



# User's Guide

## Cyrel® 2000 ECLF

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▶ **IMPORTANT**

Please keep this manual with other equipment documentation for future reference.

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# About this manual

This manual applies to the combined unit **Cyrel® 2000 ECLF**.

Always read the separate Safety Instruction Manual part No 21741 before operating the equipment.

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# General information

## Intended use of this manual




This manual describes the common use procedures of the equipment. It is intended for the daily user and should be kept with the equipment for reference at all times.

## Reservations

- This manual was written and illustrated using the best possible information available at the time of publication.
- Any differences between this manual and the equipment reflect improvements introduced after the publication of the manual.
- Changes, technical inaccuracies and typographic errors will be corrected in subsequent editions.
- As a part of our policy of continuous improvement, we reserve the right to alter design and specifications without further notice.

## Notes, Cautions and Warnings!

Notes, cautions, and warnings in this manual are used and categorized as described below:

Symbol	Meaning	Explanation
	<b>NOTE</b>	The operator should observe and/or act according to the information in order to obtain the best possible function of the equipment.
	<b>CAUTION</b>	The operator must observe and/or act according to the information in order to avoid any mechanical or electrical damage to the equipment.
	<b>WARNING</b>	The operator must observe and/or act according to the information in order to avoid any personal injury.

## The equipment

### Unintended use of the equipment

Glunz & Jensen does not take any responsibility for any damage or accidents caused by unintended use of the equipment.

It is absolutely prohibited to make any modifications, electrical or mechanical, of the equipment. If however this prohibition is disregarded, Glunz & Jensen's warranty will no longer apply.

### Intended use of the equipment

Development and/or processing of flexographic plates as specified in **Technical Specifications** in the Service Manual.

This equipment is a part of a full range dedicated for the treatment of flexographic printing plates. This range includes exposure, processor, dryer and light finisher.

### Installation



**WARNING:** The equipment must be installed in restricted access locations only.

- Never install the equipment in explosive environments.
- It is the responsibility of the owner and operator(s) of the equipment that the installation is made in accordance with local regulations, and by engineers authorized to carry out electrical, compressed air and HVAC installations.
- The manufacturer cannot be held responsible for any damage caused by incorrect installation of the equipment.
- Installation, service and repair must be performed only by service technicians who are trained in servicing the equipment. The installation procedure is described in the chapter 'Installation' in the Service Manual.

### Service assistance

If help is needed to correct any problem with the equipment, please contact your local supplier.

# Daily use

## General

This equipment is designed to

- expose
- post-expose/light finish

of flexographic printing plates.

The operator interface is made by a color touch screen which ensures a very easy control.

## Safety warnings

Any maintenance, servicing or adjustments must only be carried out by suitably skilled or properly instructed/supervised personnel. Guards, other than the top covers must NOT be removed by anyone other than an authorized and trained service engineer.

To use this equipment safely, it is necessary that operators and maintenance people follow the safety instructions and safety cautions and warnings specified in the manuals.

For the safety of operators, the equipment is fitted with interlock switches for the opening of the specific section during the operation, and for removing the rear panels of the equipment. If any of the interlocks are not installed or closed, the equipment or a specific section of the equipment will not operate. If an interlock is activated during operation, the equipment or a specific section of the equipment stops immediately.

The equipment is fitted with emergency switch(s) which allows the operators to stop the equipment in case of emergency. This emergency switch cut off the power supply of the entire equipment. Make sure that the risk or the problem has been eliminated before restoring the power on the equipment. To release the emergency switch, turn it clockwise. The equipment has to be restarted following the "Initial operation of the equipment" below.



**WARNING:** Do not connect the dryer and light finisher exhausts together as the mixing of vapours could create dangerous fumes emission depending of the solvent used to wash the plates.



**WARNING:** UVC light radiation is dangerous for human skin and particularly the eyes. Even a short exposure time may cause burning in the lower skin layers and damages the eyes retina. Due to the safety systems installed, it should never be required to check the UVC lamps by view the UVC light directly when operating, maintaining or servicing the equipment. However, in case of need it is mandatory to wear a welding helmet with at least shade 6, safety clothes and gloves.



**WARNING:** The equipment is fitted with UV lamps which contain mercury. Dispose according to local, state or federal laws.



**WARNING:** If UV lamp is broken, ventilate area where breakage occurred. Clean up with mercury vacuum cleaner or other suitable means that avoid dust and mercury vapor generation. Take usual precautions for collection of broken glass. Use cut resistant gloves and appropriate respirator. Clean up requires special care due to mercury droplet proliferation. Place materials in closed containers outside the building to avoid generating dust.



**NOTE:** The equipment is fitted with a safety interlock to prevent user to be exposed to UVA light radiation.



**NOTE:** The equipment is fitted with a safety device on the lid to prevent injuries during the closing of the lid.



**NOTE:** The light finisher drawer is fitted with a safety interlock to prevent user to be exposed to UVC and UVA light radiation.






Flexographic printing plates are considered articles by e.g. OSHA (CFR1910.1200). An article does not require a Material Safety Data Sheet. However, unexposed plates contain material that may cause skin irritation or allergic skin reactions and sensitization in susceptible persons.




**WARNING:** For handling the plates use a safety gloves.

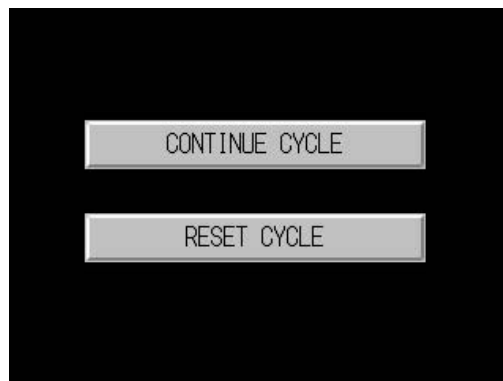
## Initial operation of the equipment



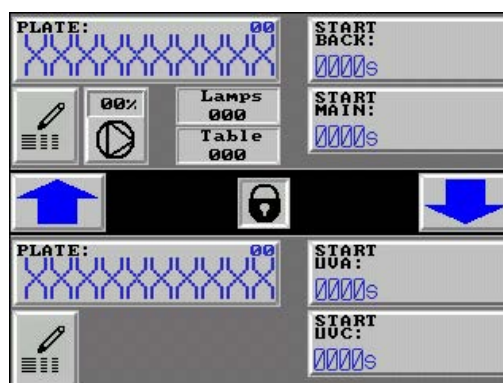
-  **CAUTION:** Make sure that the cooler tank is filled with proper cooling liquid before turning the machine on. See Service manual for more details.
  -  **NOTE:** Make sure the room temperature is between 17°C (63°F) and 28°C (82°F) and relative humidity between 20 and 80.
  -  **NOTE:** Before turning the equipment on make sure that the working area around the equipment is clean and free for easy movement. All the covers must to be closed.
  -  **NOTE:** Check all the required supplies and connections, as power cable and all the hoses are connected properly. Check if there are any leaks of liquid.
  -  **NOTE:** Check that the emergency stop button is released. If it is not, release it by turning it clockwise.
- Turn the main switch (1) of the machine, which is located on the electrical box door on the left of the machine.
  - Verify that emergency stop button (2) is released (front panel). If not, release it by turning it clockwise.
  - Switch the machine on by pressing the ON/OFF button (3), which is located on the electrical box door on the left of the machine.



- After a couple of second of display initialization the main screen is displayed.
-  **NOTE:** If the machine has been switched off during at least one process on going, the following screen appears at the switch ON of the unit asking to continue the cycles which have been interrupted (restart exactly at the point it has been stopped) or to reset all on going cycles.










## Main screen description







## Exposure section

Display	Description
PLATE:	<p>It displays the selected plate name. Press to select the plate to process. The plate channel number is as well displayed in the top right corner.</p> <p><b>i</b> <b>NOTE:</b> Up to 25 channels (from 0 to 24) are available to store the plate parameters.</p> <p><b>i</b> <b>NOTE:</b> The plate name is the same in the exposure as well in the light finisher section.</p>
START BACK:	<p>It displays set back exposure time. When the cycle starts, the button is blinking green and the "START BACK" is changed to "STOP BACK". The remaining time is displayed in the middle. The "END" is displayed at the end of the cycle and the button remains green, indicating the end of the cycle.</p> <p><b>i</b> <b>NOTE:</b> Prior to starting another cycle, it is necessary to confirm the end of the previous cycle by pressing on the "END" button. At this point the button turns gray. The equipment is now ready to start another cycle.</p> <p><b>i</b> <b>NOTE:</b> It is possible to stop ongoing cycle by pressing the button again. A confirmation dialogue box appears asking for the confirmation of stopping the cycle.</p>
START MAIN:	<p>It displays set main exposure time. When the cycle starts, the button is blinking green and the "START MAIN" is changed to "STOP MAIN". The remaining time is displayed in the middle. The "END" is displayed at the end of the cycle and the button remains green, indicating the end of the cycle.</p> <p><b>i</b> <b>NOTE:</b> Prior to starting another cycle, it is necessary to confirm the end of the previous cycle by pressing on the "END" button. At this point the button turns gray. The equipment is now ready to start another cycle.</p> <p><b>i</b> <b>NOTE:</b> It is possible to stop ongoing cycle by pressing the button again. A confirmation dialogue box appears asking for the confirmation of stopping the cycle.</p>

Display	Description
	The button allows access to the Plate parameters modification screen. <b>i NOTE:</b> The button is visible only if access to the Plate parameters modification is unlocked (refer to Service manual).
	Press the button to start/stop the vacuum pump. The level of vacuum is displayed on top of the button. If the vacuum level is too low, the button turns red. <b>i NOTE:</b> It is not possible to stop the vacuum pump if main exposure cycle is ongoing.
	It displays temperature of the exposure lamps and table.
	The "LI" is displayed between the back and main exposure frames only when the light integrator function is in use.
	Press to open the lid. Button is blinking green during the opening. When the lid is fully open, it remains green.
	Press to close the lid. Button is blinking green during the closing. When the lid is fully closed, it remains green.
	Press to access password protected screens.


## Light finisher section

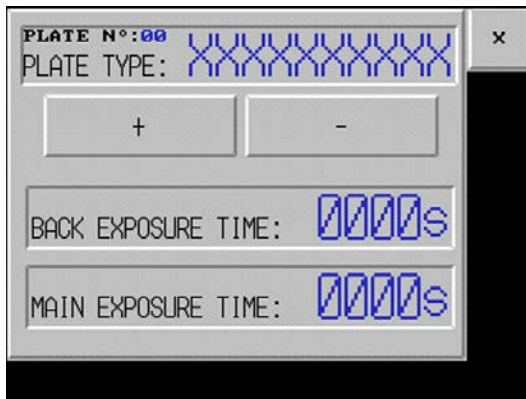
Display	Description
PLATE:	It displays the selected plate name. Press to select the plate to process. The plate channel number is as well displayed in the top right corner. <b>i NOTE:</b> Up to 25 channels (from 0 to 24) are available to store the plate parameters. <b>i NOTE:</b> The plate name is the same in the exposure as well in the light finisher section.
START UVA:	It displays set UVA time. When the cycle starts, the button is blinking green and the "START UVA" is changed to "STOP UVA". The remaining time is displayed in the middle. The "END" is displayed at the end of the cycle and the button remains green, indicating the end of the cycle. <b>i NOTE:</b> Prior to starting another cycle, it is necessary to confirm the end of the previous cycle by pressing on the "END" button. At this point the button turns gray. The equipment is now ready to start another cycle. <b>i NOTE:</b> It is possible to stop ongoing cycle by pressing the button again. A confirmation dialogue box appears asking for the confirmation of stopping the cycle.

Display	Description
START UVC:	<p>It displays set UVC time. When the cycle starts, the button is blinking green and the "START UVC" is changed to "STOP UVC". The remaining time is displayed in the middle. The "END" is displayed at the end of the cycle and the button remains green, indicating the end of the cycle.</p> <p> <b>NOTE:</b> Prior to starting another cycle, it is necessary to confirm the end of the previous cycle by pressing on the "END" button. At this point the button turns gray. The equipment is now ready to start another cycle.</p> <p> <b>NOTE:</b> It is possible to stop ongoing cycle by pressing the button again. A confirmation dialogue box appears asking for the confirmation of stopping the cycle.</p>
	<p>The button allows access to the Plate parameters modification screen.</p> <p> <b>NOTE:</b> The button is visible only if access to the Plate parameters modification is unlocked (refer to Service manual).</p>

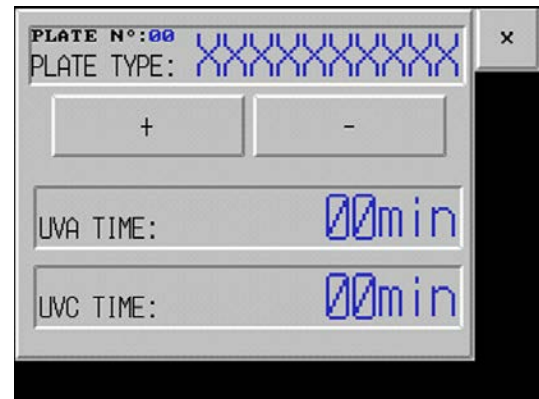
## Plate settings

It is possible to store 25 plates (channels 0 - 24) with main and back exposure, or UVA and UVC times.

- By pressing the  button from exposure or light finisher section, corresponding plate parameters screen is displayed (this button is available on the main screen as well as on the plate selection screen).



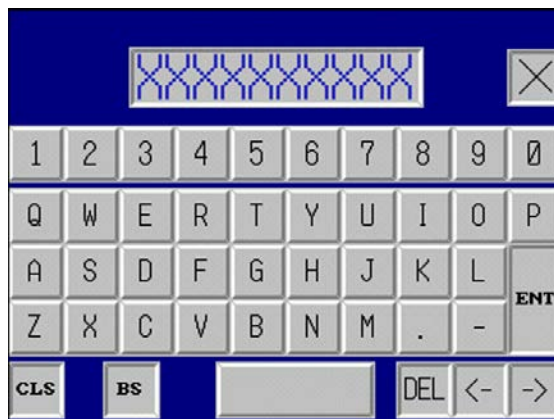
Exposure parameters



Light finisher parameters

- For each stored channel it is possible to modify the name of the plate as well as the dedicated parameters.
- It is possible to scroll up or down the channels by pressing "+" or "-".
- When the required channel is displayed, press the "PLATE TYPE:" field to change the plate name or one of the dedicated parameters.
- Then an alphanumeric keyboard or a numeric keyboard will appear.

### Alphanumeric keyboard



### Numeric Keyboard



**NOTE:** Always confirm the input by pressing "ENT" button, after typing in a new value. Not doing this may result in corrupted values memorization.

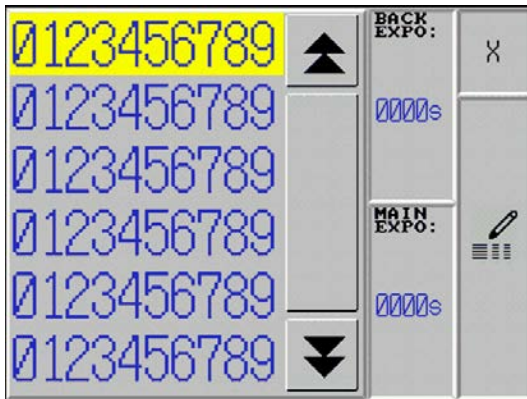


**NOTE:** The plate name of the same channel is common for both exposure and light finisher section. Modifying the plate name in one section will modify the plate name in the other section as well.

# Making plates

## Plate selection


Press the "PLATE:" field of dedicated section on the main screen to access the plate selection screen.




Exposure section




Light finisher section


- To select the plate to process, scroll up or down until required plate name is displayed. Press required plate name to highlight it. Then it is possible to check the plate parameters on the right side of the screen to ensure that the correct plate is selected.
- If the plate parameters are not correct, press the  button to access to the plate parameters screen.
- When the correct plate with the correct parameters is selected, press "x" to turn back to the main screen. The parameters are automatically transferred in the concerned section and the processor is now ready to start a process cycle.

## Starting an exposure cycle


 **WARNING:** For handling the plates use a safety gloves.


- Put the plate on the vacuum table.
- If needed, start the vacuum pump.
- Verify the vacuum level.
- Select plate type in the exposure section.
- Verify all the parameters are correct.
- To start an exposure process, press "START BACK" or "START MAIN" depending of the process you want to start. The machine then proceed an automatic cycle doing first the closing of the lid, the exposure and then opening the lid.

 **WARNING:** During an automatic cycle as well as in the manual operation, the safety of the lid is in operation. In case of contact the lid will stop closing and will then open completely. The ongoing exposure cycle is canceled as well.

 **WARNING:** At the end of cycle the lid will open automatically.

- During all the process the display shows remaining times of back or main exposure and the dedicated button is blinking green.
- At the end of the cycle the buzzer rings, "END" is displayed on the "START BACK" or "START MAIN" button. The button remains in fixed green color and the lid opens.

 **NOTE:** Prior to starting another cycle, it is necessary to confirm the end of the previous cycle by pressing on the "END" button. At this point the button turns gray. The equipment is now ready to start another cycle.

 **NOTE:** It is possible to stop ongoing cycle by pressing the button again. A confirmation dialogue box appears asking for the confirmation of stopping the cycle.



## Starting a light finisher cycle



**WARNING:** For handling the plates use a safety gloves.

- Open the light finisher drawer and put the plate in.
- Close the drawer.
- Select plate type in the light finisher section.
- Verify all the parameters are correct.
- To start a light finisher process, press "START UVA" or "START UVC" depending of the process you want to start.
- During all the process the display shows remaining times for UVA or UVC cycle and the dedicated frame is blinking green.
- At the end of the cycle the buzzer rings, "END" is displayed in the "START UVA" or "START UVC" button. The button remains in fixed green color.

### Specific cycle

The equipment offers possibility to have an automatic sequence of light finishing.

If this function has been enabled (refer to Service Manual) the cycle proceeds as followed:

- if "START UVA" is selected, then UVA cycle is followed with UVC cycle after a preset delay.
- if "START UVC" is selected, then UVC cycle is followed with UVA cycle after a preset delay.



**NOTE:** Prior to starting another cycle, it is necessary to confirm the end of the previous cycle by pressing on the "END" button. At this point the button turns gray. The equipment is now ready to start another cycle.



**NOTE:** It is possible to stop ongoing cycle by pressing the button again. A confirmation dialogue box appears asking for the confirmation of stopping the cycle.



**NOTE:** If the light finisher drawer is not closed properly, the "START UVC" and "START UVA" buttons are colored in red indicating the drawer open.



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# Maintenance

The equipment is equipped with emergency switch which allows the operator to stop the equipment in case of an emergency. These emergency switches cut off the power supply of the entire equipment, except power supply of the controls (relays, touch screen, etc.).



**WARNING:** Make sure that the risk or the problem has been eliminated before restoring the power on the equipment.

To release the emergency switch, turn it clockwise. The equipment has to be restarted following the "Initial operation of the equipment" in the User's Manual.

## Safety interlocks

For the safety of operators, the equipment is equipped with interlock switches and sensors on the opening of drawers and covers during operation.

If any of the interlocks are not installed, the equipment or a specific section of the equipment will not operate.



**CAUTION:** If an interlock is activated during operation, the equipment or a specific section of the equipment stops immediately.

## Filling the cooler tank



**WARNING:** Make sure the equipment is turned off and the main switch is locked in "OFF" position.



**CAUTION:** Please let the cooler stay in right position for a hour before it is powered up, to ensure that the oil inside the compressor is floated back to normal, to prevent an unexpected overloading at the compressor when it starts.

- Remove the particular cover of the equipment by using triangle shaped key if necessary.
- Remove the cover of the cooler tank(s).
- Prepare 4 l (1.1 US gal.) of a solution based on 70% of demineralized/distilled water, 30% of ethylene glycol (NOT propylene glycol) and a few drops of algacide (anti-foam action).
- Fill the tank(s) to the maximum.
- After running the equipment for a couple of minutes, it may be necessary to check the level of the cooler tank(s) again and to add solution to reach the correct level.



**CAUTION:** It is necessary to run equipment long enough at the first time to pump out all the air bubbles off the system.

## Cleaning air filter



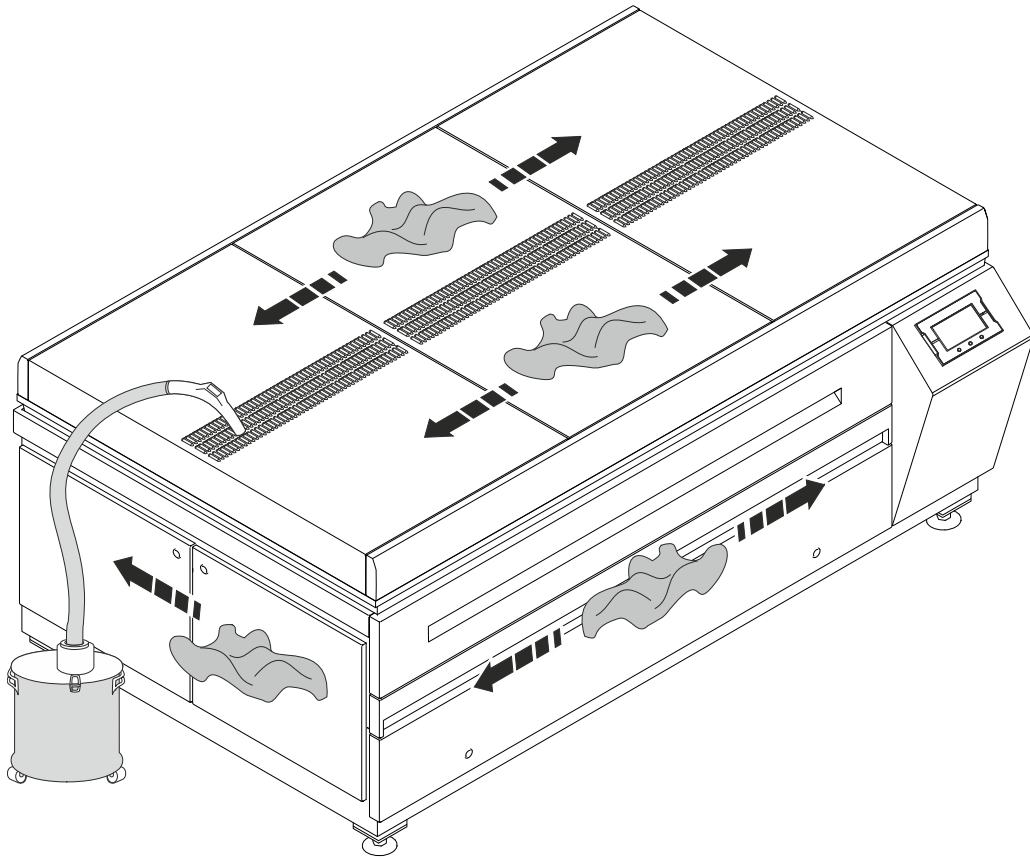
The Moisture Trap (3) is a self-venting system but the air filter needs cleaning when dirt builds up.

**⚠ WARNING:** Make sure the equipment is turned off and the main switch is locked in "OFF" position.

- Unplug the compressed air supply.
- Rotate the Moisture Trap (3) in the anti-clockwise direction to remove it.
- Unscrew the Air Filter (4) and clean it with a cloth.
- Mount all components back in reverse order and re-start the machine.

## Cleaning

- Clean the equipment covers from dust and dirt by using a clean damp cloth.



## UV output measurement

- Open the exposure and place the sensor of a Kühnast meter on top of the exposure table.
- Close the exposure.
- Run an exposure cycle. Make sure that the temperature of lamps is at least 38°C.
- Repeat the UV output measurement at another eight points of the exposure table by using a Kühnast meter. Record the data in a UVA spreadsheet with average output, and % maximum variation.

## UV lamps replacement

- The UV lamp is fragile, take a great care while unpacking, moving and installing the UV lamp.
- Only clean UV lamps ensure uniform light emission. Before installation, ensure the UV lamps are clean.
- Perspiration and sebaceous oil from the skin form white smudges which become etched on the quartz surface of the UV lamp, when the UV lamp reaches its normal operating temperature. The etched areas of the tubes inhibit the transmission of the desired UV energy.

**WARNING:** Make sure the unit is turned off and disconnected from the electricity supply, the mains supply is locked off using a padlock or similar, and then a check made to ensure that the unit will not run.

**WARNING:** Do not handle the UV lamps with bare hands. Wear cut resistant gloves.

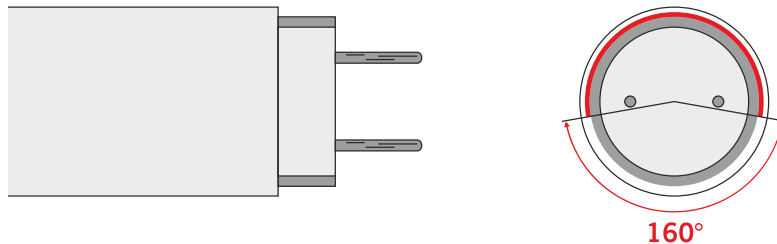
**WARNING:** Always use safety glasses when handling UV lamps.

**WARNING:** UV lamps contain small amounts of mercury. Dispose them according to local, state or federal laws and regulations.



**WARNING:** UVC light radiation is dangerous for human skin and particularly the eyes. Even a short exposure time may cause burning in the lower skin layers and damages the eyes retina. Due to the safety systems installed, it should never be required to check the UVC lamps by view the UVC light directly when operating, maintaining or servicing the equipment. However, in case of need it is mandatory to wear a welding helmet with at least shade 6, safety clothes and gloves.

**NOTE:** The UVA lamps have a built-in reflector which is applied in a semi-circle over the entire length of the UVA lamp. The reflector is recognizable by the white no transparent color of the glass in the tube. The reflector is designed to direct the light. When installing ensure, that the reflection side is correctly located (non transparent section should be directed toward the plate).



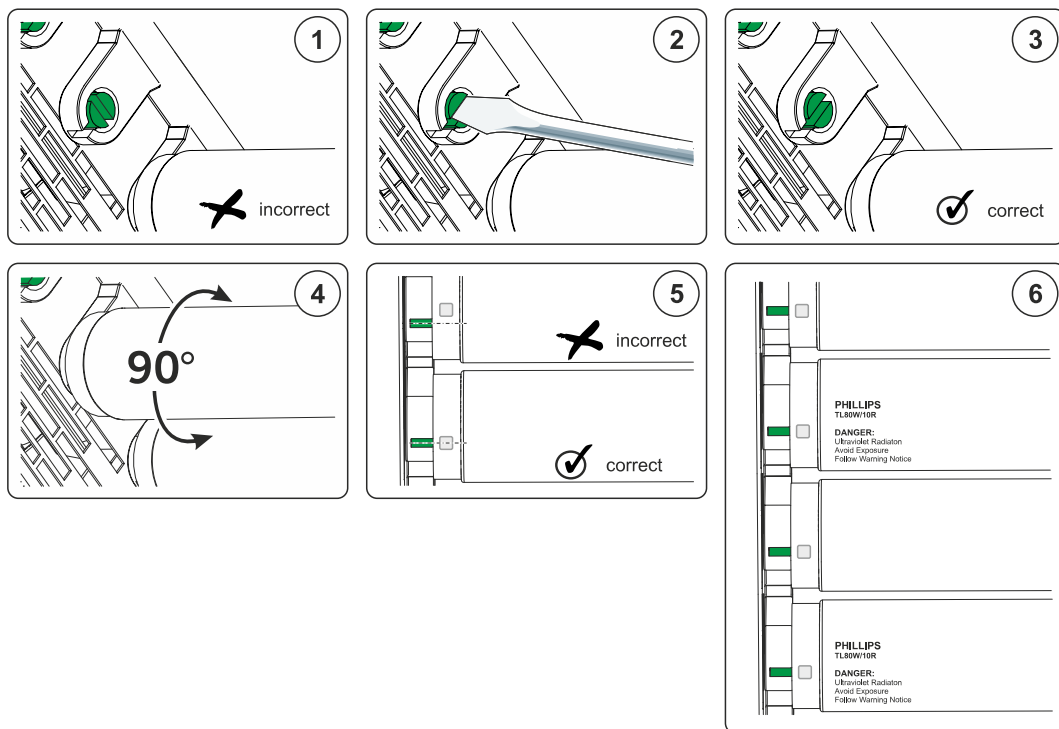
**WARNING:** If UV lamp is broken, ventilate area where breakage occurred. Clean up with mercury vacuum cleaner or other suitable means that avoid dust and mercury vapor generation. Take usual precautions for collection of broken glass. Use cut resistant gloves and appropriate respirator. Clean up requires special care due to mercury droplet proliferation. Place materials in closed containers outside the building to avoid generating dust.

**NOTE:** When installing new UV lamps a burning-in of the UV lamps is recommended to get correct performance and to stabilize them. Run the UV lamps prior to use the equipment (see the Service Manual, chapter "Prior to start exposing/light finishing plates").

## Exposure lamps replacement

**WARNING:** Make sure the equipment is turned off and the main switch is locked in "OFF" position.

- Open the top lid of the equipment.
- Remove the UV lamps by turning them 90°.
- Make sure that the socket position is correct on both sides for inserting the UV lamp. To adjust the socket correctly it is recommended to use a flat screwdriver (2).
- Insert the new UV lamp in the socket on both sides and lock it by turning 90° (4). Note the little mark on the UV lamp ring which must be visible (in line with the socket opening) when the UV lamp is installed correctly (5). Make sure that the UV lamps are installed in alternate left-right position to ensure proper light distribution (6).



- Close the top lid.
- Unlock the main switch and turn the equipment on. Burn the lamps and carry out the light integrator calibration (see the Service Manual).

**NOTE:** Recalibrating light integrator after changing the lamps may result in changing the plate exposure times.

**WARNING:** UV lamps contain small amounts of mercury. Dispose them according to local, state or federal laws and regulations.



## Light finisher lamps replacement

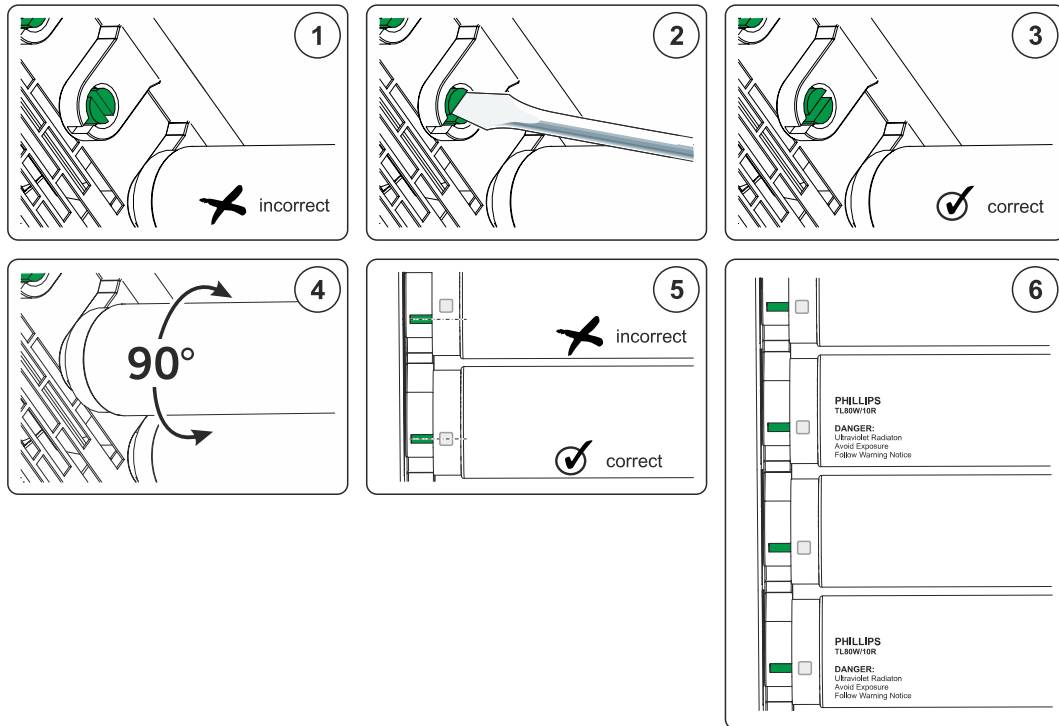
**WARNING:** Make sure the equipment is turned off and the main switch is locked in "OFF" position.

- Remove the light finisher drawer.
- Remove the rear panels.
- Remove the locking screws of the lamps holder drawer on both sides.
- Pull out the lamps holder drawer from the equipment's front.





- Remove the UV lamps by turning them 90°.
- Make sure that the socket position is correct on both sides for inserting the UV lamp. To adjust the socket correctly it is recommended to use a flat screwdriver (2).
- Insert the new UV lamp in the socket on both sides and lock it by turning 90° (4). Note the little mark on the UV lamp ring which must be visible (in line with the socket opening) when the UV lamp is installed correctly (5). Make sure that the UV lamps are installed in alternate left-right position to ensure proper light distribution (6).



- Push the lamps holder drawer in.
- Secure the lamps holder drawer with the locking screws at the back.
- Reinstall the rear panel of the light finisher and lock it by using triangle shaped key.
- Unlock the main switch and turn the equipment on. Burn the lamps (see the Service Manual).



**WARNING:** UV lamps contain small amounts of mercury. Dispose them according to local, state or federal laws and regulations.





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