

Instruction for UV-Coater MG13



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Dear DigiCoater-UV customer

We thank you very much for your best choice to DigiCoater-UV.

We have been doing our best effort for developing to best coating quality and also conveniences UV coater. And also, Our R&D and engineering team will do their best for developing more conveniences UV coater and be sure that the machine must be perfect matching as your solution partner.

Thank you very much again.

C&J INC.

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0 Introduction

0.1 General

This manual is intended for all persons who are working with and on the DigiCoater-UV, and especially for the operating personnel.

The DigiCoater-UV and this manual are protected by copyright. Any reproduction of these devices will be prosecuted. This document was produced by the C&J Inc.

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0.2 Warranty

C&J Inc. shall not be liable for any damage caused by improper use of the machine, poor maintenance, or inadequate repairs. Damages caused by failure to comply with the foregoing instructions are not covered by the warranty. The EC Statement of Conformity loses its validity if any changes are made to the machine without the agreement of C&J Inc.

0.3 Structure of the Instructions

The present instructions consist of six chapters which contain all necessary information for the operation of the system.

- **Chapter 0: "INTRODUCTION"**
- **Chapter 1: "SAFETY"**
- **Chapter 2: "INSTALLATION, TRANSPORT AND UNPACKING/PACKING"**
- **Chapter 3: "OPERATION"**
- **Chapter 4: "TROUBLESHOOTING"**

0.4 Before using the machine

Only operators who have been trained specially by C&J Inc. can use this machine and train other users within their company.

C&J Inc. recommends to all those who use the machine close compliance with the important provisions concerning safety, the use and maintenance of the machine as set forth in this document. The user is expected to store all the documentation concerning his(her) machine, so as to be able to refer to it at any time and will keep it in the proximity of the machine, if other people have to access to it.

1 Safety


1.1 General


The machine is fitted with protection and safety devices in compliance with the recognized safety engineering principles. Improper use of the machine may entail hazards to the health and life of persons, or may cause damage to property. The machine must only be operated in compliance with all instructions and prescriptions of these instructions.


In addition, do not use the machine for purpose other than described in the instructions.

1.2 Safety Notice

The following safety notations are used in this manual:

 **DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal words is to be limited to the most extreme situations.



 **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.




 **CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

1.3 Advice for safety

- 1) Turn off the power, otherwise, it can cause the injuries or electric shock. And the machine must be damaged.
- 2) Do not repair or change the machine against the service principle.
- 3) Do not change the electric circuit with any reason, without our instruction.
- 4) Do not use substandard parts when changing the parts.
- 5) When pull out the plug from the connector, please be sure not to pull it hard. It can cause the breaking down of wires or electric shock.
- 6) Keep the electric wires not be pressed or stepped on.
- 7) When pull in or out, please grasp the metal parts in the machine and do it slowly and carefully.
- 8) Keep the electric wires, especially operating parts or driving parts, off the sharp edges of anything after changing the parts or repairing the machine.
- 9) Please check if all parts such as screws pulled out for repairing are in proper position.
- 10) It is dangerous to get a service from unprofessional engineer. In this case, the machine can be damaged. Please be sure to get a service from professional engineer in this field when the repairing of the machine is needed.

1.4 Explanation of the symbols

Symbols used	Meaning
	<p>Must very careful about get your finger between rollers</p>
	<p>Must very careful about high voltage when you open the box.</p>

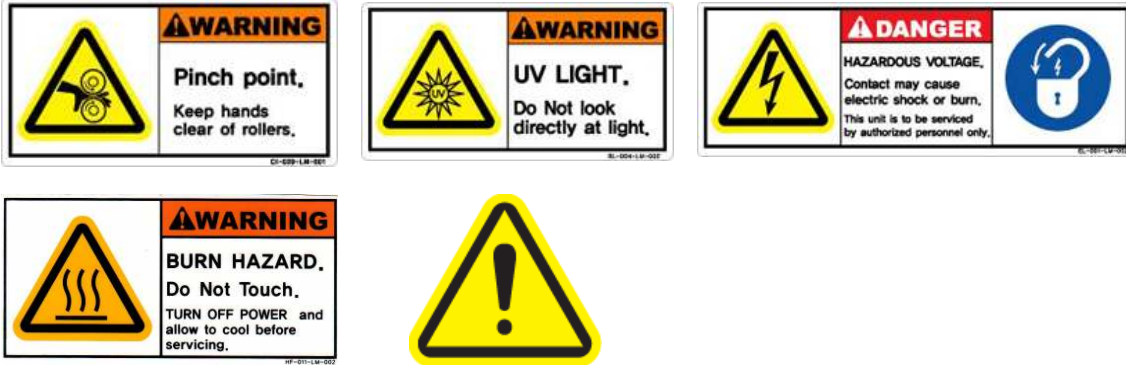
 <p>WARNING Moving parts can crush and cut. Keep guards in place. LOCKOUT power before servicing.</p>	<p>Must very careful about gear or chain belt when you open the drive box</p>
 <p>WARNING UV LIGHT. Do Not look directly at light.</p>	<p>Must very careful about UV light when you open the UV lamp chamber.</p>
 <p>WARNING BURN HAZARD. Do Not Touch. TURN OFF POWER and allow to cool before servicing.</p>	<p>Must very careful about IR halogen lamp when you open the lamp chamber.</p>

NOTE The stated sign or mark is used in this manual to help user's to understand this manual more effectively.

1.5 Position of the symbols used

The warning or caution details are showed on the label stuck to the machine.
Please carefully have a look in order to operate this machine safely.

1) A look of warning or caution label.



2) Position of warning or caution label.

a. Roller part (upper roller and lower roller) – Hands careful for roller



b. Electric supply box. – Danger



c. UV lamp shield open – High lights.



1.6 Safety sensors & where to position

Provided 3 safety sensors for fully guarantee of worker's safety protection. The machine will immediate stop when open the roller covers (Upper & Lower roller) and open the UV lamp chamber.

In the Manual mode for checking the roller, it only works 1inch every time to the switched ON.

*Where to position-

1.6.1 UV chamber

The machine will stop to operation if UV chamber cover open.



1.6.2 for temperature control in UV chamber

The machine will stop to operation if chamber inside temp. will be over than setting temp of temp. controller.



1.7 Noise Emissions

This machine provides with no direct noise emission hazards during operation.

Under normal operating condition, it produces a noise level that is below 75dB(A) measured at workstations.

2 Installation, Transport and Unpacking/Packing

2.1 General

Only trained and authorized specialist personnel must carry out the installation, transport of the machine components, strictly observing all assembly and installation instructions.

2.2 Installation



The machine can be handled and lifted only by personnel qualified for these tasks.

2.2.1 Advice in use of the machine

- 1) Please follow the manual of this machine and warning or caution stated on label.
- 2) Please do not install this machine on the slanted or bumpy floor. And keep this machine out of direct rays of the light/sun.
- 3) Please keep the temperature of humidity of work place as below when using the machine.
 - * Temperature: Below 30°C
 - * Relative humidity: Below 80%

2.2.2 Where to install the machine

- 1) Make sure keep out the place from direct sun rays(window side) and also keep out from direct illumination of a mercury & sodium lamp.



Must protect the machine from the rays in case of under unavoidable installation conditions.

- 2) Use the rating electric power source and its standard electric wire.

2.2.3 How to install

- 1) Make sure fix the machine level by use the moving castor and fixing stands.
- 2) Set up the hose for ventilation and cooling to outside.
- 3) Check to power source voltage- Single phase 230VAC / 50Hz(60Hz).
- 4) AC Inlet with earthed line and exclusively 3-line plug is used in this machine. Please be sure to ground and earthed line of plug to prevent an electric shock.
- 5) A ventilation/exhaust fans are equipped in this machine to prevent a polluted air in the work place. So, please do not insert put anything on the ventilation fan cover.
- 6) Pleas do not take off the warning or caution labels stuck to the machine.
- 7) In case of an accident happen, please turn off the emergency power switch immediately and pull out the plug.

2.3 Transport

The system's transport from the truck to the final installation site must be organized and carried out by the customer.

Must be fully considered safety to moving by pork lift or other ways, and fully careful to the machine level being moving.

2.4 Unpacking/Packing

2.4.1 Unpacking and machine checking.

- 1) Unpacking the wooden box and detailed check to machine outward damage on the way of delivery.
- 2). Specially check to coating rollers. (damage or dirt)
- 3). Make sure clean it up the roller edge of both sides after remove to oil for anti-rust.
- 4).Check to catch tray is on its position.
- 5). Check to UV coating supply/ drain hoses are on its position.

2.4.2 Packing (when move to machine the other place.)

- 1). Disconnect to main power supply.
- 2).The machine must check to lock the liquid supply valve and make sure to be empty of liquid tanks and cleaned in the tanks and coating rollers.

3. Operation

3.1 Adjustment

3.1.1. How to adjust the roller gap for different printed paper thickness.. - Between transports to texture roller

Loosen the printed paper thickness adjust fixing bolt(Fig-1-13), you can adjust to the roller gap (between pattern roller and pinch roller) by turn the printed paper thickness adjust bolt(Fig-1-12).



For clockwise (loosen direction )- gap become closer.

For count clockwise (fasten direction )-gap become wider.

** Fix it with fixing bolt after adjust.

<Note> the standard level gap was fixed by factory. Do not touch without a special case.

- * Too closed gap will be caused partly not coated on the photo and too wide gap will be caused UV liquid bleeding on to catch tray. (Do not over +2 position on the coating thickness adjust handle guide plate. (Fig-2)
- * Standard thickness of roller gap is 0.05mm closer than prints thickness.
- * The standard gap can be checked with thickness gauge or without the gauge (under conditioned the machine operating slowly)-you can insert a prints paper and just pull out the photo from the roller by hands. Try to several times by adjust to the thickness. Hardly pulled it out position is reasonable.

3.1.2. How to adjust of coating thickness.
- Between pinch roller to smooth roller.

<Normal adjust>

You can adjust the coating thickness with coating thickness handle (Fig-1-1) where its right side as below showing image.



Coating thickness adjust handle


The coating thickness will be thinner where to position the handle up step by step and will be thicker where to position the handle down until ruler marking position.

<Manually detailed adjust by user>

In case of, the coating thickness is not enough. You can adjust the thickness by the thickness adjust fixing bolt.



- Loosen the coating thickness adjust fixing bolt (Fig-1-2) and turn the coating thickness adjust bolt (Fig-1-3) as

For clockwise () – coating become thick.

For count clockwise () - coating become thin.

* Standard thickness will be making to complete smooth or clear texture by the roller pattern.

* Can be crated glossy, luster, matte by UV liquid.

* It will be a cause of bleeding that makes too thick coating.(Do not over +2 position)

(Too much UV liquid bleeding will be a cause of put it on the prints rear side of next coming photo.)

Fix to adjust bolt after adjustment. (Fig-1-2)

3.1.3 How to adjust scraper.

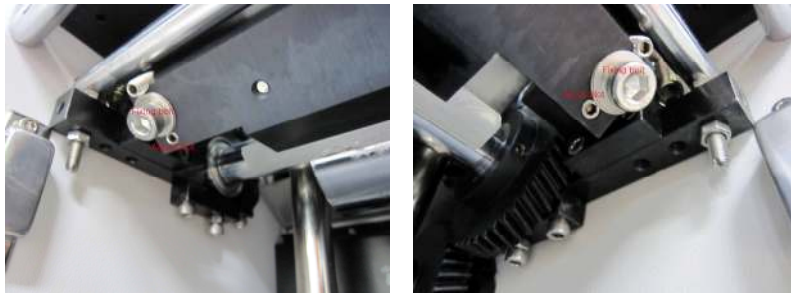
It will be very important to keep clean the transport roller. The scraper will keep cleaning it when the UV liquid put to transport roller.

In case of not clean the transport roller, the coating prints quality must be no good.

<How to do>

Loosen the bolt little bit "A and B" and tighten/or loosen both side the bolt "C or/and D"

In case of too tighten the scraper, it will make a noise.



3.1.4 Check to dry condition.

* It is not enough to dry if put a finger printing (imprint)

* (or Put the photo each other in pressing process – in processing making Digital album).

* The power supply is not enough. Please check to the rating voltage level.

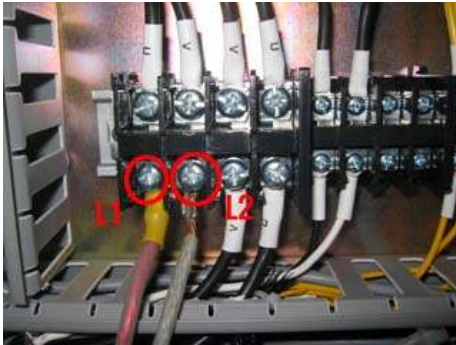
Otherwise, The caused reasons must be finish over the UV lamp life cycle or something changed of UV liquid.(put into something a impurities)

Solved by readjust power supply voltage. Or clean or change the UV lamp, or change the UV liquid.

3.2 Operation and Process

3.2.1. Connect to main power supply.

- Open the electric panel and connect power 220V through the hole as showing the images below.



3.2.2. Power ON.

- Slightly touch when show Logo on screen.



(Main Screen)



(Menu mode)

3.2.3. Slightly touch “set-up or use” the Mode on screen.

- Set up - Running parameter





1) Coating speed : Set the coating speed. Set it by UV varnish types or paper types..

Ex) Paper : Snow white => In case of snow white paper – set the speed over 70 due to quick absorb the varnish into the paper.

2) Coating Drain time : Set the Varnish Drain running time after finish to coating at Auto Mode.

3) Cooling time : Set the Fan and Blower running time after finish to coating at Auto Mode.

3.2.4. Alarm

- Screen on when Error occurred.

It shows the status in Red when it occurred and change in Blue when it solved.

Resets to Power if it's been not changed after solve the problem.



3.2.5. Manual Mode

- Use it for each devices checking and clean the roller with alcohol.



(1)



(2)



(3)



(4)

- click to the device which it would like to checking and press ON.
- Conveyer and Fan must "ON" if would like to test the UV-Lamp and IR-Lamp.
- above fig.(1) shows to the cleaning with Alcohol of tank C.
- above fig (2) shows to the draining after finished cleaning. And finish all process.

3.2.6. Auto Mode

- Use it for coating.



(1)



(2)



(3)



(4)

- Fig(1) shows to coating ready after select to tank A.
- It will be shows Fig(2) if the select sensor did not detected.
- After detected sensor, touch the START button and start to coating when changed from **Wait!** to **Ready to Coat!** (Fig.3)
- touch to STOP after finish to coating, machine will running the same as set in the Running parameter

(Fig. 4)

<Cleaning>

When cleaning with alcohol, move to alcohol tank and go on the same as coating.

But, cleaning at AUTO mode, UV-Lamp will still ON.

So, in order to save the power, it highly recommended doing cleaning at MANUAL mode.

In case of coating everyday, operator can only STOP after finish to daily job.

But for keep cleaning the roller, it highly recommended to cleaning with alcohol every

couple of days.

* In case of use the C tank for cleaning, operator will go on the same way as coating for cleaning.

1. Coating

- Put the UV varnish and Alcohol in each tank.(Glossy, Matte, Alcohol) and valve open.



- Set the catch tray onto the UV varnish tank which it want to coating or cleaning
- The pump motor will operate by detected sensor.



- Handle up to Coating Lever. Basically positioned on “Coating” but can be adjust For – direction for thin coating and + direction for thick coating.
- But never down the handle below +2. It will makes caused varnish bleeding between coating and pinch roller.
- Handle up the transport Lever



(Coating lever-Left)



(Transport Lever-right)

- Put the Start switch.
- Start to coating when starts to Cooling Fan operate.(it will takes around 5minutes)
- Use to air knife in case of the paper is under 120gsm.



- Touch the Stop switch by finish to coating. But, roller and conveyer will operate until set the time. Meanwhile, roller parts will be cleaned up automatically by drainage the varnish.
 - Handle down the two Levers when the machine complete stop.
(Later on the setting time)
It will must be caused roller damage if did not handle down the two Levers.
2. Positioned the catch tray onto the Alcohol tank for roller cleaning by touch the Start/ Stop switch when finish to daily job.
 - All cleaning process is exactly same as UV coating.
 - Normally 5minute, roller must be cleaned up. And than, finish to cleaning by touch the Stop switch.
 - Must be handled down the two Levers.
 3. Fill the UV varnish with 30% of tank and refill the varnish every use the coater. And Alcohol must replace after use 3~4 times (or days) for complete cleaning.

4. Trouble shooting

Contents	How to solve
1. Power lamp OFF.	Check to internal or external power switches. Check to Safety button
2.Doesn't operation to conveyer and roller	Check to power and switch of speed control knob. Safety sensors(roller cover, UV lamp chamber open check)
3.UV lamp OFF.	Check to switch OFF of control box, or lamp break.
4.Not perfect to dry	Input voltage check. Capacitor UV output line amps. Check(over7.0Amps) Check to UV lamp light.(running life span-2000 hours)
5. Out of balanced conveyer	Fasten/ or loosen by turn the balance adjust bolt
6.Rolled up paper on the roller	Too fast operation speeds compare paper thickness. Check to varnish density. Too thin paper used. Check to air knife air pressure
8.Noize	Check to knife balance and pressure, bearing, gear and/or put to oil on gear.
9.No comes out to UV varnish	Check the tank by manual running mode Check the varnish condition(solid or high density) Pump hose condition,
10.No good conditioned coating.	<u>Happen to horizontal line-</u> (Happened by not released the pinch roller handle) In that case, it must need to roller recovering time for 3~4days. Meanwhile, can't coating. <u>Happen to not coating partly-</u> Check to roller transport roller gap. <u>Happen to spot on the prints –</u> Check to make varnish solid or put odors on the rollers (pinch, coating and transport roller)

<End>

Thank you very much.
C&J INC.