

User Manual

(CO2 FRACTIONAL LASER 10600AL)



CONTENTS

- I. Treatment Theory
- II. Accessory List
 - a. Articulated Arm
 - b. Fractional Scanner, Fixed Focus tube, Zoom Tube, Roller Tube (optional), Surgical Tip, Vaginal Treatment head
 - c. Eye Goggles
- III. Installations of Parts
 - a. Checking of the Machines
 - b. Light Arm, Fenders, Balance Weight, Articulated Arm, Vibration Mirror,
 - c. Foot Pedal Connection, Interlock Connection, Power Line Connection
 - d. Safety Button
- IV. Installation notice
- V. Selective Photo thermolysis
 - A. Thermal Effect
 - B. Thermal Coagulation
 - C. Thermal Ablation
- VI. Principles
- VII. Applications
 - A. Continues workings
 - B. Ultra-pulse mode
 - C. Fractional Mode
 - D. SM mode
 - Operation Step
- VIII. Skin Reaction After Treatment
- IX. Parameter

I. Treatment Theory

Skin Regeneration

Fractional laser penetrates skin and forms tiny thermal channels. This creates some ablative and thermal effect only on these channels (a micro-injury) without damaging the surrounding tissue. The tissues surrounding the micro-injuries (about 15-20% of the treatment area) start the healing process. As the collagen remodels, the skin is tightened, scars and pigmented lesions are improved as well.

Vaginal Tightening

10600nm CO2 laser acts on vagina mucosa and muscular tissue, generate extensive and regular thermal effect, get the instant tightening and lifting result. At the same time. It creates a large amount of extreme tiny peeling hole, which will improve the vagina lasting elasticity. These peeling channels will stimulate massive fibrocytes regeneration and youth the vagina. The patented comfort technology ensures non-invasive and safety, doctors and patients will choose the treatment instead of surgical method.

II. ACCESSORIES

A. ARTICULATED ARM

Korea Well-balanced articulated arm with positioning 360°



B. Fractional Scanner, Fixed Focus tube, Zoom Tube, Roller Tube (optional), Surgical Tip, Vaginal Treatment head.

Fractional Scanner



Fixed Focus Tube

Doctor can use this device to get 80um in spot diameter and deepest Heat exfoliation.



Zoom Tube

Doctor can use this device to achieve shallow or deep Heat exfoliation of skin easily. Big spot can reach the shallow level while small spot reach deeper.



Roller Tube

This is use optional depends on the spot size of the treatment



Cutting Head

It is use for hypertrophic scar, nodular cicatricial scar, Proliferative tissue.



Vaginal treatment Head

Vaginal treatment head can be used for vaginal
Tightening Surgery



C. Eye Goggles



III. Installations of parts in the Machines

A. Checking of the Machines



Check the machines whether is broken and check the accessories after the delivery.

B. Install the Articulated Arm the Vibration Mirror

First install the Fixed Frame



Install the fenders



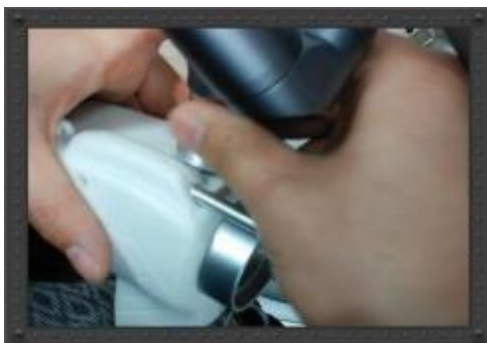
Install the balance weight



Install the articulated arm to the machines



Install the Vibration Mirror to arm of machines.



C. Installing the Foot Pedal, Interlock Connect, and Power Line connect

Foot Pedal Connect



Notice: With the notch on the top, plug the foot switch cable into the foot switch socket on the back part of the device then tighten it clockwise.

Interlock Connect



Power Line Connect



D. Safety button

First confirm this button is in the common state; second connect the power line, then use the key



IV. Installation Notice

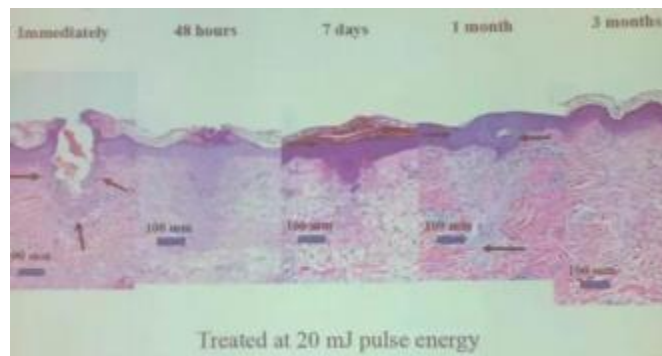
- A. The device should be placed stably in a drafty location with room temperature $10\text{ }^{\circ}\text{C}$ - $40\text{ }^{\circ}\text{C}$, relative humidity $\leq 80\%$, and not to be in the direct sunlight, closing to the radiator, such as the ventilation pipe, and in somewhere there would be mechanical vibration.
- B. For the device is an optical equipment of high sensitivity, the installation and operation environment should be low-dust and has a good air quality (non-corrosive particles, conductive dust, etc.); Otherwise, the dust would irreversibly damage the optical components inside the device.
- C. The device should be installed and placed carefully to prevent falling and bump, the optical devices in which are precise and fragile.
- D. Make sure that all the cables be connected in place and stably.
- E. There should not be strong electromagnetic interference when operating the device, if necessary, with the use of filter.
- F. Do not to replace the components of the device optionally for the internal structure is complicated. In order to ensure the normal use, please contact with the manufacturers or agents to buy or replace components needed.
- G. Please check before operating the device whether the power supply to meet the specifications required. (as detailed in the technical parameters).

Selective Photo thermolysis

a. Thermal Effect

- The phenomenon of collagen fibers will be contracted when is heated, is considered as an important feature of collagen. The collagen fibers can exist both in the status of triple-helical and free curl and can converted to each other. When the temperature of skin tissues raises to 60-65°C, collagen fibers immediately shrink to 1/3 of the original length and the diameter increases. However, the integrity of the organizational structure is not affected.
- So now we know why our skin looks lifted and tightened immediately after radio frequency treatment. Let's check the pic.

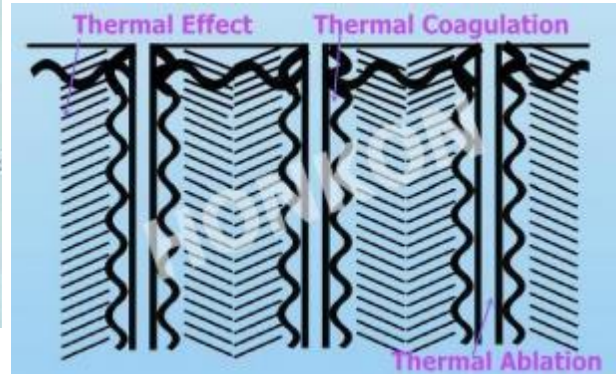
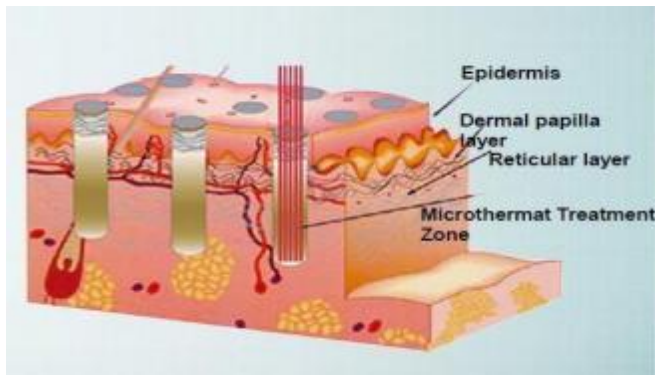
b. Thermal Coagulation



- Coagulation of structural protein is easily occurred when the tissue temperature is above 75°C. This coagulation is different from the contraction of collagen fiber and it is fatal, just like the barbecue, the cells and relevant tissues will lose their activeness and leads inflammation;
- Thermal coagulation will accelerate the self-healing system of skin, which the dead cells been replaced by the new cells. If the thickness of the thermocoagulation over 200um, will cause damage on the dermis and end up with scars. This principle is also applied in IPL such as speckle taking, hair removal, and 980 nm used for vascular lesion

c. Thermal Ablation

- When the temperature exceeds 300°C , the tissues are exfoliated and burnt, molecular are cracking and plasma is formed. All lead to damages to skin tissues. When the thermal ablation happens, the parts beneath or around of it will always have thermal coagulation and thermal effects.



Principles

10600nm wavelength fractional laser is absorbed by the water in skin, then generate heat, to form thousands of thermal coagulation points into our skin. Then bring the skin certain amount of thermal ablation, lots of thermal coagulation and obvious thermal effect.

Thermal Ablation will bring the skin two effects: First, the superficial pigmentations and vascular lesions can be ablated directly, Second, it can create thousands of channels into deeper skin layer, we call "Wall breaking Effects". We all know that we'll apply some cosmetics on skin for daily care, but the absorption rate is only 3%-5%. That means, most of the cosmetics are wasted. But the "Wall-breaking Effects" can help greatly improve the input of cosmetics to dermis, to raise the absorption rate to 30%-50%. Also after the fractional laser treatment, we highly suggest to combine with some cosmetics to get different treatment effects, such as when we combine whitening lotions, it'll help to remove the Melasma.

Thermal Coagulation is the second effects the fractional laser can bring to the skin: It'll promote the wound self-healing system of skin, it divides into three phases: Inflammation Phase, Proliferative Phase and Remodeling Phase. Collagens regenerate in large quantity, then comes with the skin reconstruction, face reshaping, resurfacing effects. Here is a simple example, when we cut our finger accidentally. It will heal, and fresh skin come out after of period time.

The third effect the fractional laser can bring to the skin is Thermal Effects, that is to change the collagen structure to free curl status, then bring the instant lifting effects. That's also the reason why patients will feel tightening after the fractional laser treatment.

Application and Parameters

The customers who are using our CO2 machines should know that, there're four working modes included, then what's the applications of each mode?

Let's check one by one:

Continues workings: we call it Laser knife, it's mainly used for surgery way for incisions

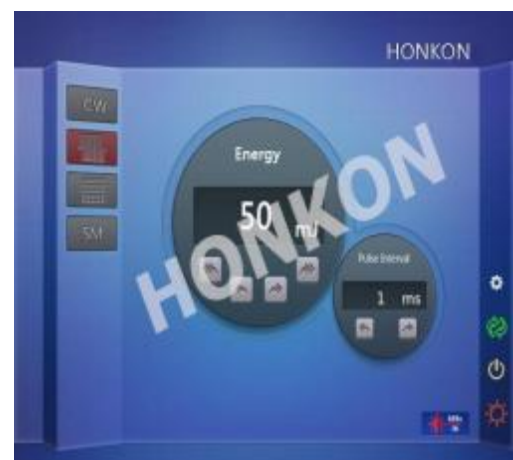


Ultra-pulse mode

it's mainly used for Ablate the Nevus, warts, and some small neoplasm
Operation:

Disinfect treatment area with medicinal alcohol, after it becomes dry, start operation. Adjust parameter. Energy: 6mj, Pulse interval: more than 50ms. According to effect, adjust the energy and pulse interval.

In operating, wipe this part with swab which absorbed normal saline, wipe layers which is peeled off one by one.



Fractional Mode

Large pores, fine lines, skin whitening, deep wrinkles, stretch marks, skin texture; Scars; burnt scars, acne scars, surgical scars etc.
Super facial pigmented lesions, such as freckles or age spots. Vascular lesion etc.



SM mode

Application of SM mode is Vagina tightening, lifting, rejuvenated and Health Care



Operation Step

Application of SM mode is Vagina tightening, lifting, rejuvenated and Health Care. Go to hospital to do gynecological examination.

One tube to keep only for one Person disposable dust-free laser tube, avoid from cross infection.

Clean with iodine, clean areas: Vagina, outer labia, anus, inner labia .
The energy of single spot reach 4- 12mJ, total is 81 spots.

Do after care with anti-inflammation and repair products. Sexual life is restored 7 days later. No cleaning inner labia.

Enough penetration depth, strong tighten result for one session, the second session will go on half a year later, Postpartum recovery more effective.

Skin Reaction After Treatment

Cases Analysis
Acne and large pores



Immediate skin reaction after CO2 treatment



One Hour Later skin reaction after CO2 treatment

This is the pic of one hour later skin condition after treatment: we can see redness, swelling, patients feel hot and painful. Also the skin is tightened.



3 days later

This is 3 days later photo, the skin keeping crusting around the TCP.



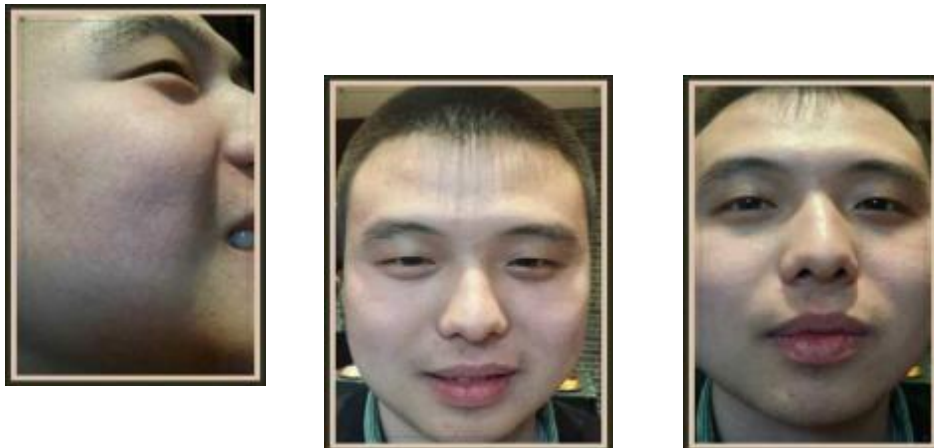
After one week

This is 7 days later pic, we can see the crust fall off, and some fresh skin come out. Skin starts to come to the Proliferative Phase. Numerous collagen



Two weeks later

After two weeks, he looks younger than before, and the skin is pale and delicate.



Treatment Parameter

GENDER

MALE

AGE	27
ISSUE	Acne
MACHINE MODEL	10600AL
WORKING MODE	CPG
AREA	2cm X2cm
DENSITY	12 X12
PROPORTIONAL	1/1
PULSE INTERVAL	1m
ENERGY	10-12mj
GRAPHICS	Square
PASS	one
NO. OF SESSION	one
PRE TREATMENT	Water & Oxygen Jet treatment
POST TREATMENT	EGF, Anti inflammation lotion, Acne removal lotion, moisturizing mask

Treatment Parameter

GENDER

FEMALE

AGE	42
ISSUE	Pigmentation, Aging
MACHINE MODEL	10600AL
WORKING MODE	CPG
AREA	2 cm X 2cm
DENSITY	12 X12
PROPORTIONAL	1/1
PULSE INTERVAL	1ms
ENERGY	6-8mj
GRAPHICS	Square/ Triangle/ Rectangle
PASS	one
NO. OF SESSION	one
PRE TREATMENT	Water & Oxygen Jet treatment
POST TREATMENT	EGF, Anti inflammation lotion, Whitening lotion, moisturizing mask

After Care Product to be used

After treatment, we need to pay attention to after-care. Fractional Mode brings wall-breaking effects which improves the absorption of cosmetics. So postoperative care products must meet the medical level, Hormonal products are forbidden. The better after care, the better effect.

1. Keloid, hypertrophic scar, skin tags

BEFORE



AFTER



Mode	Power	Energy	Interval Pulse
CW	8-10W	/	/
Ultra Pulse	/	8-10mj	50ms(big one) 100ms(small one)

We suggest strongly that we use Ultra Pulse mode for a newcomer. As the big one after the CW or Ultra Pulse mode treatment, treat by fractional mode immediately.

Mode	Area	Density	Energy	Proportion al	Pulse Interval
Fractional	2*2cm	12*12/cm	10-12mj	1/1	1ms

2. Superficial scar, such as burnt scars, acne scars, surgical scars etc.



3.Stretch marks

Mode	Area	Density	Energy	Proportional	Pulse Interval	Session
Fractional	2*2cm(adjust according to the scar area)	12*12/cm	8-12mj	1/1	1ms	2-3



Mode	Area	Density	Energy	Proportional	Pulse Interval	Session
Fractional	2*2cm	12*12/cm	8-12mj	1/1	1ms	3-5

4. Large pores, skin tightening and whitening



Mode	Area	Density	Energy	Proportiona l	Pulse Interval	Session
Fraction al	2*2c m	12*12/c m	6-10mj	1/1	1ms	3-5

We can decrease the energy to improve the per session result by using anesthetics.

After care

1. Hydrating
2. Moisturize
3. Sun protection
4. Diminish inflammation
5. Skin repair
6. Prevent from hyperpigmentation
7. Acne removal (Optional)
8. Remove dark circles of eyes (optional)

Honkon has come series for these after care products.

5. Vagina loosing, Mild and Moderate level Stress urinary incontinence

Mode	Power	Energy	Mode
SM	High	Start from 40mj	Continuous