

The safer, easier and faster drug-delivery system

VITAL INJECTOR

Operator Manual

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1. Safety and Regulatory



Before using, please read this manual thoroughly to ensure that you know how to operate the features and functions.

This manual contains important information on the installation, safety instructions, use and care of your machine. Read all safety instructions and operating direction before using for your safety. Not limited to, personal injury and material damage that cannot be held responsible for.

1.1 Electrical hazards

- Be sure to use a dedicated adapter and apply the input in 100~240V and 50~60Hz. Since the formation of high voltage during operation, equipment is prohibited with the use of other heat transfer products.
- Be careful not to let water into the unit. Formed by wet, high-voltage electric shock or fire hazard may occur.
- Do not use a damage cord or plug.
- Unplug the power plug when the machine is not being used for long periods of time. Dust may result in an electric shock or fire.
- Interception the power when the machine has wet, an unusual sound, a brunt smell or a smoke. And contact a service center.

1.2 Fire hazards

- Do not leave ignitability and inflammability material around this machine.
- Do not cover this machine with a cloth or a covering during a treatment.

1.3 Installation hazards

- Do not place this machine in direct sunlight. Install the machine in aired indoors.
- Do not place this machine in an aslope area.
- Do not give an impact to this machine. The slightest external stimulation can be caused serious problem of the machine.

1.4 Clean-up procedure

- Please remark, when cleaning and grooming started after power off and do not let the water come in direct contact with this unit.
- If the machine gets dirt, clean with a soft cloth.

1.5 Regulatory compliance

- This equipment is Class 3 medical device, the user must have familiarized yourself with this manual before using the equipment.
- If you use unauthorized accessories could cause equipment failure and resulting damage to equipment, the service be unavailable, so please use genuine accessories.
- Never try to repair the machine on your own. This machine should be repaired or serviced only by qualified service personnel. Please contact the service facility for examination, repair, or adjustment.

1.6 Contraindication



Contraindication

Please avoid the treatment from these people or part as below.

- Pregnancy
- Diseases(Cardiovascular disease, Liver disease, Kidney disease, Cancer, Diabetes)
- Infection in the region
- Patient with keloid
- Use a pacemaker
- Regularly taking anti-inflammatory medication
- Sensitive problem skin
- Hypertrophic scar marks
- Red spot

2. Component

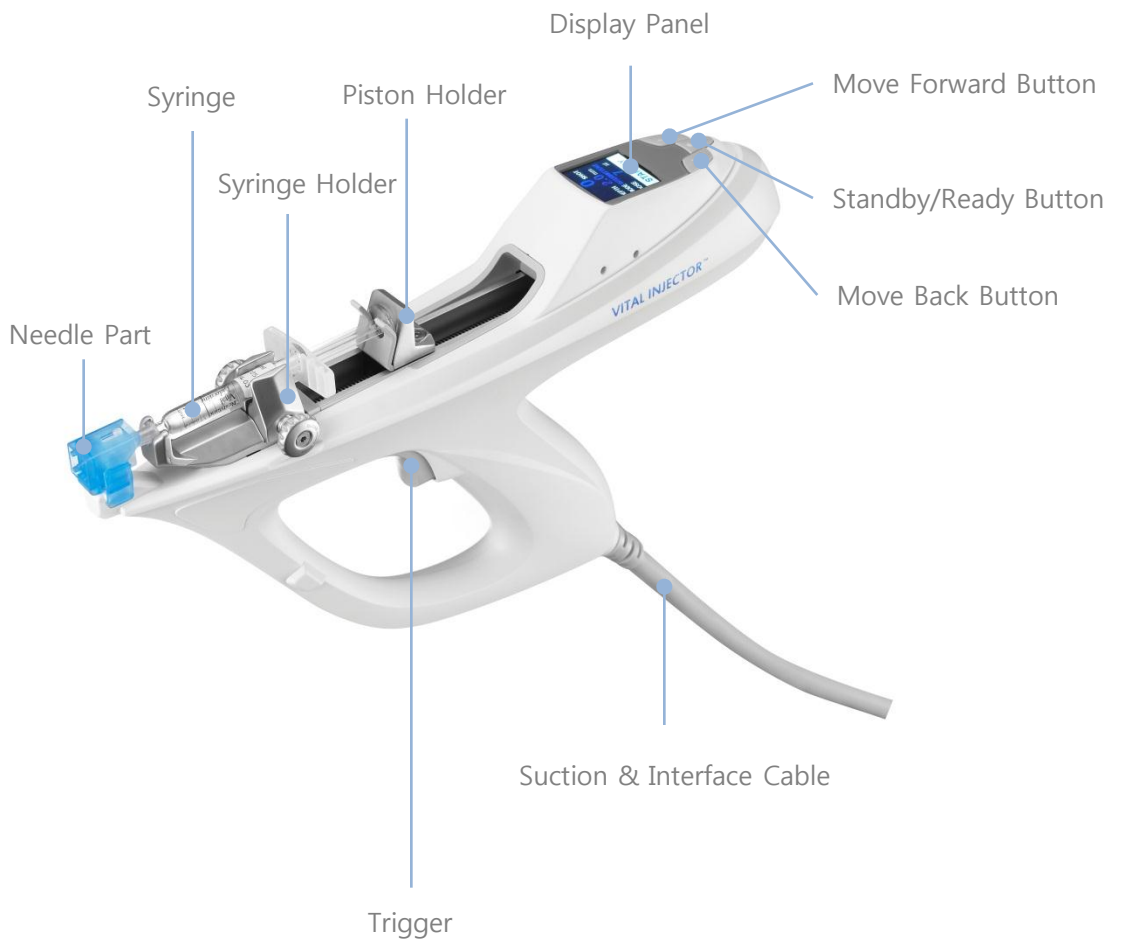
2.1 Structure

This device contains the main control body and injector and moving trolley is optionally used. Refer to page 4. [System Operation](#) for each function.



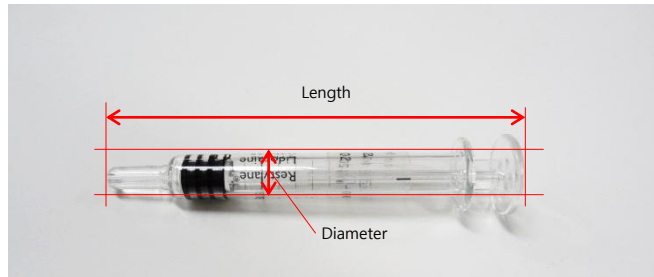
2.2 Injector





The device is conveniently designed easily operated and Syringe will be readily equipped. LCD panel on the device enables an operator to check the operation during treatment.



[Standard Syringe Size of Vital Injector System]

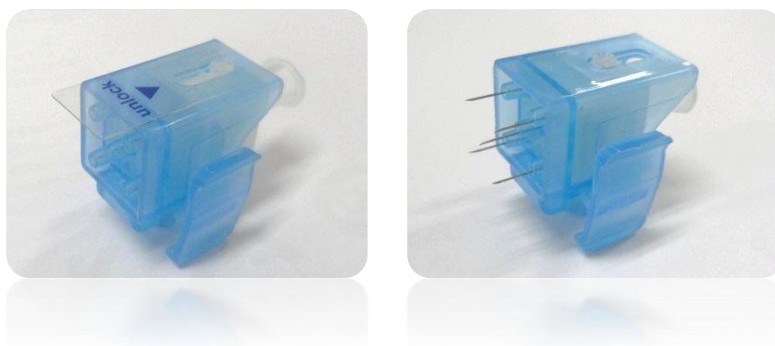
* The device is fit with 4 kinds of syringe to achieve the best treatment result.



Syringe Type	Length	Diameter
1 cc 	72.5 ± 0.1mm	6.3 ± 0.1mm
2 cc 	96.2 ± 0.1mm	8.6 ± 0.1mm
3 cc 	83.3 ± 0.1mm	9.3 ± 0.1mm
5 cc 	92.3 ± 0.1mm	11.4 ± 0.1mm

2.3 Multi-Needle

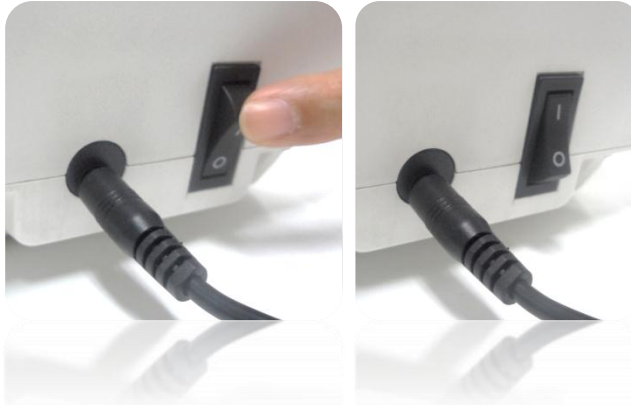
5 multi-needles is made of all in one with needle cap.
Make sure to remove safety tape before treatment.



3. Installation Instructions

3.1 Connect Power cable

Connect power cable and turn on the device.



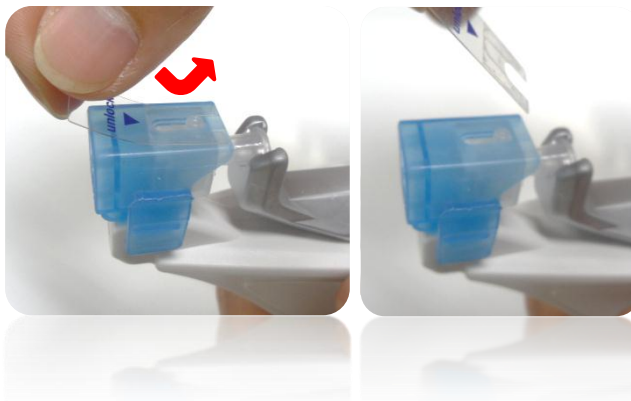
3.2 Connect Multi-needle

Tightly insert multi-needle into vacuum hole.



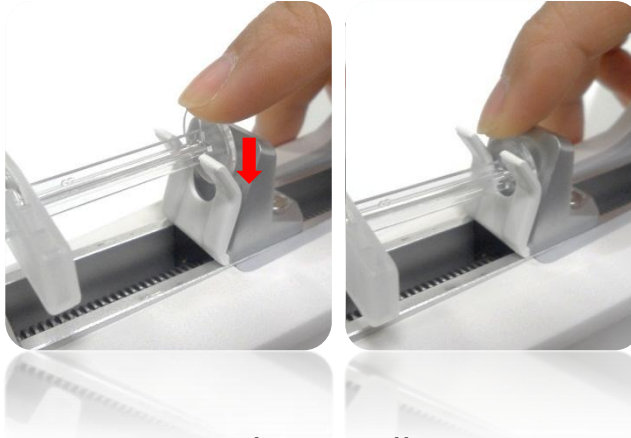
3.3 Remove Safe tape

Remove safety tape on multi-needle.



3.4 Connect Syringe

Place syringe on injector and push the piston in position holder.



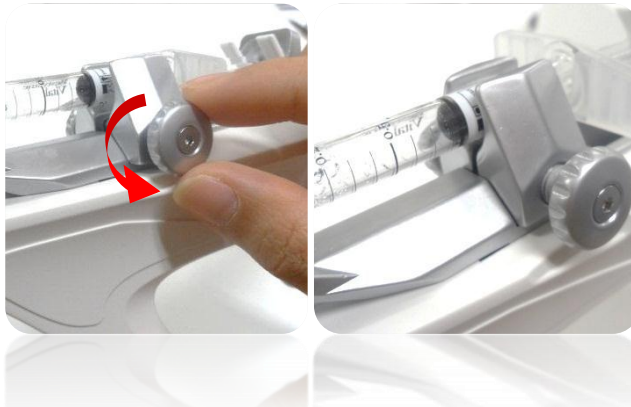
3.5 Connect Syringe to Multi-needle

Press the forward button and insert syringe into needle hole.
Hold syringe with hand in order to accurately connect syringe in needle hole.
Slightly push syringe once more to finish up the connection tightly.



3.6 Tighten Screw

Fasten syringe with screw pins.



※ Once all preparation process is done, pull the trigger a bit and deaerate remained air inside syringe.

4. System Operation

4.1 Loading

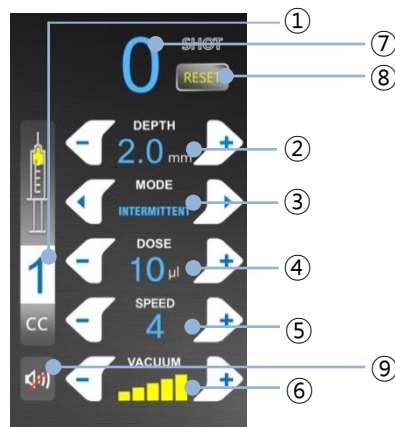
Loading screen will be shown up when turning on the device.



4.2 Body Control LCD

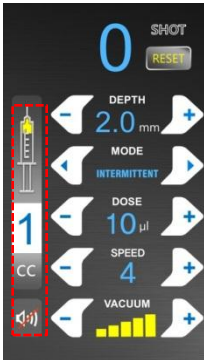
Main screen will be appeared after system loading.

Slightly touch the screen to set up the mode.

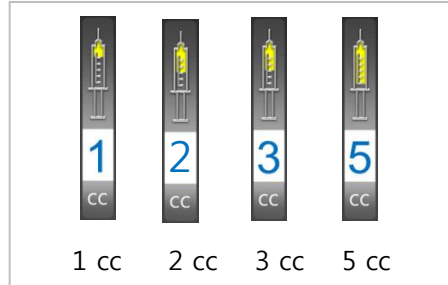


① Syringe type	Syringe type selection
② Needle depth	Set Needle Penetration depth
③ Operation mode	Set Treatment mode
④ Drug dosage	Set Drug Dosage
⑤ Speed level	Needle Delay time
⑥ Vacuum level	Set Vacuum pressure
⑦ Current shot display	Treatment time (shot)
⑧ Shot count reset	Rest shot time
⑨ Sound On/Off	Sound On/Off

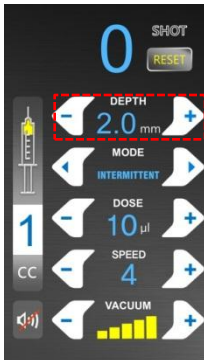
4.2.1 Syringe type [Preset : 1cc]



Select a syringe type



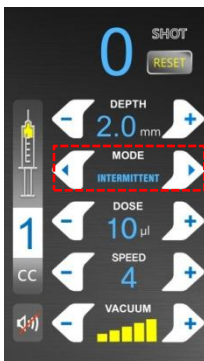
4.2.2 Needle Depth [Preset : 2.0mm]



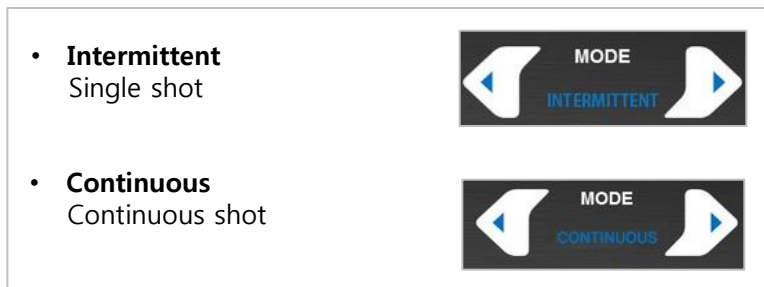
Set penetration depth



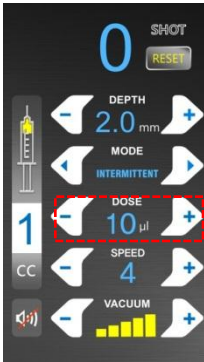
4.2.3 Operation Mode [Preset : Intermittent]



Select treatment mode



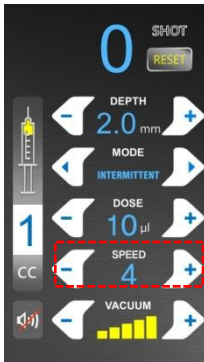
4.2.4 Drug Dosage



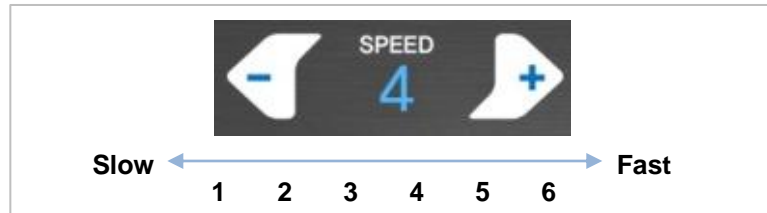
Set Drug Dosage

- **Intermittent mode** [Preset : 10µ]
 7,8,9,10,11,12,13,14,15,20,25,30µl
- **Continuous mode** [Preset : 1 cc/min]
 1 cc : 1, 2, 3 cc/min
 2, 3, 5 cc : 1, 3, 5 cc/min

4.2.5 Speed Level [Preset : 4 Level]

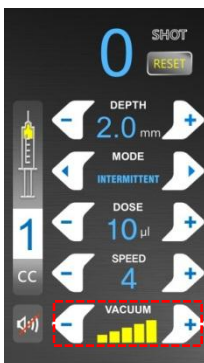


Set Speed (Delay) time during injection

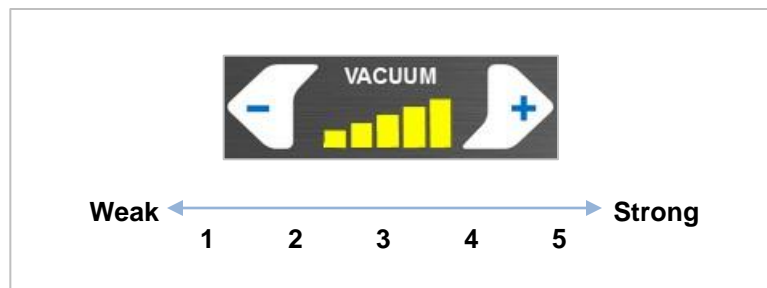


Low Viscosity [Liquid type]		High Viscosity [Gel type : e.g. VITAL]	
Dose	Speed	Dose	Speed
7~8 µl	1	-	1
9~10 µl	2	-	2
11~12 µl	3	7~8 µl	3
13~14 µl	4	9~10 µl	4
15 ~ µl	5	11~12 µl	5
15 ~ µl	6	13~14 µl	6

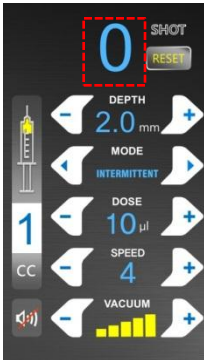
4.2.6 Vacuum Level [Preset : 5 Level]



Select Vacuum Level

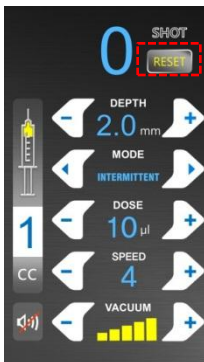


4.2.7 Current shot display



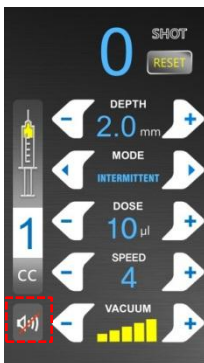
Current shot time shown in display.

4.2.8 Shot count reset



Press "RESET" to initialize shot time.

4.2.9 Sound on/Off



ON

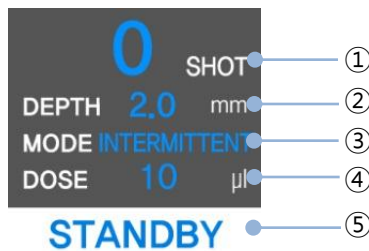


OFF

4.3 Injector

4.3.1 Injector LCD

Injector LCD shows important information.



① Current shot display	Current shot number
② Needle depth	Current Penetration depth
③ Operation mode	Current Operation mode
④ Drug dosage	Current Drug Dosage
⑤ Standby/Ready	Standby/Ready Display

4.3.2 Injector Button

Move syringe in/out pressing "Forward" & "Backward" button

Start operation pressing Standby/Ready button.



① Standby/Ready Button

- Standby
- Ready

[Remarks] Place reference position

Keep pressing 2 seconds and it automatically move to the place where the position holder and syringe holder matches

② Move Back Button

- Move back position holder
- Keep pressing 2 seconds and it automatically move back. Press button once to stop movement.

③ Move Forward Button

- Move forward position holder

* Auto reference positioning function

- When the position holder reaches at the place near to 1cc, press "Back" button over 2 seconds and it automatically move back to the place where 1cc syringe equipped.
- Press button once and auto movement stops.
- 2cc, 3cc, 5cc syringe can be also automatically positioned.

4.4 Injector LCD Caution Messages

- When move the position holder,

CAUTION !
Returning to
the reference
position ?
No : Left
Yes : Right

Frequently requested to return to the reference position. Press Standby/Ready button over 2 seconds, this message appears.

Press Right button to return to the reference position and press Left to cancel.



- When position holder reached to syringe holder,

CAUTION !
The reset
completed.
Please start
the
positioning.

When the position holder reached to syringe holder, Reference process will be finished and show the message. Move the position holder to the place according to Syringe type.

- When drugs are consumed all,

Warning !
This syringe
is empty.
Please
move back
the holder.

When drugs are consumed all, move back the position Holder and remove syringe.

- When the position holder reached at the end of injection,

CAUTION !
The holder
reached
at the end.

Stop moving the position holder.

5. Patient Treatment

5.1 Summary

- (1) Wash treatment area and fully dried.
- (2) Apply anesthetic cream to treatment area and wait for over 30 minutes.
Clean the area and finish preparation.
- (3) Turn on the device and equip syringe and multi-needle.
- (4) Set the system according to syringe type, drug type or patient's skin condition. Press STANDBY button to be READY.
- (5) Start operation.
- (6) Apply moisturizing cream after treatment.
- (7) Prevent treatment area from UV rays.

5.2 Dosage table

Intermittent Mode [Preset : 10 μ]

Type	Dose	Available Shot	Dose	Available Shot
1 cc 시린지 기준	7 μ l (1.4 μ l/pin)	143	13 μ l (2.6 μ l/pin)	77
	8 μ l (1.6 μ l/pin)	125	14 μ l (2.8 μ l/pin)	72
	9 μ l (1.8 μ l/pin)	111	15 μ l (3.0 μ l/pin)	67
	10 μl (2.0μl/pin)	100	20 μ l (4.0 μ l/pin)	50
	11 μ l (2.2 μ l/pin)	90	25 μ l (5.0 μ l/pin)	40
	12 μ l (2.4 μ l/pin)	83	30 μ l (6.0 μ l/pin)	33

Continuous Mode [Preset : 1 cc/min]

Type	Dose
1 cc	1 cc/min , 2 cc/min, 3 cc/min
2 cc	1 cc/min , 3 cc/min, 5 cc/min
3 cc	
5 cc	

6. Maintenance

6.1 Cleaning

Filter Part

Frequently check and replace a filter to maintain the machine.



Injector Vacuum hole

Remove the multi-needle, after that clean the vacuum hole of injector. Must use in a thin cotton swab with alcohol.



Caution

Must use the cotton swab provided you purchase the product. To swab purchase, please contact at the seller.

Injector

Turn off the device and clean it with dry towel. Prevent the needle connector from sticking dirty substances.

6.2 Storage

Store accessories in the drawer.



7. Customer Service and Sales



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Technical Specifications

Needle Information	31 G, 5Pin Multi Needle Type
Needle Penetration Control	0~5 mm(Interval 0.2mm)
Syringe Type	1cc, 2cc, 3cc, 5cc
Operation Mode	Intermittent, Continuous
Voltage & Frequency	DC 12V or DC 24V, 50~60 Hz
Dimension (WxDxH mm)	Injector : 310 x 52 x 172 Body : 232 x 248 x 128
Panel	Gun LCD : 1.4 Inch Body LCD : 4.3 Inch, Touch Screen
Weight	2.4 Kg (Body + Injector)

