0.3°C (at 37°C)				
Time Setting	999h or continuous				
Alarm	Audible and visual alarm; over-temperature alarm; CO_2 concentration alarm.				
Shelves	2 pcs/adjustable				
Material	External cold-rolled steel with painting; internal stainless steel				
Door	With inner door and external door				
CO2 Range	Infrared sensor, range 0~20%				
CO2 Control Resolution	0.1%				
Humidification Type	Water tank for natural evaporation				
Sterilization Type	UV lamp				
Ambient Temp. & Humidity	18~30°C, suggest 25±2°C; relative humidity ≤80%				
Caster	Footmaster caster				
Consumption	350W	600W	875W	650W	1000W
Power Supply	AC220V±10%, 50/60Hz(Standard); AC110±10%, 60Hz(Optional)				
Internal Size (W*D*H)mm	337*338*443	377*410*524	428*412*522	477*473*711	528*512*722
External Size(W*D*H)mm	500*527*821	600*596*921	647*593*1070	700*666*1101	747*694*1260
Packing Size (W*D*H)mm	655*685*970	735*735*1070	725*780*1225	795*835*1250	824*877*1425
Gross Weight(kg)	68	83	108	108	145

CO_2 Incubator

Features:

* Air jacket: with 90°C steam sterilization function.
* Equipped with USB port and LCD touch screen, the incubator can save data in real time.
* High quality infrared sensor for accurate CO_2 concentration.
* The working chamber adopts round angle structure, easy to clean.
* High quality CO_2 gas filter ensures the inside air quality.
* SMC brand gas circuit valves ensure more stable CO_2 concentration and less consumption of CO_2 gas.
* Push-pull shelves with holes ensures better temperature uniformity.
* Microcomputer controller, LCD displays temperature curve,CO_2 concentration,run-time and timing.
* Three Liters water reservoir in the bottom chamber ensures high humidity.


LCD touch screen


USB port


Push-pull shelves with holes

Technical Parameters:

Model	BJPX-C50II	BJPX-C80II	BJPX-C160II
Capacity	50L	80L	160L
Heating	Air jacket		
Temp. Range	RT+5~60°C		
Control Type	Temperature and humidity transmitter		
Temp. Fluctuation	≤ ±0.2°C(at 37°C)		
Temp. Uniformity	≤ ±0.3°C (at 37°C)		
Time Setting	999h or continuous		
Alarm	Audible and visual alarm; over-temperature alarm; CO_2 concentration alarm.		
Shelves	2 pcs/adjustable		
Material	External cold-rolled steel with painting; internal stainless steel		
Door	With inner door and external door		
CO_2 Range	Infrared sensor, range 0~20%;		
CO_2 Control Resolution	0.1%		
Humidification Type	Water reservoir in the bottom chamber ensures high humidity(90%≤relative humidity≤99%)		
Sterilization Type	With 90°C moist heat decontamination function (95%≤humidity ≤99%RH)		
Ambient Temp. & Humidity	18~30°C, suggest 25±2°C; relative humidity ≤80%		
Caster	Footmaster caster		
Consumption	300W	650W	700W
Power Supply	AC220V±10%, 50/60Hz(Standard); AC110±10%, 60Hz(Optional)		
Internal Size (W*D*H)mm	308*392*442	368*452*517	468*552*648
External Size(W*D*H)mm	551*713*765	611*773*841	711*853*991
Packing Size (W*D*H)mm	681*843*840	705*867*978	805*967*1128
Gross Weight(kg)	85	93	120

RAPTOR

Your personal power solution Raptor Series combines energy saving, full power protection, and fitting shape in one to become your reliable partner of PC and workstation.

600/800/1000VA

1025/1500/2000VA

Main Feature

POWER

Comprehensive power protection

Raptor is not only a back-up battery power. Its cunning design offers full-range protection against critical situations like surge, overload, and short circuit. Protect your critical system in multiple aspects.

Automatic Voltage Regulator

Raptor's build-in AVR regulates fluctuated voltage. Ensure consistent power output and extensive battery life.

Green mode energy-saving feature

Raptor's Green mode energy-saving avoid unnecessary energy waste during non-essential time. Maintain efficient battery life and power consumption.

Advanced Battery Management

Intelligent battery control maintains battery efficiency and lifespan.

Convenient

One button Control

Raptor's User-friendly control allows various function like self-test, mode change, and power control all achievable through one simple button.

LED/LCD Status display

LED distinct flash pattern and LCD screen displays user with clear information about UPS current status.

Management

Audio alarm warning

Clear indications of UPS status warning through distinct audible alarm, reflect immediate notification for users.

UPSMON PRO APP monitoring Support

UPSMON PRO and APP supports remote monitoring and provides real-time statues display and user-friendly control like schedule shutdown, data log, self-diagnostic and more.

Download Link

UPSMON PRO for portable Device

UPSMON PRO Interface

Line Interactive UPS

Specification

Model	RPT-600A RPT-600AP	RPT-800A RPT-800AP	RPT-1000A RPT-1000AP	RPT-1025AP	RPT-1500AP	RPT-2000AP
Configuration						
Capacity (VA)	600 VA	800 VA	1000 VA	1025 VA	1500 VA	2000 VA
Capacity (Watts)	360 W	480 W	600 W	615 W	900 W	1200 W
Form	Tower Type					
Input						
Voltage	100 / 110 / 120 VAC or 220 / 230 / 240 VAC					
Input Voltage Range	75 - 150 or 165 - 300 VAC					
Input Frequency Range	50 Hz / 60 Hz (Auto Sensing)					
Output						
Waveform	Simulated Sine Wave					
Voltage	100 / 110 / 120 VAC or 220 / 230 / 240 VAC					
Frequency	50 Hz / 60 Hz ± 0.25 Hz					
Transfer Time	2 - 4 ms (Typical)					
Protection						
Full Protection	Overload, Surge, Short Circuit					
Tele Communication	RJ11 / RJ45 : AP model					
Battery						
Type	12V 7Ah	12V 7.2Ah	12V 9Ah	12V 7Ah	12V 7.2Ah	12V 9Ah
Quantity	1	1	1	2	2	2
Sealed, Maintenance Free	Yes					
Typical Recharge Time	3-4 hr to 90%					
Management & Communication						
Indicator	LED indicator			LED or LCD		
Communication Port	USB B type : AP Model					
Physical						
Dimensions (WxDxH) (mm)	100 x 278 x 143			147 x 360 x 164		
Weight (kgs)	4.3	4.8	5.4	8.5	10.1	11.1
Shipping Dimensions (mm)	147 x 329 x 227			233 x 449 x 277		
Shipping Weight (kgs)	4.8	5.3	5.9	9.7	11.3	12.3
Alarm						
Overload / Fault	Continuous Beeping					
Battery Mode	Beep every 2 seconds					
Low Battery	Beep every 0.5 second					
Environment						
Operating Humidity	0-95 % RH at 0-40°C (Non-condensing)					
Audible Noise	Less than 40 dB					

* Specifications are subject to change without further notice.
* Specifications are for reference, please refer to information based on real product.

20210705

FEMKO

International Inspection & Certification Body

ATTESTATION OF COMPLIANCE CERTIFICATE

According to 2014/35/EU Low Voltage Directive, 2014/30/EU Electromagnetic Compatibility Directive

Certificate Number	:	FMK.22/AC.C0200.01
Certification Body	:	Femko International Technical Control Training Certification Ltd. Co. *Kazım Dirik Mah. 372/7 Sok. No:8 Bornova Izmir Turkey*
Certificate Holder and Address	:	Biobase Scientific (Shandong) Co.,Ltd *Olabo Intelligent Manufacturing Industrial Park,ancheng Town,pingyin County,jinan City,shandong Province,China*
Manufacturer of The Test Sample	:	Biobase Scientific (Shandong) Co.,Ltd *Olabo Intelligent Manufacturing Industrial Park,ancheng Town,pingyin County,jinan City,shandong Province,China*
Product Commercial Brand	:	
Product Description & Specifications	:	Incubator
Type & Model Scope	:	See Annex
Directive & Regulations	:	2014/35/EU Low Voltage Directive 2014/30/EU Electromagnetic Compatibility Directive
Harmonised Standards	:	EN 61010-1:2010/A1:2019, EN IEC 61326-1:2021
Submitted Documents	:	Declaration of Conformity
Number & Date of Test Report	:	EC.BIOS.20221108002-R-1L, EC.BIOS.20221108002-R-1E *12.11.2022* *12.11.2022*

Result: Based on the Declaration of Conformity; The company has declared that the assembled product compliance with the 2014/35/EU Low Voltage Directive and 2014/30/EU Electromagnetic Compatibility Directive published by the Europen Parliament and Council and the relevant standards. Safety components, essentially parts, drawings, assembly and installation procedures are the responsibility of the company and, the CE marking below can only be used at the manufacturer's responsibility after the completion of the EC Declaration of Conformity for all relevant Directives. This certificate covers only the product(s) mentioned above. In case of any change in the product(s), FEMKO must be notified. This certificate, which must be returned upon request, remains the property of FEMKO. The aforementioned company above must keep a copy of this document for 10 years from the date of registration of the document.

Date of Decision	: 21.11.2022
Place of Issue	: Izmir-Turkey
Date of Expiry	: 21.11.2027
Revision No	:
Revision Date	:

AYÇA DEMİROK
Conformity Assessment
Coordinator

CE

CERTIFIED FEMKO CERTIFIED

Femko Inspection & Certification
Femko Ulus. Tek. Kont. Eğt. Belg. Ltd. Şti.
www.femko.com.tr

ANNEX : Type & Model Scopes

CERTIFICATE NO	CERTİFİCATE HOLDER	PRODUCT DESCRIPTION
FMK.22/AC.C0200.01	Biobase Scientific (Shandong) Co.,Ltd	Incubator

Type & Model Scopes

BJPX-H54/BJPX-H54II/BJPX-H88/BJPX-H88II/BJPX-H160/BJPX-H270/BJPX-H160II/BJPX-H200II/BJPX-H270II/BJPX-H54BK(D)/BJPX-H54BK(G)/BJPX-H88BK(D)/BJPX-H88BK(G)/BJPX-H160BK(D)/BJPX-H270BK(D)/BJPX-H160BK(G)/BJPX-H200BK(G)/BJPX-H270BK(G)/BJPX-H30II/BJPX-H48II/BJPX-H64II/BJPX-H123II/BJPX-H230II/BJPX-H35/BJPX-H50II/BJPX-H80II/BJPX-H50IV/BJPX-H80IV/BJPX-H160IV/BJPX-H270IV/BJPX-100/BJPX-150/BJPX-200/BJPX-300/BJPX-Y100/BJPX-Y200/BJPX-Y300/BJPX-60/BJPX-I-50/BJPX-I-80/BJPX-I-100/BJPX-I-150/BJPX-I-200/BJPX-I-250/BJPX-I-300/BJPX-I-400/BJPX-I-600/BJPX-I-800/BJPX-B80I/BJPX-B150I/BJPX-B200I/BJPX-B250I/BJPX-B300I/BJPX-B400I/BJPX-B80II/BJPX-B150II/BJPX-B200II/BJPX-B250II/BJPX-B300II/BJPX-B400II/BJPX-B150III/BJPX-B200III/BJPX-B250III/BJPX-B300III/BJPX-B400III/BJPX-B100/BJPX-B150/BJPX-B200/BJPX-B250/BJPX-II-80/BJPX-II-100/BJPX-II-150/BJPX-II-200/BJPX-II-250/BJPX-II-300/BJPX-II-400/BJPX-HT100/BJPX-HT150/BJPX-HT200/BJPX-HT250/BJPX-HT400/BJPX-HT80BII/BJPX-HT100BII/BJPX-HT150BII/BJPX-HT200BII/BJPX-HT250BII/BJPX-HT300BII/BJPX-HT400BII/BJPX-HT100B/BJPX-HT150B/BJPX-HT200B/BJPX-HT250B/BJPX-HT400B/BJPX-HT1000(PC)/BJPX-HT150/BJPX-HT200/BJPX-HT250/BJPX-HT300/BJPX-HT400/BJPX-HT150II/BJPX-HT200II/BJPX-HT250II/BJPX-HT300II/BJPX-HT400II/BJPX-M100/BJPX-M150/BJPX-M200/BJPX-M250/BJPX-M100(PC)/BJPX-M150(PC)/BJPX-M200(PC)/BJPX-M250(PC)/BJPX-III-80/BJPX-III-100/BJPX-III-150/BJPX-III-200/BJPX-III-250/BJPX-III-300/BJPX-III-400/BJPX-III-80-I/BJPX-III-100-I/BJPX-III-150-I/BJPX-III-200-I/BJPX-III-250-I/BJPX-III-300-I/BJPX-III-400-I/BJPX-III-600-I/BJPX-III-800-I/BJPX-M100B/BJPX-M150B/BJPX-M200B/BJPX-M250B/BJPX-M100P/BJPX-M150P/BJPX-M200P/BJPX-M250P/BJPX-M80N/BJPX-M100N/BJPX-M150N/BJPX-M200N/BJPX-M250N/BJPX-M300N/BJPX-M400N/BJPX-M80BI/BJPX-M100BI/BJPX-M150BI/BJPX-M200BI/BJPX-M250BI/BJPX-M300BI/BJPX-M400BI/BJPX-M600BI/BJPX-M800BI/BJPX-M300/BJPX-M400/BJPX-M150II/BJPX-M200II/BJPX-M250II/BJPX-M300II/BJPX-M400II/BJPX-M150III/BJPX-M200III/BJPX-M250III/BJPX-M300III/BJPX-M400III/BJPX-C160F/BJPX-C100/BJPX-C160/BJPX-C200/BJPX-C260/BJPX-C300/BJPX-C80S/BJPX-C160S/QP-50/QP-80/QP-160/BJPX-C100M/BJPX-C160M/BJPX-C200M/BJPX-C260M/BJPX-C300M/BJPX-C50/BJPX-C80/BJPX-C160/BJPX-C50II/BJPX-C80II/BJPX-C160II/QP-80L/QP-160L/BJPX-C80HI/BJPX-C160HI/BJPX-C80N/BJPX-C160N/BJPX-C80III/BJPX-C160III/BJPX-C80D/BJPX-C160D/BJPX-C80T/BJPX-C160T/BJPX-SP10/BJPX-SP3/BJPX-SP5/BJPX-SP8/BJPX-SP18/BJPX-SP36/BJPX-DB1/BJPX-DB2/BJPX-DB4/BJPX-LB/BJPX-DBP/BJPX-LBP/BJPX-SK24/BJPX-L200/BJPX-L200II/BJPX-L1000/BJPX-L200BK/BJPX-L150/BJPX-L250/BJPX-L300/BJPX-L400/BJPX-L150II/BJPX-L250II/BJPX-L300II/BJPX-L400II/BJPX-L160B/BJPX-L250B/BJPX-L300B/BJPX-L400B/BJPX-L160E/BJPX-L250E/BJPX-L300E/BJPX-L400E/BJPX-A250/BJPX-A300/BJPX-A400/BJPX-A250II/BJPX-A300II/BJPX-A300III/BJPX-A400II/BJPX-A1000C/BJPX-A1500C/BJPX-A160B/BJPX-A250B/BJPX-A300B/BJPX-A400B/BJPX-A160E/BJPX-A250E/BJPX-A300E/BJPX-A400E

BIOBASE

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DECLARATION OF CONFORMITY

Technical file of the company mentioned below has been inspected and audit has been completed successfully

2014/35/EU Low Voltage Directive and 2014/30/EU Electromagnetic Compatibility Directive have been taken as reference for these processes

Company Name:	**Biobase Scientific (Shandong) Co.,Ltd** No. 1777 Dazheng Road, High-tech Zone,Jinan City,Shandong Province ,China
Brand:	**BIOBASE**
Related Directives and Annex:	**2014/35/EU Low Voltage Directive (LVD)** **2014/30/EU Electromagnetic Compatibility (EMC)**
Related Standards:	**EN 61326-1:2013; EN 61010-1:2010.**
Product(s):	**CO_2 Incubator**
Type(s)/Model(s):	**BJPX-C50; BJPX-C80; BJPX-C160; BJPX-C50II; BJPX-C80II; BJPX-C160II**
Classification:	**Laboratory Equipment**
Examination Period:	August 24, 2023
Date of Expiry:	August 23, 2028
Review Result:	We, Biobase Scientific (Shandong) Co.,Ltd, declare that during the self-testing and performance evaluation, no Non-compliance according to the requirements of the Low Voltage Directive 2014/35/EU and Electromagnetic Compatibility Directive 2014/30/EU was detected.

Year of DOC marking: **2023**

山东博科科学仪器有限公司
Biobase Scientific(Shandong)Co.,Ltd

RA Specialist: Roxane Lan

Document No: BKSD-R23082401

CE

BIOBASE®

CO_2 Incubator
BJPX-C50/80/160
User Manual

BIOBASE GROUP

Version 2020.08

Preface

Dear respected users:

Welcome to select and purchase BIOBASE CO_2 incubator, here please accept our sincere thanks!

CO_2 incubator is widely used in the research and production of medicine, immunology, oncology, genetics, microbiology, agricultural science, and pharmacology, and has become one of the most commonly used conventional instruments in laboratories in the above-mentioned fields. The CO2 incubator isa kind of device for in vitro incubation of cells/tissues by simulating the growth environment of a similar cell/tissue in the incubator chamber, such as constant pH (pH:7.2-7.4), stable temperature (37°C), and high relative humidity (90%) , stable CO2 level (5%).

We sincerely hope that our products will bring the greatest help for your work.

In order to make you have a better understanding of the CO_2 incubator, please be sure to carefully read the user manual before use. The content of this manual is very important for you to use this machine safely and correctly!

After you have read the user manual carefully, please keep it in a convenient place for future reference

Content

I.Installation & Debugging

1. Security Operation & Preventive Measures

1.1 This manual includes important safety regulations, please be sure to follow the instructions.
All of the matters and procedures described here are designed to allow the users to use this equipment properly and safely. If the users follow the precautions described here, they and the other person will be protected from possible harm.

1.1.1 ！Warning (Be Likely to Cause Serious Property Damage or Casualties)

I、 This product must be reliably grounded and away from sources of electromagnetic interference (neutral line can not be used as grounding line).

II、 Use a power source that matches the electrical parameters indicated on the nameplate of this device.

III、 Do not insert metal objects such as nails or iron wires to any openings or gaps in the device or any vents used for internal air circulation, otherwise electric shock or injury may occur due to accidental contact of the above objects and moving parts.

IV、 Do not allow the product to be unplugged or plugged in without turning off the power switch during operation.

V、 Do not damage the power plug or power cord. If the user wants to remove the plug from the power socket, he should hold the power plug rather than pull the power cord lead. If the plug connection is loose, do not use the power plug again, do not allow to lengthen or shorten the power cord, otherwise it may cause fire or electric shock.

VI、Users must not disassemble, repair or modify the equipment by themselves. If any of the above operations is performed by an unauthorized person, fire or personal injury may result from improper operation.

VII、 The user-provided carbon dioxide cylinders are pressure vessels and must comply with the National Pressure Vessel Management Code.

VIII、Do not store volatile or flammable items in this device, otherwise, an explosion or fire may be caused.

IX、There must be no obstruction of the air circulation hole in the use process, and the circulation of the air duct must be smooth;

1.1.2 ！Warning (Be Likely to Cause Serious Property Damage or Casualties)

I、Operations can be done after having fully read and understand the product instructions.

II、304 stainless steel liner can not resist acid, please pay attention to anti-corrosion measures, do not use acidic media in the cabinet.

III、The product power cord must be unplugged when performing the following operations:

a、Replace the fuse;

b、Product has failure and needs to be repaired;

c、The product has not been used for a long time;

d、The product is moved to other places.

IV、 Please use a grounded power socket to prevent electric shock. If the power socket is not grounded, it must be installed by a qualified technician.

V、 Avoid direct glaring at the UV light, because UV light may cause temporary or permanent damage to eyes.

VI、When the product is placed on a workbench, the feet should be fixed to prevent the product from falling, and causing personal injury.

1.1.3 ！Warning (Be Likely to Cause the Product Can Not Work Normally or Affect the Service Life)

I、When handling the product, care should be taken to avoid damage to the vulnerable components such as the meter on the panel.

II 、 This equipment should be installed on a solid ground to keep it level. If the ground is not solid enough or the installation site is not suitable, personnel may be injured due to overturning overturning of the equipment.

III 、 After each test, the product should be wiped off the water inside the liner to avoid corrosion of the liner and affect its service life.

IV、Do not open or close the cabinet door by gravity, otherwise it may cause the door to fall off and the product to be damaged.

V 、 Do not apply extra pressure to the glass door or scratch the glass surface with sharp objects, otherwise the door may be broken or have scratches.

VI 、 Do not place water-containing containers or heavy objects on the product, to avoid water is splashed on the product thus, causing a short circuit or electric shock hazard, or heavy objects falling down.

VII、This product must not be placed outdoors.

1.2 Installation Site

For proper operation and optimal performance, the equipment should be installed in a location that meets the following conditions:

- A location that will not be directly affected by direct sunlight or air flow from the air conditioner.
- A place with clean air and adequate ventilation (do not install in a tightly closed room).

Note: The ambient temperature must be at least 5°C lower than the set temperature.

⚠ Warning

If the device is used in a small, closed room, the concentration of CO_2 in the air may increase and it may have harmful effects on the human body.

When the device uses CO_2 control, it is necessary to ventilate the room frequently. Concentrations of gases in closed room will gradually increase and high concentration of CO_2 gas will be dangerous to humans. In addition, when CO_2 is used, direct intake of air from the cabinet should be avoided when opening the door.

- A place away from heat source.
- A place with a solid, level surface.

⚠ Warning

Please choose a flat and solid floor for installation, which will prevent the device from tipping over. Improper installation may result in water spillage or personal injury due to overturning of the equipment.

- A place where there is no flammable or corrosive gas.

⚠ Warning

Do not use this device outdoors. If the device is exposed to rain, it may cause leakage or electric shock.
Do not place the device in a wet location or in a location that may be splashed by water. Otherwise, it may cause leakage or electric shock due to low insulation degree.

- A place where high humidity does not easily occur.

⚠ Warning

Do not install the device in a location where flammable or volatile gases are present, as this may cause an explosion or fire.
Do not install the device in a place where there is an acidic or corrosive gas, otherwise it may cause leakage or electric shock due to corrosion.

1.3 Use Environment

To prevent the incubator from being contaminated, select a suitable installation site and completely sterilize the components in the cabinet.

1.3.1 . Avoid high temperature and high humidity.

Avoid high temperature or high humidity locations because the bacteria in such places air are more than other normal air.

If necessary, please install air conditioning in the room, so that the ambient temperature is maintained at about 25℃-27℃ to ensure that the ambient temperature difference CO2 incubator and set temperature is not less than 5℃-7℃.

1.3.2. Avoid excessive ventilation and locations where many people pass by.

Avoid close doors, air conditioners, fans and other locations, because bacteria may be easily into the incubator in such place.

1.3.3. Installed in the sterile room

In order to achieve a better training effect, please install the equipment in a sterile room

1.3.4. Using clean containers

Pollution is mainly caused by a container, such as a culture dish or a culture flask, which is stored in the box.

1.3.5 Ensure the airflow around the product.

To ensure that the air circulation around the instrument, there need be at least a 5cm gap at the back and side around the equipment.

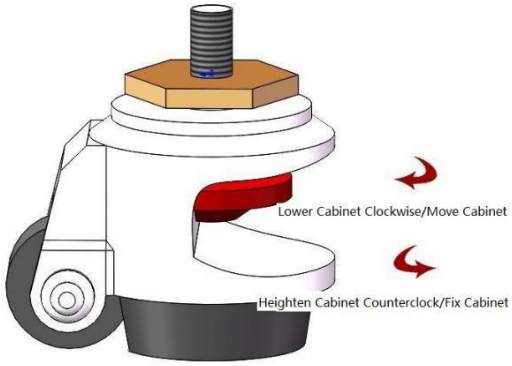
2. Installation

2.1. Remove all the package materials;

Inspect the surface of main body to make sure whether there is scratch, deformation or uncorrelated things; open the door of the CO2 incubator to make sure the air circulation of the equipment. If the shell panel is dirty, please wipe the dirt using neutral detergent, and clean the residual neutral detergent with clean water (Undiluted detergent will damage the plastic components, please dilute the detergent with reference to the description of the detergent.)Using the wet cloth wipe the shell after cleaning,and then using dry cloth wipe the shell panel.

2.2. Adjustment of Footmaster Caster

Clockwise rotate caster' red part to low down the base feet and the height of the cabinet. Low down all four casters can move the cabinet position. Counterclockwise rotate casters' red part can rise the base leg and height of cabinet. Raise all four casters can at same time can fix the cabinet. Adjust the four Foot -masters makes the cabinet stable.



2.3. Grounding

⚠ Warning

Please use a power socket with ground wire to prevent electric shock. If the socket is not grounded, there must be a qualified engineering and technical personnel to do it.

Don't pass through the gas pipe, power supply pipe, telephone line or lightning rod to equipment grounding. This kind of grounding may cause electric shock because of loop incomplete.

3. Connection of CO_2 tank

> ⚠ Warning
>
> Use liquefied CO_2 tank. Don't use siphon type tank.
> CO_2 of using must be for medical CO_2, purity should not be less than 99.9%.

3.1. The regulating of the CO_2 tank

The CO_2 incubator need to be used with a CO_2 tank and a CO_2 pressure regulator. (The CO_2 tank is a pressure vessel and need to be prepared by the user, CO_2 pressure regulator is a optional part and can be supplied as the requirement of the user.

Install a CO_2 pressure regulator (optional) to the CO_2 tank. There are two gauges in the device, the high pressure gauge (right side 0-16mpa) shows the quantity of CO_2 gas in the tank; the low pressure gauge (left side 0-0.6mpa) shows the output pressure. Connect 1 and 2 with a wrench, the output pressure can be adjusted via the low pressure regulator (blue mushroom head).

3.1.1 Attentions for using gauges:

The operating principle of the gauges is that the spring of the screw will withstands the diaphragm, and will make the diaphragm open or close. Loosening the rotary knob, the diaphragm will be closed, and the gas circuit will be closed accordingly. Fastening the rotary knob, the diaphragm will be open, and the gas circuit will be open accordingly. Every time when the CO_2 tank valve is closed, such as changing of CO_2 tank or other reason, please anticlockwise loosen the rotary knob to the end before fastening the rotary knob in order to make the gas circuit closed. Otherwise the low pressure gauge maybe damaged as the reason of the instantaneously pressure is too high when opening the CO_2 tank valve.

Please open the pressure gauge slowly, and if loosening the rotary knob, please loosen to the end, and if fastening the rotary knob, please fasten to the end, as half on or half off will lead to leakage, and if this situation last long, it will result in the instability of the pressure gauge or the breaking of it.

Normally, the high pressure gauge will show between 5-7Mpa; however, if the ambient temperature is less than 15°C, it will show 4-5Mpa. And we suggest that the pressure do not higher than 8Mpa.

When the high pressure gauge shows between 2-3Mpa, it means that there is no liquid CO_2, and at the same time, the pressure and the gas output is unstable, please observe it timely, in order to make sure that changing a new CO_2 tank at the right time.

It would be better to adjust the low pressure gauge to make it show 0.08Mpa-0.1Mpa; it need to be adjusted many times in order to obtain a stable pressure of the low pressure gauge at the first time of using. And please make sure do this way every time when changing the CO_2 tank.

The CO_2 pressure regulator need to be calibrated regularly, and the gauges need to be testing regularly, in order to make sure the accuracy and the reliability when adjusting of the pressure. Please repair it timely when there is leakage of the CO_2 pressure regulator and the pointer of the gauges can not work well.

If the CO_2 pressure regulator is frozen, please thaw it with hot water or steam, and can not be thawed with flame. And please wipe the water on the CO_2 pressure regulator after thawing.

3.2. Connecting the Intake Tube

1. Installation components

Check installation components and tools

（1） Check accessories for pressure reducing valve；

（2） Check installation tools；

（3） Check remaining gas in cylinders。

The specific parts and tools required are as follows:

（1）Pressure reducing valve

（2） Live wrench (maximum opening 43mm)

（3）Silicone hose

（4）Spring clip

（6）Cylinder connection port

2. Installation steps

First check that the gauge of the pressure reducing valve is “0” and close the cylinder.

1、As shown in the picture, turn the pressure reducing valve gas switch knob clockwise and tighten it to the closed state.

2 、 Install the pipe connection plug and adjust the live wrench to tighten the plug to prevent gas leakage. Connect the silicone tube to the socket. The other end is connected to the tank inlet.

3、Use the live wrench to tighten the pressure reducing valve at the cylinder connection.

4 、 Open the gas cylinder and read the gas pressure indication of the cylinder (as shownin the right meter) to check the gas inventory of the cylinder.

After checking that the gas is not leaking, install the black pressure regulating knob andturn the clockwise to adjust the pressure to 0.1 MPa, as shown in the left meter.

Turn the pressure reducing valve gas switch knob counterclockwise to open the switch to the maximum state.

Note: When installing with a live wrench, please tighten to the tightest condition. Make sure the black pressure knob is the loosest state before opening the cylinder!

3.3. Requirements on Working Air Pressure

During the using, the high pressure gauge should not less than 2Mpa and the output pressure of low pressure gauge should not more than 0.1Mpa

Once inlet pressure exceeds 0.1 Mpa, even 0.2 Mpa, it will destroy CO_2 sensor. At first, the damage may be too slight to perceive, but if this mis-operation happen many times, it will accumulate damage to the CO_2 sensor, and will damage the whole CO_2 sensor, make it out of function. So the life time of the CO_2 sensor is relate to the value of the inlet pressure, as long as the inlet pressure can be adjusted well, it can protect the performance of the CO_2 sensor. CO_2 sensor is expensive and difficult to replace, so in order to prolong its service life, adjustment of inlet pressure well is necessary.

When the machine was used for the first time, please set the secondary pressure of CO_2 to 0.05MPa, in order to the secondary pressure is too high to lead to the fall of the tube connected to the CO2 inlet of the machine, in this condition it will cause the leakage of the CO_2 and the damage of the Used for the first time When use Excessive high secondary pressure may cause tube separate from incubator air inlet port and CO_2 leakage. When air was flowed into the incubator for the first time, CO_2 secondary pressure should be set as 0.05MPa, which can avoid the damage of gas path.

Increasing concentrations of the CO_2 gas is harmful for health, could even result serious consequences like asphyxia and death. Once gas leakage is detected, timely maintenance is necessary.

II. Instructions for Use

1. Overview

CO_2 incubator is a advanced incubation device, which can not only provide a stable temperature and humidity environment, but also continuously supply CO_2 gas of certain concentration, with which it can control the pH value of the incubation culture and provide an ideal condition for the cultivation subject.

Application: Cultivating cell, tissue and bacterium for Medical Institutions

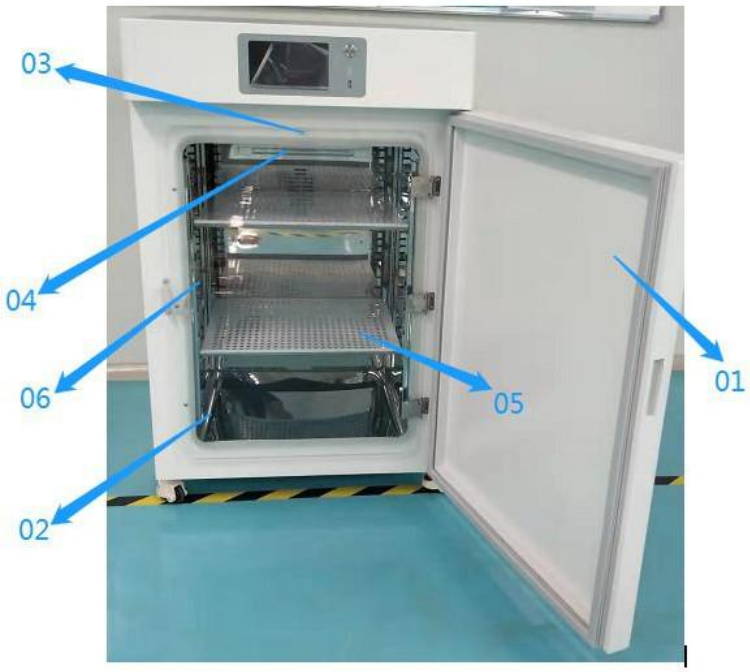
Electric safety performance: meets the requirements in Appendix A of register product.

Product attribute: Class II laboratory equipment.

Technical Parameters

Note: The technical parameters above is based on the Ambient Temperature is 25 ℃ and the relative humidity≤ 85 %.

2.Structure



CO_2 incubator is composed of the cabinet body, the liner, temperature control unit, CO_2 concentration control system.

Outer door : The outer door is attached to the body frame by magnetic seal strip.

Inner door: The inner door is made of tempered glass. Avoid striking and scratching the glass during usage.

Door switch: It is used to detect whether the door is closed or not, once the outer door is open, CO_2 electromagnetic valve and circulating fan will stop working.

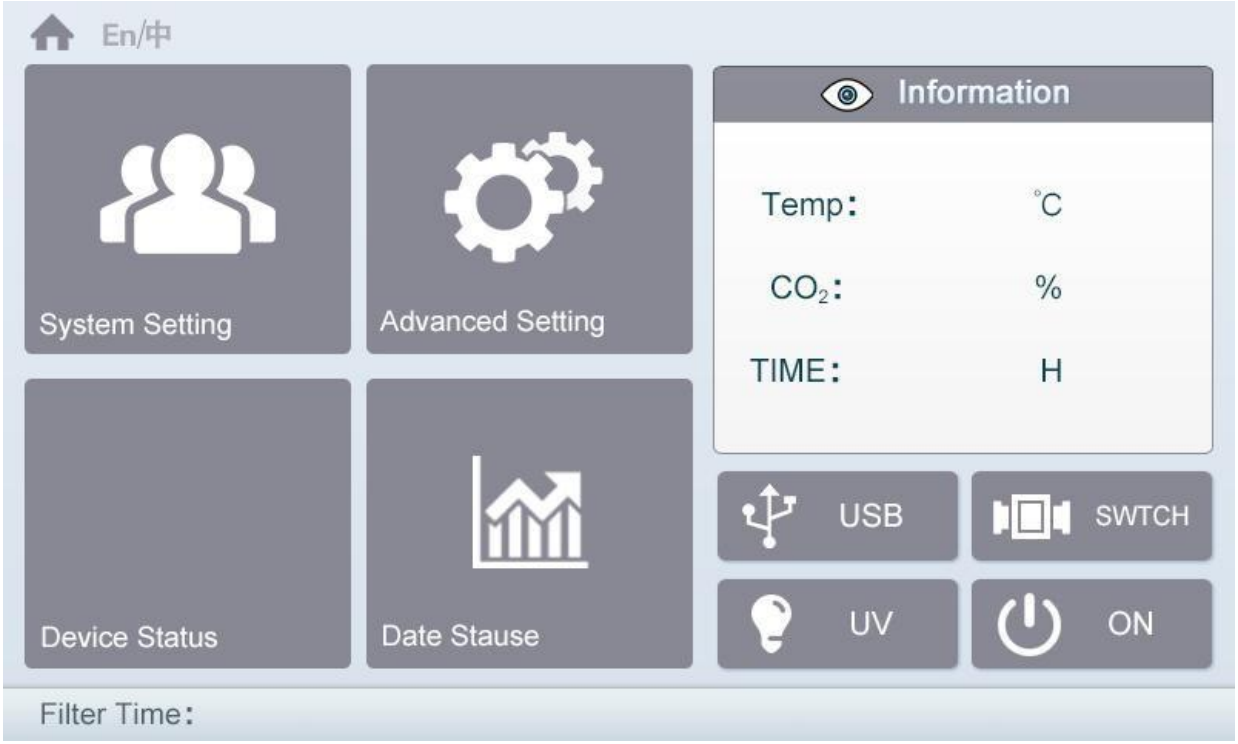
UV lamp: It is used to sterilize the work chamber.

Partition: It is used to place incubation utensils.
Humidifying plate: Need to use sterile distilled water inside.
Ladder: It is used to place shelves and adjust the height of shelves.

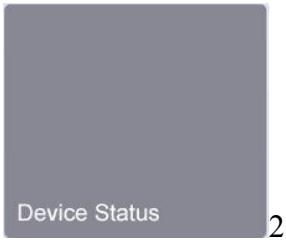
3.Control Panel & Keyboard

3.1 Preparation

Plug in the power supply, and the power indicator light will flash, which indicates the power is connected and it's at the standby status.
Confirming whether voltage stabilizer is needed according to installation environment, to ensure power voltage fluctuation not exceeding 220V + 5%.
Main Interface Description:



1、 Power on button： When the button is pressed, the icon turns to be orange, indicating that it is turned on; if the icon is white, indicating that it is turned off.

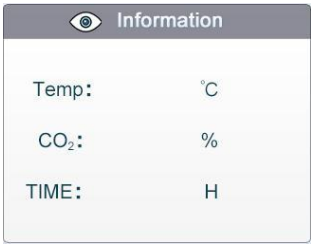


2、Device status display: In the case of a shutdown, "Not running" is displayed; in the case of power-on, "Running" is displayed and a running icon is displayed. The trumpet button in this position is a mute button, which can control the opening and closing of the alarm sound, but it can not eliminate the alarm.

3、UV light button:Use only when the machine is standby (the ON key of the display screen is white). The UV key opens for the orange display.

4 、 Solenoid valve button: The solenoid valve cannot be operated when the door is open. When the door is closed: if the solenoid valve is turned on, the icon turns to be orange; if the solenoid valve is closed, the icon turns to be white. If the solenoid valve is turned on for the first time, there will be a delay of several seconds, and the solenoid valve will automatically act according to the gas concentration in the cabinet.

5、USB button: Press the button after inserting the U flash drive, the icon turns to be orange, when the lower middle position shows "storing data", indicating that the U flash drive works normally; please press the button again before unplugging the U flash drive, when the display shows "U flash drive has been successfully removed", then the user can unplug the U flash drive.



6 、 Real-time monitoring: Temperature: Display the temperature in the incubator.

CO_2 concentration: Display the CO_2 concentration in the incubator.

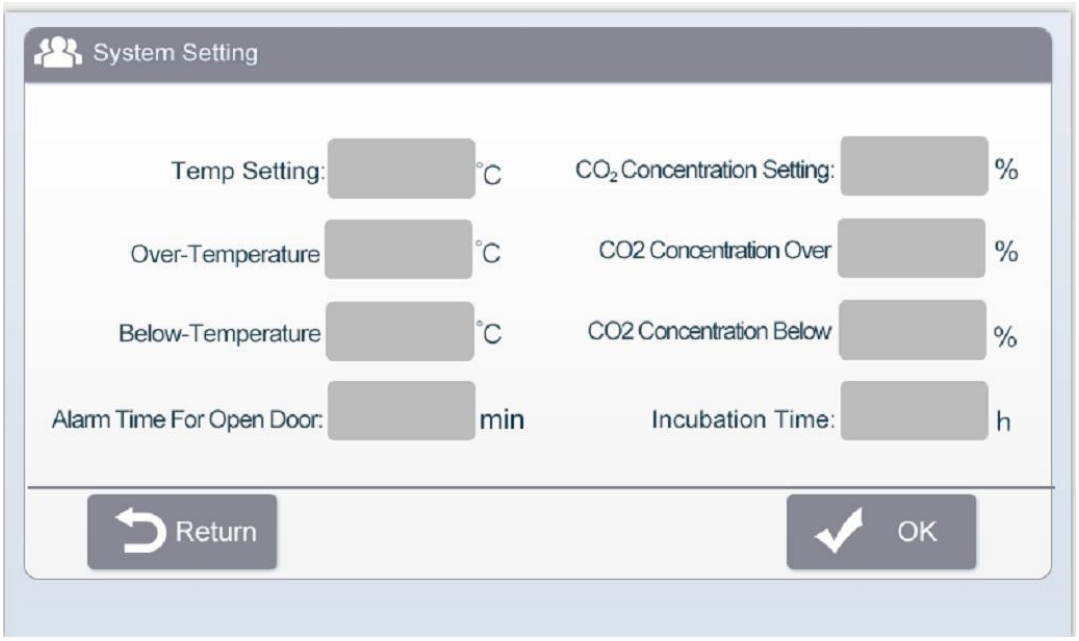
TIME ： The incubation time countdown value. When the incubation conditions are satisfied, the countdown shall be started in hours; when the value is reduced to 0, the alarm shall be sounded and the “Incubation Complete” sign is displayed in the lower right position. The alarm can be eliminated by opening or closing the door.

7 、 Data display: Press this button to enter the temperature curve display interface.

9 、 Advanced setting: Users cannot access without authorization, or it may affect the normal operation of the device.

10、Filter time: When the filter time (calculated according to the ventilation time) is greater than 3000 hours, an alarm will be generated and the prompt “please replace the filter” will occur to prompt the user to replace the filter.

System Setting Interface Description:



1 、 Temperature setting: Set the temperature inside the incubator. The maximum temperature setting is 60°C.

2、CO_2 concentration setting: Set the CO_2 concentration in the incubator , the maximum is 20%.

3、Door open alarm time: Set the door open alarm time, and the unit will be in minutes. When the door opening time exceeds the set time, the alarm sounds, and when the door is closed, the alarm can be eliminated. There is no alarm in the factory setting.

4、 Incubation time: set the incubation time, and the unit will be in hours. After setting the time, the corresponding value will be displayed on the main interface's TIME place. When the incubation condition is reached, the countdown will be started; up to 999 hours can be set and the factory setting is 0.

5、(Over temperature °C alarm) Over temperature alarm: set the value, when the temperature exceeds the set value, it will generate an alarm and display the "high temperature" sign in the lower right. Only when the temperature is restored to this range, the "high temperature" sign will disappear; the maximum setting is 10°C and the factory setting is 1°C.

6、 (CO_2 concentration exceeds % alarm) Over concentration alarm: set the value, when the concentration exceeds the set value, an alarm will be generated and the "high gas concentration " sign will be displayed at the lower right. Only when the concentration is restored to this range, the "high gas concentration " sign will disappear; the maximum setting is 10% and the factory setting is 1%.

7、Low temperature alarm: Set the value, when the temperature is lower than the set value, it will produce an alarm, and show the "low temperature" sign at the lower right. Only when the temperature returns to this range, the sign of "too low temperature" disappears; the maximum temperature can be set to 10 and the factory can be set to 1.

8、 (Over-temperature temperature alarm) Over-temperature alarm: Set the value, when the temperature exceeds the set value, the alarm will be generated, and the "over-temperature" sign is displayed at the lower right. Only when the temperature restores to this range, the mark of "super high temperature" disappears; the maximum temperature can be set to 10 degrees C, and the factory can set to 1 degrees C.

9、 OK button: Press this button, all the set values will be saved, otherwise the original value will still be displayed.

10. Return button: Press this button, the set values for incubation time, high temperature alarm, and CO_2 concentration alarm will not be saved. However, the set values for temperature setting, CO_2 concentration setting, and door open alarm time will be saved.

U flash drive instructions:

1. Insert the U flash drive when the power is turned on. Press the U flash drive button, and that the U flash drive is connected successfully or U flash drive is not connected will be displayed. If the connection is successful, the system enters the next step.
2. After the U flash drive is connected successfully, it will display the data being stored. Once every minute, the data will be stored (every time when the data is stored, a buzzer will be sounded once). During the data storage process, an EXCEL table of WD01 will be created. A table can store 120 temperature values and the corresponding time values. When these 120 data are stored a WD02 EXCEL table will be automatically created, and so on.
3. After the data is stored, the user can unplug the U flash drive when the display shows that it is successfully removed, and then insert the U flash drive into the computer to read the data (it is recommended to use WPS2003 to open it, since other software may cause data to be garbled).

3.2Precautions for U flash drive :

1. Please do not press the U flash drive button and pull out the U flash drive frequently.
2. If a USB flash drive is inserted, if that the connection fails display, please reinsert the USB flash drive, and press the USB flash drive button again. If the connection still fails, check if the U flash drive interface is loose, the user can also try to reboot the device or format the USB flash drive.
3. It is recommended to cut each read data into the computer to save and clear the USB flash drive to avoid the next time you insert the USB flash drive, data cannot be stored, or data can be disturbed.
4, Please avoid to cut off the power during the use, the previous data can not be lost after the device is powered off or the device is restarted, and the U flash drive needs to be re-operated after the power is on.

3.3Alarm description:

The mute button only clears the alarm sound but does not eliminate the alarm message unless the device returns to normal operation status.

4. Attention for Use

4.1 This equipment should be placed in dry, levelling indoor place which is without toxic and harm, without strong electromagnetic and radiation. And should avoid direct sunlight. There should be a certain space around the equipment should be around a certain space, in order to facilitate maintenance. In order to ensure the precision of temperature control, it is suggested to be used under the 5 ~ 30 ℃ environment.

4.2 The use of the equipment must be equipped with a 99.9% high purity CO_2 tank, and fitted with CO_2 pressure regulator. CO_2 tank should be placed near the incubator, and connected with CO_2 gas inlet at the back of incubator, and fixed the interface with a spring clip.

4.3 When using the incubator, the minimum setting temperature should be 5℃to 7℃ higher than the environment temperature. When the ambient temperature and setting temperature is lower than RT+5℃, please use the air conditioner to reduce the ambient temperature, and we recommend you to use this CO_2 incubator in the ambient temperature is 15°C-25°C, to make sure that the temperature

control accuracy of the CO_2 incubator.

4.4 If humidity is needed, please inject two-thirds distilled water to the humidifying plate. Put it in the bottom of the chamber, close the door.

4.5 Please change a new CO_2 tank when the CO_2 cylinder pressure is lower than 2MP.

4.6 Use alcohol to clean the chamber of CO_2 incubator, and then press the disinfection button on panel. Disinfecting 1-2 hours with UV light.

4.7 When the power supply is not stable, it is better to equip with high performance voltage stabilizer (UPS), in order to reduce the breakdown caused by voltage instability.

4.8 Please do not look the UV light directly during the time of disinfection.

4.9 The operating environment of the CO_2 infrared sensor requires the relative humidity not higher than 95%, otherwise it will lead to the drifting of the CO_2 infrared sensor and will result in accuracy error. So when the relative humidity is higher than 95%, it need to reduce the value of humidifying; the way of reducing the area of humidifying can make the value of relative humidity decrease.

4.10 Under normal use conditions, it is necessary to wipe the water vapor of the liner clean when the equipment occurs abnormal shutdown or the equipment is restarted after the power is turned off . The glass door should be opened to ventilate.

Solemnly declaration: For the risks which is cause by not in accordance with the operation provisions, we will not undertake the responsibility!

5. Maintenance

Frequency	Operation
Daily	Clean inside chamber and frame, door glass
Weekly	Clean the door sealing strip, wipe the UV lamp
Every 1-3 years	Change the door sealing strip
Every 1000 working hours	Change the UV light
Every 6 months	Chang the air filter

5.1 Check the CO_2 tank regularly to ensure it is not empty;

5.2 Check if there is any leakage in the CO_2 intake pipe and connector;

5.3 Wipe the dust on the machine regularly, to prevent the dust blocking the airway and electromagnetic valve;

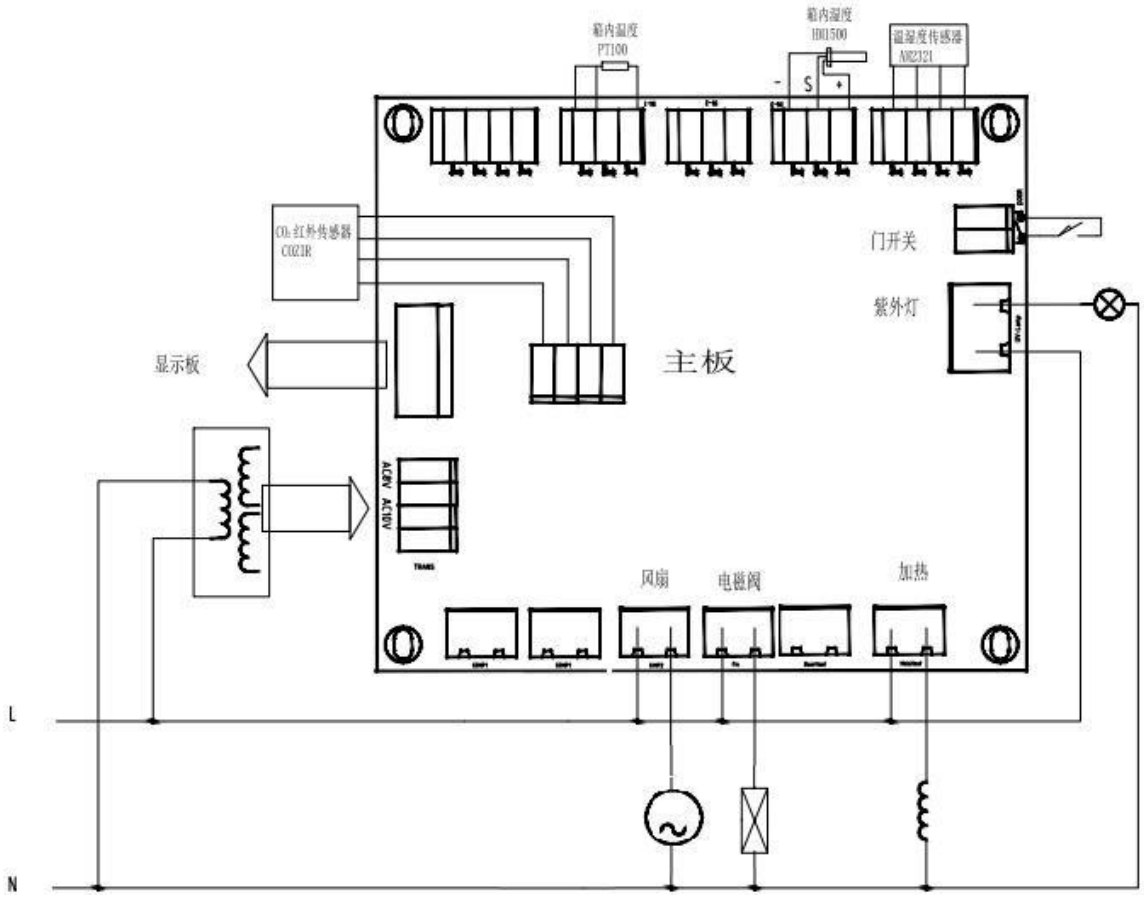
5.4 Add enough deionized water or distilled water to the humidifying plate;

5.5 The incubator should be stored in a room where the relative humidity is not more than 80%, and no corrosive gas.

5.6 here should be shock-proof, moisture-proof and other necessary protective measures during transportation. It cannot be upturned during transportation and please handle with care.

5.7 Keep the surface of the UV light clean. Wipe it timely when find dust, oil in the surface of UV light.

6. Wiring Diagram



III. Common Faults & Solutions

Please confirm whether the power is connected or not, whether the power cord is damaged, whether the fuse is good or not.

Failure phenomena	Checking site	Solution
UV light doesn't work	Holder	The light should connect well with its holder
	Light tube	Change it
	Ballast	Change it
	Circuit	Check the circuit
	Control panel	Change it
Button doesn't work	Control panel	Make sure the power connects well and the fuse is good
		Check if the button is broken
		Make sure the connecting wire is connected well
		Change it
Blower doesn't work	Micro switch	Check whether the micro switch is damaged or works properly
	Blower	If blower is broken. change it
	Circuit	Check the circuit
	Control panel	Change it
Display of CO2 concentration is not correct	Airway	Check if the airway falls off, bends, or is blocked
	Control panel	Change it
	Sensor	Connect with a CO2 concentration tester
	Solenoid valve	Check if the inlet and outlet of the solenoid valve have airflow
Temperature is abnormal	Sensor	Use the built-in temperature tester to test the temperature of the working chamber

	Ambient temperature	Make sure the Ambient temperature is higher at least 5℃ than the setting temperature
Relative humidity	Too low	Increase the area of evaporation
	Too high	Decrease the area of evaporation
Glass door cannot be closed tightly	Door knob	Check whether the door knob is loose
	Sealing strip	Check if the sealing strip if is tilted or aging
No electricity in equipment	Power Supply	Power supply is not connected well
	Power wire	Check if power wire is damaged
	Fuse	Check if the fuse is good
	Transformer	Check whether the transformer works normally
	Control panel	Change it
Display doesn't work	Connection winding displacement	Check whether the connection winding displacement in good contact
	Display screen	Check whether the display is good
	Control panel	Change it
	Circuit	Check if the micro switch circuit is good
	Control panel	Change it

(1) The above electrical parts must be operated by a qualified electrician in safety conditions (cutting off power supply). The other parts are not allowed to remove; otherwise the user should take responsibility by them;
(2) When failures are not occur, and the operator can't solve, please notify our maintenance department immediately. For your safety, please do not maintain equipment by yourself;
(3) The maintenance of this equipment is undertaken by trained and recognized technicians;
(4) If you need to order parts, contact the agent or our technical service department, and please indicate the model and serial number of the CO_2 incubator purchased.
Note: If the user cannot solve the problem, please contact BIOBASE customer service as soon as possible, please do not handle by yourself, otherwise there is no warranty.

IV. Warranty

1. Warranty is 12 months from EX-factory date (excluding UV light, fuse).
2. We will take no responsibility for risks caused by improper operation and man-made damages.
3. After the expiration of warranty, our company is also responsible for repairs, but the corresponding maintenance cost should be charged.
4. Life time of CO_2 incubator is 6 years from production date on the label.
5. We can provide equipment drawings and necessary technical data for maintenance companies or personnel trained by our company.

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