



User Manual



MegaGen Co., Ltd.

(42921) 45, Secheon-ro 7-gil, Dasa-eup, Dalseong-gun, Daegu, South Korea

www.imegagen.com

***plasmapp**



Welcome

Thank you for purchasing the Plasma X motion plasma activator.
Please read this User Manual very carefully before using the product.

1. How to use the User Manual

- You should read this manual before using the plasma activator.
- Be sure to know the configuration of the plasma activator, and how to operate it.
- Always pay attention to the safety instructions before operating the plasma activator.
- Keep this User Manual close at hand so that you can find the information you need quickly and easily when a problem arises.

※ This manual has been produced based on the current state, and details are subject to change without prior notice.

Table of Contents

1. How to use the User Manual	3
2. Safety Information	4
3. Product Composition	6
4. About the Plasma Activator	7
5. How to use the Plasma Activator	10
6. Troubleshooting	14
7. How to manage after use	18
8. Warranty	20



©2022 Plasmapp Co., Ltd. All rights reserved.

The products mentioned in this publication are trademarks owned by their respective owners.
You may not copy, reproduce, modify, or translate in any way exploit any such content,
without the prior written permission of the trademark holder.

2. Safety information

Plasmapp puts user safety first, and this chapter provides information on how to safely use the plasma activator. Users must read and understand these safety information and instructions before using the plasma activator. In addition, be sure to read and understand the warnings, cautions, and notes in the User Manual. This information will ensure your safety as well as the best performance of the product.

	(Power) OFF	Pulling out the power cord from an outlet/ turning off the power
	(Power) ON	Plugging the power cord into an outlet/ turning on the power
	Warnings and Cautions	Specifying the conditions or circumstances that may cause personal injury or other property damages
	WEEE (Waste Electrical and Electronic Equipment)	Waste disposal guidelines that must be followed

※ We are not responsible for any accidents such as product damage due to use other than the instructions specified in this manual.

Safety Instructions

-  **Be sure to use only the power cords specified for this product and approved by the country of use. In addition, use only the grounding connectors and adapters specified or provided by the distributor.**
-  **This product is grounded through the grounding conductor of the power cord to avoid electric shock.**
-  **Be sure to comply with all standard ratings and specifications of the product to avoid the risk of fire and electric shock.**
 - When malfunctioning of the product is suspected, follow the safety information in this manual and the safety instructions of the distributor.
 - When using the product, remove obstacles in the vent and take appropriate measures to ensure smooth ventilation in the working environment.
-  **Avoid operating the device in damp or humid places. Use the product in a cool place.**
 - If power failure is suspected, turn off the product and remove the power cord from the ground. If the product is found to be defective, inspection by a professional service provider will be required.
-  **Periodically wipe off foreign substances, such as dust, on the product so that it does not interfere with the operation.**

3. Product Composition



Plasma X motion Body



220V Power Code



Adaptor



Accessories (JIG Box)



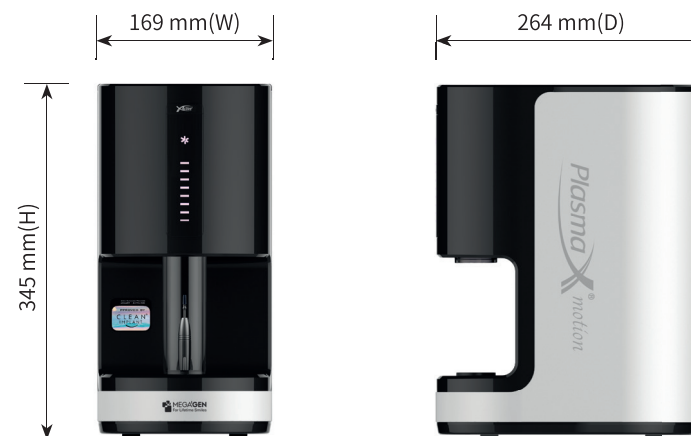
User Manual

4. About the Plasma Activator

Purpose

The Plasma X motion plasma activator is a product used to clean the surface and improve hydrophilicity by removing impurities through the surface treatment of Implants for the human body. It is effective, safe, fast, economical, and easy to use, providing reliable surface activation.

Shape and dimensions



Width (W)	Depth (D)	Height (H)	Weight
169 mm	264 mm	345 mm	6 kg

Structure and Function



- ① On button : Operates a plasma activator
- ② LED status bar : Indicates the operating status
- ③ Vacuum tube (down) : Indicates that a plasma activator is operating
- ④ Foot : Rubber foots to prevent the product from sliding and impact
- ⑤ Assembly bolt caps : Rubber caps for covering assembly bolts
- ⑥ Product label : Displays information such as serial number, etc.
- ⑦ Power switch : A switch to turn on/off a plasma activator
- ⑧ Data cable connector : The connector of the cable to be connected for manually inspecting
- ⑨ Power cable connector : The connector to which the power cable is connected
- ⑩ Vacuum tube (raised) : Indicates that waiting for the surface activation process
- ⑪ Vacuum tube seating part: Silicone for vacuum formation by adhering to the vacuum tube

Rated Specifications

Rated voltage		DC 24V
Max. power consumption		48 W
Operating temperature		10°C ~ 40°C
Operating humidity		Relative humidity 30% ~ 85%
Barometric pressure		70 kPa ~ 106 kPa
Adaptor (SMPS)	Rated input	100~240 VAC, 50 / 60 Hz, 1.5A
	Rated power	DC 24V, 2.7A, 65W

Surface activation processes

Detailed processes	Duration of the process cycle
Preparation	15 sec.
Plasma surface activation	15 sec.
Purification	20 sec.

Time required for surface activation: 50 sec.

* The frequency of the rise and fall of a tube are excluded from the processing time.

Description of detailed processes

- ① Preparation: Preparing the plasma surface activation process by checking the seating and system status of the Implant JIG.
- ② Step 1 process (surface activation): Improving hydrophilicity by generating plasma on the surface within a vacuum, and removing impurities on the surface of the Implant.
- ③ Step 2 process (vacuum purification): Exhausting impurities are removed from the surface of the implant through the plasma surface activation process, by using a vacuum pump.

5. How to use the Plasma Activator

Precautions for product installation

-  **The plasma activator must be installed on a table top. When installing the product, install it on a flat place within 3 degrees.**
-  **Install the product by securing a space of at least 5cm from the back and at least 5cm from the left and right sides.**

Before using the device

The object(Implant JIG, Implant, etc.) that will be subjected to surface activation should be dry before putting it into the plasma activator.

When restarting a plasma activator that has not been used for a long time, you should contact the distributor and follow appropriate instructions.

- Before using the product, check the interior and exterior for any visible defects, such as broken or missing parts, etc.
- Defective or damaged device should be replaced or repaired before use. In this case, please stop using it immediately.
- If the surface activation processes and the product are not in operation, turn off the power switch and unplug the power cord, depending on the storage conditions.

※ For products that have been discontinued due to damage or power failure, please contact the manufacturer or salesperson immediately to receive appropriate measures

The entire process

STEP 1



Turn on the power switch at the back of the plasma activator.

STEP 2



When the device is powered on, the status LED on the front is lit.

STEP 3



Place the Implant JIG with the Implant installed on the JIG holder.

STEP 4



Press the "On" button to start the surface activation process.

STEP 5



When the process is completed and the vacuum tube rises, retrieve the implant JIG.

How to install the Implant JIG



- Install the Implant to Implant JIG and place it on the JIG Holder.
- * Since it is a magnet type, it will be tightened by magnetic force if it is lightly placed on the fastening part.
- When installing, keep the slanted Implant JIG upright in the forward direction to proceed with the process.

Start and completion of the plasma surface activation process



▪ Starting the surface activation process

When the Implant JIG is seated and the operation button is pressed, the vacuum tube moves downward and plasma treatment is carried out in a vacuum state with a **“Start Sound”**. The LED on the front blinks to indicate that the process is in progress.

* Total time for the activation process is 50 seconds.



▪ Completion of surface activation process

When it stops working, the color of the LED light on the front changes from purple to white. At the same time, the tube rises with an **“End Sound”** to indicate that the process is done. When the tube rises fully, retrieve the Implant JIG.

Examples of normal and error conditions



▪ Preparation status

After the power switch is turned on, the LED on the front is turned on.



▪ Steady State

In the vacuum tube, the surface activation process works normally.



▪ Error State

If normal operation is not performed, the red LED is turned on.

※ Refer to “6. Troubleshooting”

6. Troubleshooting

When the tube goes down but immediately rises without starting the process

- Press the “On” button again, and it will work normally. If the problem still persists, contact the distributor.
- ※ If the vacuum tube rises immediately, it is a user protection function and it is not a product error, so you can proceed with the operation again.

When the LED flashes red

- During the surface activation process, if you press the “On” button for 3 seconds, the operation will stop immediately, and the LED light will start flashing red to reset it. Press the “On” button once more to restart the process.



When the surface activation process is performed again, the surface temperature of the Implant may have risen. In this case, please collect it after cooling it naturally for a certain period of time (within about 30 seconds).

When the power turns off during the process

- Check whether there is anything wrong with the wall outlets or power strips. You should use grounding type wall outlets and power strips.
- Check the power cable. You should use the power cable/grounding type plugs supplied with the product.
- Check the power button.

※ If the power turns off repeatedly during the process, please contact the distributor.

Error indication and action

Indication	Content	Check and Action
1 red LED	Failure vacuum tube operation	When the power is turned off and restarted, the product operation is initialized. If the error persists, contact your sales representative.
3 red LED	vacuum pressure failure	Restart after removing foreign substances between the vacuum tube and the bottom. If the error persists, contact your sales representative. If the vacuum tube is broken or bent, contact your sales representative.
5 red LED	plasma power failure	If the power is turned off and then restarted, the product operation is initialized. If the error persists, contact your sales representative.

※ If the same problem persists after user checks, please contact the sales representative.

How to check the number of times the product is used / HVPS replacement cycle

HVPS (plasma power supply) is a component with a limit of 3,000 circuits. If the number of uses of the product is exceeded, the product becomes inoperable, so you must contact your sales representative to replace the part.

! If the replacement life of the relevant part is less than 100 times, a **“Replacement Notification Sound”** is output whenever the product is turned on.

! After exceeding the number of uses of the product, **“Blinking Red LED”** appears on the front of the product at the start of the process and the product does not operate.

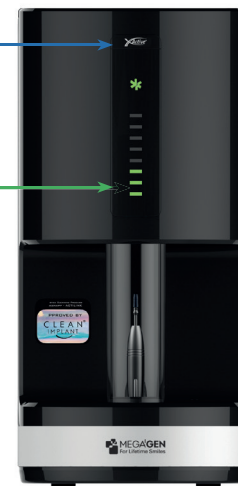
How to check the number of times the product has been used: press the upper operation button (more than 6 sec.)

- LED status display on the front according to the number of times the product is used:
Refer to “[REMARK. A]”

[REMARK. A] LED status the number of product usage

Operation
button

Blinking
Green
LED



▪ How to check the number of times a product is used

Press and hold the upper button (more than 6 seconds), and the green LED flashes on the front of the product depending on the number of uses.

▪ How to display the number of times a product has been used

The number of flashing green LEDs increases by 1 space for every 500 increments of use.

▪ If the replacement life of the relevant part is less than 100 times, a “replacement notification sound” is output whenever the product is turned on.

Blinking
Red
LED



▪ After exceeding the number of uses of the product, the “Blinking red LED” status appears on the front of the prototype to start the process and the product does not operate.

7. How to manage after use

How to clean

 **We do not use organic solvents except for aqueous alcohol solutions for exterior and interior cleaning.**

- Gently wipe off the contaminants with wet wipes.
- If the contamination is severe or if it cannot be removed with wet wipes, wipe with a cleaning sponge moistened with water and wipe the remaining stains with cleaning wet wipes or soft cloth.
- If foreign substances including oil are attached, spray ethanol for disinfection on the pollutant and wipe the remaining stains with a cleaning wipe or soft cloth.
- For crayons and colored pencils, gently rub out the contaminated area with a clean eraser.

※ Caution

 **Make sure that the device is turned off before cleaning.**

 **Do not use cleaners containing sodium hypochlorite-based or chlorine-based solutions.**

 **Do not use ketone and acetone, ethyl alcohol, toluene, methyl acid, or methyl chloride.**

How to store

Be sure to store the product in a location that meets the following conditions:

- A location with sufficient space in consideration of the movements of the personnel using the product.
- Keep the product away from the floor.

 **Do not drop it from a high place and do not apply excessive force to the product during storage.**

 **Store in a place where there is no adverse effect from temperature/heat, humidity/water, atmospheric pressure, sunlight, dust, salt/ion/organic solvent/harmful chemicals, vibration/shock, etc.**

- A well-ventilated location with suitable lighting for handling the product.
 - Lighting should be bright enough for the device to work effectively.
 - When sunlight passes through the window, install curtains or blinds.
 - Ventilation, as well as users' hygiene, greatly affect product quality, so consider installing an air conditioning device, if necessary
- A location equipped with insect & rat repellent facilities and fire extinguishing facilities.
 - Installing traps in drains, sealing the areas that pass through walls, installing insect screens at exhaust and ventilation openings, etc.
- The temperature should be between 10°C and 40°C, and humidity should be kept below 85%.
- When the product is moved from the initial installation location to another location, the location must be changed by a professional engineer approved by the salesperson.

8. Warranty



Quality Assurance Statement

- 1** The warranty period for this product is 1 year based on the installation date.
- 2** During the warranty period, if the customer is using the product normally, and a product malfunction occurs, the customer can receive a free repair.
- 3** In the following cases, it does not fall under the terms of free warranty, so it will be converted to a paid one.
 - ① In the case of a failure caused by the customer's negligence or intention
 - ② Failure caused by arbitrary damage or alteration of structure of the product
 - ③ In the case of a failure caused by the customer's refusal even though the company requested an inspection for a failure
 - ④ In case of failure due to non-compliance with our maintenance conditions
 - ⑤ In case of product failure or defect due to natural disaster
- 4** If compensation occurs during the warranty period, the compensation standard is in accordance with the Consumer Damage Compensation Regulations announced by the Ministry of Finance and Economy.
- 5** Repair of the fault after the warranty period has expired will be carried out for a fee.








※ We are not responsible for any accidents such as product damage due to use other than the instructions specified in this manual.

Distributor

Company name	MegaGen Co., Ltd.
Address	(42921) 45, Secheon-ro 7-gil, Dasa-eup, Dalseong-gun, Daegu, South Korea
Website	www.imegagen.com

Manufacturer

Company name	Plasmapp Co., Ltd.
Address	(41061) 102, Cheombok-ro, Dong-gu, Daegu, South Korea
Website	www.plasmapp.com

MEMO

Plasma X[®] motion

Plasma X[®] motion