



Motif Beauty Hong Kong Equipment LTD

焯絲 - 香港美容儀器有限公司

# Co2 Laser

*Professional Medical Beauty Equipment*

Instruction Manual

**Fractional Laser  
10600nm**

**latest medical devices**



內含重要的健康和安全訊息 / 內含重要的健康和安全信息



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# Co2 Laser

*Professional Medical Beauty Equipment*

## Welcome to Manual

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Before using the product, you must carefully read the product manual, health and safety information, precautions, and any compatible hardware manuals.

Keep the instructions for future reference.

Operators should read this manual to ensure safe use.

# Health and Safety

**THIS PRODUCT IS DESIGNED WITH A STRONG EMPHASIS ON SAFETY PERFORMANCE. HOWEVER, IF USED IMPROPERLY, ANY ELECTRICAL PRODUCT MAY POSE POTENTIAL DANGERS SUCH AS FIRE, ELECTRIC SHOCK, OR PERSONAL INJURY.**

Please adhere to all warning statements, precautions, and instructions for use. If this product exhibits abnormal operation, emits unusual sounds or odors, or becomes too hot to touch, please stop using it immediately and disconnect all power cords.

- If you feel fatigued or need sleep, experience dizziness, mild headache, nausea, discomfort, or have poor physical condition due to intoxication or medication, or if you have exercise or balance impairments, please do not use this product.
- If you have a serious illness, please consult a doctor before use.
- Some people may experience symptoms similar to motion sickness, nausea, blurred vision, or other discomfort.
- If you have the above feelings, please stop using it immediately.
- If you feel unwell after use, please take appropriate rest and avoid engaging in any activities that require normal vision, balance, or coordination until the discomfort completely subsides.
- If you experience any of the following health issues or symptoms, please stop using immediately and consult a doctor before continuing: Dizziness, seizures, or other involuntary movements or convulsions.
- Must have doctor's permission to continue.
- It is recommended that when using this product for the first time, the duration each time should not be too long

Regarding rest, please avoid prolonged use.

- It is generally recommended to take a 15-minute break for every hour of use.
- However, in practice, the time and frequency of breaks vary from person to person. If you feel any discomfort, please take a sufficient break until the discomfort subsides.
- Radio waves may affect electronic devices or medical devices (such as pacemakers), and may cause these devices or equipment to malfunction or lead to personal injury.
- If you have a pacemaker or other medical device, please consult your attending physician or the manufacturer of the medical device you have.

Magnetic force and medical devices may interfere with pacemakers, defibrillators, adjustable drainage valves, or other medical equipment. Please do not place these products near such medical devices or users of such medical devices. If you use any of these medical devices, please consult your doctor before using these products.

Confirm the use of the surrounding environment. Please be careful when using it, and avoid colliding with others or objects. If the instrument collides with others or objects, it may cause accidents, injuries, or machine malfunctions.

- When using the instrument, please strictly adhere to the following matters.
- Before using the instrument, please check if there is enough space around you.
- Before using the instrument, please wear the appropriate eye protection devices.
- Before use, please check if there are reflective objects in the room, such as mirrors.
- Please hold the power cord tightly and secure it.

Regarding child safety, please store this product in a place that is out of reach of young children. Young children may accidentally swallow small parts, pull on the connection cables which could cause the device to fall, or get tangled in the cables, leading to injury or accidents, or causing the machine to malfunction.

Do not disassemble or modify this product or its accessories, as it may result in the risk of fire, electric shock, or injury.

# Health and Safety

## Pre-use precautions

1. IF THE DEVICE CAUSES DISCOMFORT TO YOUR CLIENT'S SKIN, PLEASE STOP USING IT.
2. IF SYMPTOMS DO NOT IMPROVE AFTER DISCONTINUATION, PLEASE SEEK MEDICAL ATTENTION IMMEDIATELY. PLEASE ASSESS THE CUSTOMER'S SKIN CONDITION BEFORE USE.
3. CHECK THE WIRES/SIGNALS BEFORE USE, DO NOT COIL THE WIRES.
4. CHECK THE CLEANLINESS AND DISINFECTION OF THE HANDLE TO ENSURE HYGIENE.
5. WHEN ABNORMAL REACTIONS OR OPERATIONAL ISSUES OCCUR, PRESS THE (POWER) BUTTON ON THE DEVICE TO FORCE A SHUTDOWN, AND THEN RESTART THE POWER. IF THE PROBLEM PERSISTS, PLEASE CONTACT US.
6. LIQUID, DUST, SMOKE, VAPOR, AND HIGH TEMPERATURE •
  - DURING USE, STORAGE, OR TRANSPORTATION, PLEASE DO NOT LEAVE THIS PRODUCT IN THE FOLLOWING PLACES.
  - PLACES EXPOSED TO SMOKE OR VAPOR
  - VERY HUMID, DUSTY, OR FRAGRANT.
7. PLACES WITH SMOKE – AREAS NEAR HEATING EQUIPMENT, EXPOSED TO DIRECT SUNLIGHT, OR CONTINUOUSLY KEPT WARM.

## Settings and Processing



- PLEASE DO NOT USE DAMAGED OR MODIFIED CABLES.
- PLEASE DO NOT PLACE HEAVY OBJECTS ON THIS PRODUCT OR ITS CONNECTING CABLES, AND DO NOT THROW OR DROP THIS PRODUCT, OR SUBJECT IT TO STRONG EXTERNAL IMPACTS.
- PLEASE DO NOT PLACE THIS PRODUCT IN UNSTABLE, INCLINED, OR EASILY SHAKEN AREAS.
- PLEASE DO NOT LEAVE THIS PRODUCT ON THE FLOOR.
- PLEASE DO NOT STEP ON OR SQUEEZE THE CONNECTING WIRES, ESPECIALLY NEAR THE TERMINALS.
- PLEASE DO NOT PULL OR BEND THE CONNECTION CABLE EXCESSIVELY.
- PLEASE DO NOT TOUCH THE TERMINALS OR INSERT ANY FOREIGN OBJECTS INTO THE TERMINALS OR THIS PRODUCT.
- IF YOU WANT TO CLEAN, MOVE, OR PLAN TO NOT USE THIS PRODUCT FOR A LONG TIME, PLEASE UNPLUG THE POWER CORD.
- PLEASE DO NOT GRAB THE CONNECTING WIRES TO MOVE THE INSTRUMENT.
- BEFORE THE POWER INDICATOR LIGHT IS ON OR OFF, DO NOT UNPLUG THE DEVICE'S CONNECTION CABLE. UNPLUGGING THE CONNECTION CABLE WHILE THE INDICATOR LIGHT IS IN THE ACTIVE STATE MAY CAUSE A MALFUNCTION.
- DURING OPERATION, TRANSPORTATION, AND STORAGE, PLEASE DO NOT PLACE THIS PRODUCT, BATTERY, OR ACCESSORIES IN HIGH TEMPERATURE, EXTREMELY HUMID CONDITIONS, OR IN DIRECT SUNLIGHT.

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# Preface

## Introduction to Instruments:

### CO2 Laser 的由來:

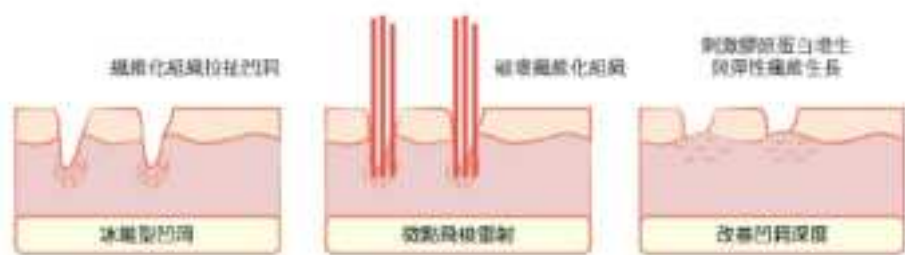
1964: The CO2 laser was first invented by C. Kumar N. Patel at Bell Labs. The CO2 laser is a gas laser based on carbon dioxide gas as the laser medium, capable of producing infrared laser light with a wavelength of 10.6 microns.

1970s: CO2 laser technology was gradually introduced into the medical field, initially used for soft tissue surgery. Due to its high energy density and excellent cutting performance, doctors discovered that it could provide precise cutting and reduced bleeding in surgical procedures.

1990s: CO2 laser technology further developed with the emergence of Fractional CO2 Laser, a new treatment method. By dividing the laser beam into many tiny beams, it allowed for more precise skin treatment while reducing side effects and recovery time.

### Modern Applications:

- Fractional CO2 Laser: This technology creates tiny thermal injury zones on the skin, stimulating the skin's natural healing process to promote collagen production, thereby improving skin texture and appearance. Fractional CO2 lasers are widely used to treat issues such as wrinkles, pigmentation, scars, and skin laxity.
- Fractional Laser: Fractional laser is a more refined fractional CO2 laser technology that can perform treatments in smaller areas, further enhancing the precision and effectiveness of the treatment.



飛梭雷射 Fractional Laser 治療原理





# Advantages

## Powerful tightening, long-lasting effect

CO2 laser has a perfect ratio of ablation to thermal effect, stimulating the proliferation and remodeling of collagen fibers, elastic fibers, and has a strong tightening effect.

## Safe, short treatment time

The treatment uses 1515 and 99 beam patterns, preserving normal mucosal tissue between the beam points to ensure more uniform heat diffusion and avoid thermal damage. This treatment is simple and quick, taking only 10–15 minutes to complete. It helps restore a "youthful" state.

Simple operation, effective and safe treatment, no need for rest after surgery, does not affect work

It can treat various parts of the body, has good effects, a wide range of pathogens, and substantial profits

The latest international technologies, with a wealth of clinical experience accumulated, in light-based beauty methods

The maximum output energy of this machine can reach 30mJ, which is the highest among similar products.

This device consists of a host and a controller. Our company has miniaturized the erbium glass laser while maintaining its original performance, integrating it into the controller. This not only eliminates the loss from fiber optic transmission but also makes maintenance very convenient.

The main components are imported from abroad, and a lot of innovations have been made in the structure, achieving technical performance at an internationally advanced level.

When changing the lamp, you only need to return the handle to the manufacturer, and there is no need to change the main unit

The device has three different point density microbeam array outputs, which can be easily replaced on the handle.

For each point density, multiple energy levels are set to provide users with tailored treatments for different lesions, thereby achieving the most satisfactory treatment results.



# Targeting the problem

- Various types of scars (surgical scars, burn scars, scald scars)
- Removal of pigmented lesions (freckles, sun spots, age spots, sun damage spots, melasma, etc.)
- Removal of stretch marks.
- Complete skin rejuvenation (skin smoothing, skin tightening, pore reduction, nodular acne)
- Vascular lesions (capillary proliferation, rosacea)
- Removal of false and true wrinkles
- Smoothing of depressions
- Wart removal





# Treatment time and daily issues

The treatment can be done every 4 to 6 weeks, and it is recommended to have a total of six treatments for optimal results. The actual number of treatments will depend on the patient's skin condition. After treatment, the skin will not become thinner; on the contrary, due to the stimulation of collagen production, it will become firmer and more elastic. However, please avoid squeezing or applying pressure to pimples in the treated area.

Most people will not experience post-inflammatory hyperpigmentation, except for particularly deep acne scars, which may appear darker after the procedure but will fade within about a month. If there is any pigmentation deposition, this is one of the normal phenomena following laser treatment.



# Contraindications

When using CO2 lasers for skin treatment, there are some contraindications that need to be particularly noted to ensure patient safety and treatment effectiveness. Here are some common contraindications for CO2 lasers:

## 1. Infectious Skin Diseases

Active skin infections: Such as bacterial, viral, or fungal infections. CO2 laser treatment should not be performed until the infection is completely healed to avoid spreading the infection and worsening the condition.

Herpes virus infections: Such as herpes simplex virus infection (HSV). Laser treatment may reactivate the virus, leading to a worsening of the condition.

## 2. Skin Conditions and Types

Overly sunburned skin: Sunburned skin is very sensitive and prone to further damage from lasers.

Extremely dry or dehydrated skin: This skin condition may respond poorly to laser treatment, increasing the risk of side effects.

Keloid tendency: Patients with keloid tendency may develop abnormal scars after treatment, such as hypertrophic scars or keloids.

## 3. Systemic Diseases

Immunological diseases: Such as HIV, systemic lupus erythematosus, etc. These diseases may affect the skin's healing ability, increasing the risk of infection and complications.

Diabetes: Uncontrolled diabetes patients may have poor healing ability and a high risk of infection.

Blood coagulation disorders: Such as hemophilia or patients taking anticoagulants, who are prone to bleeding during or after treatment.

## 4. Pregnancy and Breastfeeding

Pregnancy: Due to the potential risks of laser treatment to the fetus, it is generally recommended that pregnant women avoid CO2 laser treatment.

Breastfeeding: Although the laser itself does not directly affect breast milk, some medications used post-treatment may affect the baby through breast milk.

## 5. Photosensitive Diseases and Medications

Photosensitive skin diseases: Such as photosensitive dermatitis, lupus erythematosus, etc. Patients with these diseases are very sensitive to light, and laser treatment may worsen their condition.

Photosensitizing medications: Such as certain antibiotics (tetracyclines), antifungal medications, antipsychotic medications, etc. Patients taking these medications may have adverse reactions to laser treatment.

## 6. Recent Use of Other Skin Treatments

Recent use of chemical peels or other laser treatments: The skin may be subjected to multiple stimuli in a short period, increasing the risk of damage and side effects.

Recent use of fillers or injectable cosmetics: Such as botulinum toxin, hyaluronic acid, etc. These treatments may affect the effectiveness of the laser and the healing of the skin.

## 7. Other Contraindications

Psychological instability or unrealistic expectations: Patients with psychological issues or unrealistic expectations about treatment outcomes may be dissatisfied with the results post-treatment, affecting their mental health.

Allergy history: Patients with a history of allergies to anesthetics or other treatment-related medications should be particularly cautious.

# Instrument Data

Input	AC220V±10%,13A,50Hz	Output Power	30W
SIZE	450mm(W)*500mm(L)*1600mm(H)	Output Current	0-25MA
Cooling Method	Water cooling / Air cooling	Output voltage	DC 10KV
		Laser tube length	620mm
		Net Weight	47KGS

# Accessories

CO2 Laser	1	water funnel	1
Light Guide Plate	1	computer glasses	1
Functional Probe	1	guest eye mask	1
power cord	1	manual	1
F:50mm	1	F:100mm	1
Foot pedal	1		

## Functional Probe



If you need to remove the arm, you can twist this ring

Equipped with a graphic scanner, capable of scanning and outputting shapes such as rectangles, circles, hexagons, and triangles. The maximum scanning area is approximately 20x20m m²

# Operating Process

- 1: Cleanse the skin / Remove makeup
- 2: Select the required items
- 3: Put on protective eyewear for both the client and yourself



- 4: Analyze the skin
- 5: Test the energy level for the client using the parameter table
- 6: Carry out the treatment, and after completion, moisturize and handle the



# Parameter

## Fractional

Scope: Skin Smoothing  
Use Functional Probe



1. Select No.1
2. Power: 05W UP (05-07)W
3. Duration: 0.4ms UP (0.4-0.6)ms
4. Repeat: 0001 ms
5. Overlap: 03th
6. Shape: 20\*20
7. Scan: random

Test white paper cannot pass through 2 layers, and cannot repeat the same position  
(Operational skills: Scan in a Z-shaped pattern, covering each line without repeating, otherwise it will lead to thick scabs forming.)

targeted positioningUse a  
Functional Probe



1. Select No.2
2. Power: 04W UP (04-08)W
3. Duration: 0.6 ms
4. Distance: 0.8
5. Repea: 0001 ms
6. Overlap: 01th
7. Shape: 10\*10
8. Scan: Sequence

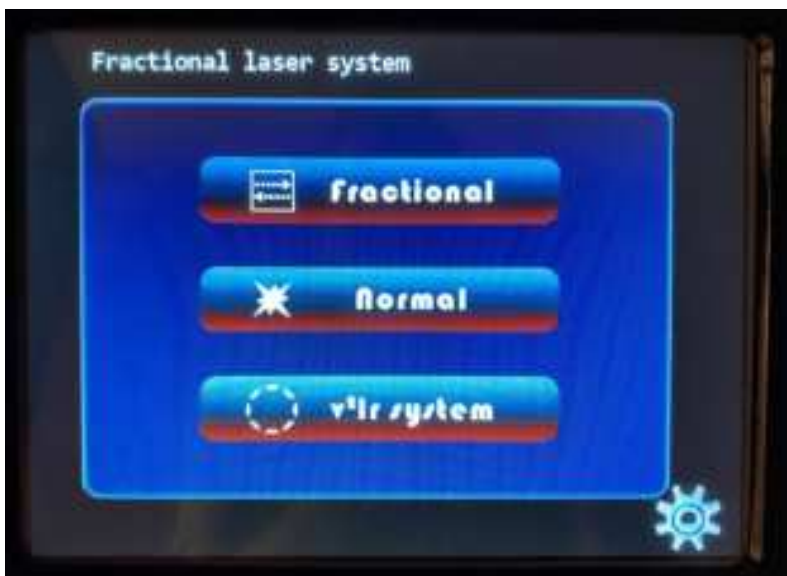
(Operational skills: Select the location of the dents, target individually, apply injections at specific points, only do one rotation at each location, do not repeat, otherwise it will leave marks.)



# Parameter

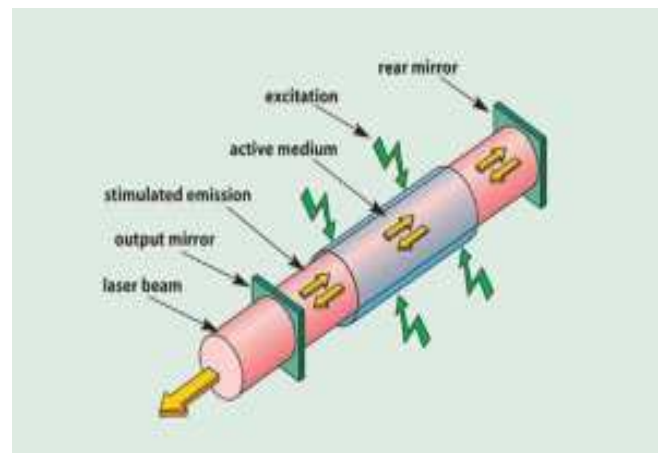
## V2lr System

Scope: Vaginal Tightening  
Use long-shaped mirror specifically for vaginal tightening



(Only applicable for vaginal tightening function)

1. Select No.1
2. ms : 20 UP (20–30)
3. Power 10w UP(10–20)



(Operational skills: During the operation, after each shot, the next shot must move, making a full 360-degree turn from the inside out is sufficient, without repetition. The client should feel a slight warmth, but there should be no pain)

# Parameter

## V2lr System

Scope: cutting warts, corns, age spots, sun spots  
Use F:100mm pen



1. Select No.1
2. Laser Pulse Mode: random
3. Shot Counter: 05shotRepeat
4. Shape szie: 10.0mmShape
5. Duration : 0.1mm
6. Power: 07w UP (07-10)W
7. Spot Size: 10mm
8. Frequency: 02Hz

Test white paper cannot penetrate 2 layers, and the same position cannot be repeated.

(Operational skills: Apply in a Z-shape on the surface of the treatment area, without localization or concentration, with a maximum of one rotation repeated; otherwise, it will form a depression.)

Regarding the scope: cutting warts, the part of the root of the wart  
Use F:50mm pen



1. Select No.2
2. Laser Pulse Mode: Widsplit
3. Shot Counter: 03shot
4. Shape szie: 06.0mm
5. Duration : 0.2mm
6. Power: 05w up (05-07)W
7. Spot Size: 100mm

Operational technique: For the epidermis of the treatment area, apply in a Z-shape, without localization or concentration, and repeat at most one turn; otherwise, it may form a depression

# 8.8-inch display

## Main Interface Animation

This screen is a touch screen, operated by tapping or dragging with your finger



Tap/long press to adjust infrared brightness

關機

## Parameter Table

### Classification



## Parameter Table



Tap/long press to adjust infrared brightness

## 8.8-inch display

### Maintenance Classification



This screen content is mainly divided into three categories

1. Instruction Manual
2. Usage Parameter Table
3. Machine Maintenance

- Drag to the main interface for operation only when in use; when not in use, the screen is for displaying the machine name.
- Once you enter the main interface for operation, you cannot return to the machine name page; if you need to display it, you must restart the instrument
- Do not use hard objects to touch the screen.
- Do not direct the laser at any screen of this instrument, as it may cause damage.
- The parameters on the parameter table are suggested values; the operator should adjust based on skin response.

### Body sensing device

After the operator enters the room, the instrument will automatically enter standby mode. It will undergo preheating and water flow cooling. During this process, the noise level will drop to 40 decibels, making it quieter than at night.



# Safe operating environment

1. The operator must ensure a clean indoor environment when using the instrument.
2. Strict and effective eye protection must be provided to the patient, such as using gauze to cover the eyes or eyelid shields for protection. The operator should use gauze to cover the patient's eyeball, and using moist gauze provides better protection for the eyes, but the treatment area must remain absolutely dry! The operator must be proficient in our company's operating methods before performing eye washing; otherwise, improper eye protection may cause great discomfort to the patient, leading to mild cases of corneal inflammation, or in severe cases, corneal detachment and even blindness.
3. The illumination in the operating space must be sufficiently large.
4. Operators in the operating area wear specialized protective goggles, but these goggles cannot completely protect against direct laser beams or lasers reflected from glass, mirrors, or smooth metal surfaces. Therefore, it is strictly prohibited to wear goggles in the presence of direct laser beams and reflected light.

# Daily cleaning of instruments

1. Clean the output nozzle: Since the instrument needs to be used in conjunction with the coupling agent during operation, after each treatment, gently wipe the output nozzle with a cotton swab dipped in anhydrous ethanol (there should be no coupling agent around the output nozzle. After wiping, place the handle on the handle rack. Wait for the anhydrous ethanol to completely evaporate before use).
2. The instrument needs to change the distilled water approximately once a month after being used for a period of time.
  - 2.1) Drainage: Complete the installation of the short upper and long lower hose. Place the long hose connected to the measuring cup on flat ground, allowing water to flow out from the measuring cup through the long hose until the water has completely drained.
  - 2.2) Water injection: Complete the insertion of the short upper and long lower tube, lift the measuring cup of the long tube, and pour purified water into the measuring cup until water overflows from the short upper tube.
  - 2.3) Cleaning: Drain the water completely, fill with purified water/distilled water, wash once, and then fill with purified water. To prevent water from spilling during the movement of the instrument, it needs to be cleaned once a month.
3. The cleaning water tank and the last used cooling water must be distilled water or purified water. It is recommended to use distilled water or commercially available purified water. Mineral water and tap water should not be used to avoid impurities in the water affecting the normal operation of the instrument.
4. Clean the equipment at least once a week using a soft, damp cotton ball to wipe the exterior surface of the machine, being careful not to let any liquid seep into the interior.
5. This instrument is prohibited from being disassembled privately



# Storage methods and shelf life

1. STORE WITHIN THE TEMPERATURE RANGE OF 5°C TO 40°C.
2. AVOID DIRECT SUNLIGHT AND STORE IN AN ENVIRONMENT WITH RELATIVE HUMIDITY < 75%.
3. THE EXPIRATION DATE IS INDICATED BY THE OPERATION DISPLAY OF THE MACHINE, WHICH SHOWS THE NUMBER OF USES. WHEN THE NUMBER OF USES OF THE LASER HEAD REACHES 700,000 TIMES, THE MACHINE WILL LOCK, AND WE WILL BE NOTIFIED TO REPLACE THE XENON LAMP. PAY ATTENTION TO TEST THE OUTPUT ENERGY OF THE LASER HEAD; IF THE ENERGY SIGNIFICANTLY DECREASES (FEELING OF LIGHT DISPERSION OR EMPTY FIRING), PLEASE MAKE AN APPOINTMENT FOR MAINTENANCE.
4. THE INSTRUMENT OPERATES FOR ABOUT 45 TO 60 MINUTES, AND AFTER USE, IT SHOULD REST FOR 30 MINUTES.
5. IF THERE IS NO WATER FLOW OR THE WATER FLOW IS NOT SMOOTH AFTER TURNING ON THE MACHINE, PLEASE DO NOT USE IT TO ENSURE THE SAFETY OF THE INSTRUMENT.

DURING THE OPERATION OF THE INSTRUMENT, PRESSING THE PRE-IGNITION BUTTON PRODUCES A SQUEAKING SOUND

- 1) LONG PERIODS OF INSTRUMENT INACTIVITY LEAD TO SLOW PRE-IGNITION; PLEASE RESTART THE INSTRUMENT.
- 2) THE INDOOR TEMPERATURE IS TOO LOW; APPROPRIATELY RAISE THE ROOM TEMPERATURE, AND IT IS RECOMMENDED TO INSTALL AIR CONDITIONING.
- 3) THERE IS A LOOSE CONNECTION OR BREAK IN THE INSTRUMENT'S LAMP CIRCUIT; CHECK THE CIRCUIT IMMEDIATELY.
- 4) THE INDOOR HUMIDITY IS TOO HIGH; KEEP THE INDOOR ENVIRONMENT DRY.
- 5) THE XENON LAMP IS BURNED OUT, REPLACE THE XENON LAMP.



QR CODE Quick Scan:

## Factory repair

NOTE: IMPROPER USE OF THE SYSTEM OR MODIFICATIONS MAY VOID THE WARRANTY AGREEMENT. PLEASE CONTACT OUR COMPANY BEFORE ATTEMPTING TO ADDRESS ANY FAULTS NOT COVERED IN THIS MANUAL.

THE EFFECTIVE EMISSION COUNT FOR THE S21 LIGHT SOURCE AT TWO WAVELENGTHS IS 3 MILLION EMISSIONS EACH. PLEASE CHECK THE COUNTER REGULARLY.

IF THE INSTRUMENT CANNOT OPERATE NORMALLY DUE TO A FAULT, AND YOU HAVE PERFORMED THE SIMPLE MAINTENANCE AS DESCRIBED ABOVE BUT STILL CANNOT ENTER NORMAL WORKING PROCEDURES, PLEASE PROMPTLY CONTACT OUR COMPANY'S AFTER-SALES SERVICE DEPARTMENT. IF FACTORY REPAIR IS NEEDED, PLEASE CONTACT US AS FOLLOWS:

REPAIR PHONE: 97299403 MR. CHAN

# Daily Maintenance

Distilled water/filtered water should be changed once a month to prevent the growth of bacteria and impurities in the water pump, which protects the laser tube and prevents the weakening of light energy. (Do not operate the machine without water, as it will damage the water pump and other devices.)



## Release water

1. Prepare a large basin and place it on the ground.
2. Firmly insert the funnel hose into the inlet water hole below until you hear a click.
3. Place the measuring cup down and wait for the instrument to completely drain the water.



## Inlet Water

1. Pick up the measuring cup.
2. Pour in distilled water or filtered water.
3. Until the drainage hole at the top starts to release water.
4. Press the metal button on the left to remove the hose.

