

cintropur®

WATER FILTRATION & TREATMENT

Instructions for assembly, use and maintenance

TRIO UV 2100 + 4100



Check our maintenance videos on our YOUTUBE channel
<https://www.youtube.com/channel/UCWqxml54Aqfsu9M7imBx1YA>

1. Possible applications

The range of water filters and sterilizers CINTROPUR TRIO UV 2100 + 4100 is designed for filtering and sterilizing **clear water** with only low levels of substances in suspension. The CINTROPUR UV Range can be used to treat borehole water, rainwater, supply water or well water contaminated with bacteria.

Other types of non-aggressive liquid can also be filtered. The possible areas of use will be in domestic, industrial, public and agricultural situations.



In order to guarantee the potability of the water, it must be chemically drinkable before the UV treatment.

The UV CINTROPUR is a 100% physical water treatment process that uses the ultraviolet light as a bactericide.

The mains water may contain a large quantity of harmless but also pathogenic micro-organisms as well (faecal streptococci, faecal coliforms, sulphito-reducing bacteria...). In order for the water to be drinkable, it is necessary to remove these micro-organisms.

The UV lamp emits light rays with a maximum intensity of 253.7 nanometres. At this very accurate wavelength, pathogenic micro-organisms are totally eliminated and this ensures that the water is bacteriologically safe to drink.

The materials used for making the filter are suitable for filtering liquid foods.

The use of activated carbon is well known for dechlorinating, removal of odours, improvement of taste, reduction of pesticides and herbicides.

The UV CINTROPUR is delivered with an ultraviolet lamp as a standard. The UV lamp is a low-pressure mercury vapour lamp emitting a germicidal wavelength of 253.7 nanometres.

2. Technical description

Installation and use of the TRIO UV 2100 + 4100 must be complied with the following technical requirements:

	TRIO UV 2100	TRIO UV 4100
Connection diameter	3/4" + 1"	3/4" + 1"
Max. flow rate (m ³ /h) at 25mj/cm ²	2	2.6
Max. flow rate (m ³ /h) at 40mj/cm ²	1.3	1.6
Max. working pressure (bar)	16	16
Max. operating temperature	50°C	50°C
Weight (kg)	4.3	4.3
Filter screen	25µ	25µ
Water transmission (min. %)	90	90
Lamp power (W)	25	40

The dose of ultraviolet radiation is expressed in milli joules / cm² (or mj / cm²).

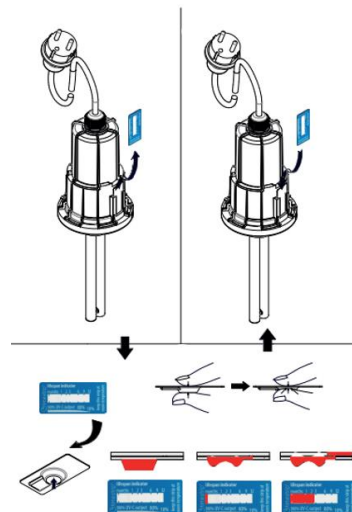
It is mandatory that the water has a transmittance of at least 90% for these results to be reached.

3. Assembly and handling

- The **filter** must be fitted using the correct procedures, by qualified personnel: they must be free of mechanical stress, with the piping upstream and downstream aligned. The distance between the couplings must be correct to avoid causing any tension or compression stress on them.
- The ideal location for the CINTROPUR TRIO UV is on the main water supply pipe. If there are several devices which are part of your water treatment installation, the UV will always be installed in the last position. The

installation of a filter upstream of the unit is strongly recommended in order to remove suspended particles that can block the UV radiation.

- (after the meter or the pump). Ensure that the direction of water flow corresponds to the direction of the arrow on the filter head.
- The pressure reducer will effectively reduce the supply pressure if it exceeds the operating pressure. An anti-water-hammer device is essential if they are known to occur in the installation.
- The filter is supplied complete and ready to install. The equipment supplied includes a set of 4 threaded connectors (2x $\frac{3}{4}$ " and 2 x 1"), a 25 μ filter sleeve, a cartridge full of activated carbon, a spanner for disassembly and three wall mountings.
- The only available options are the pressure gauges and the bleed valve.
- The optionally supplied dry pressure gauges (0 - 10 bar) have a standard 1/8" thread; fitting is done using a spanner (the dial is not to be used as a handle for screwing it in) after through drilling and tapping the pressure-gauge holes in the head. In this case the wall mount cannot be installed. It is never permissible to use the pressure gauges as fixings for the wall mount!
- The tightness of the threaded connections can be achieved with any of the usual trade products. However, the hemp and paste from Kolmat is to be preferred. Leave one thread turn free on the filter connector to provide a good start for the valve or connector of your installation.
- Using removable connections will enable the filter to be easily removed from the installation at a later date if necessary.
- The tightness between the connector and the filter head is ensured by an o-ring; hand-tightening is sufficient. The tightness between the head and the bowl is ensured by an o-ring; hand-tightening is sufficient. The spanner is for disassembly.
- If you choose the valve option, its nickel-plated brass adapter is factory-fitted with a teflon seal. This assembly (adapter + $\frac{1}{4}$ " valve) must be hand-fitted to the bottom of the bowl. The sealing between the male thread of the adapter and the bowl is ensured by an O-ring; Tightening this assembly (adapter + $\frac{1}{4}$ " valve) will be a maximum of $\frac{1}{4}$ turn of the O-ring blocked against the bowl.
- The cylindrical support of the filter screen is fitted at the 2 ends with a centrifugal spinner and a sealing cover. The purpose of the latter is to provide the sealing between the unfiltered water and the filtered water.
- Fitting isolating valves upstream and downstream of the filter is advised for assisting maintenance of the filter.
- At the first use, you have to fully squeeze the button on the back of the blue strip time indicator to release the red liquid. After one year the colour will have reached the end of the window.
- The optimal functioning of this time indicator on the head is closely linked to a constant room temperature below 22°C.



- In order to guarantee a maximum effectiveness of the ultraviolet treatment, we recommend that you carry out a shock disinfection of your pipes.
- During this operation, the UV CINTROPUR must be switched off (for the TRIO-UV, the filter cartridge + the activated carbon cartridge must be removed).
- Disinfection of the pipes in case the filter is upstream of the UV CINTROPUR:
 - Remove the filter element from your filter.

- Fill in the UV bowl 2 to 3 times with a half diluted bleach solution.
- Let this water go through all the pipes in the house.
- Leave it in for ½ hour and then drain the water until complete disappearance of the taste and smell of the bleach.
- For the TRIO-UV, reassemble the filter cartridge and replace the activated carbon cartridge.
- Switch on the UV CINTROPUR.
- We recommend to repeat the shock disinfection of the pipes approximately once a year.

ELECTRICAL CONNECTION



The electrical connection is made via a 3-pin earth socket. Before connecting the unit, make sure that the power corresponds to the voltage of the system, 230 volts, 50 Hz.

For your safety: the filter's power supply must be equipped with an earth leakage circuit breaker with a sensitivity of 30mA.

OPERATION



Before starting the filter, make sure that there is no water leakage.

Circulate the water in the filter.

Plug in the filter.

The working of the UV lamp is visible through the drain screw below the black bowl (purple light).

It is necessary to keep the sterilizer always on, even if there is no water consumption. However, in case of an extended period of no water consumption (holidays, out for more than a week...) it is necessary to switch off the UV CINTROPUR to avoid any overheating of the UV sterilizer.

When restarting, let the water flow during 1 minute (with the sterilizer on) before using it.

Frequent "On/Off" or working without water inside the bowl is not allowed as this will reduce the lifetime of the UV lamp.

The UV CINTROPUR must work with water temperatures between 5°C and up to max 50°C. Below this temperature, there is a risk for the equipment to be damaged.

SAFETY INSTRUCTIONS

The bayonet connection system of the UV lamp on the head of the steriliser allows the lamp to be switched off (during disassembly) or switched on automatically (during assembly) by a simple rotation of 5°. Indeed, an audible click will confirm that the lamp is securely mounted.

The UV lamp will only work when it is connected to the head of the sterilizer (security for the user).

The UV CINTROPUR is meant to be used only for its intended purpose. It must not be used at higher flows than the maximum recommended ones. Safety and proper working can only be guaranteed if it is installed according to the enclosed recommendations.

Before working on the sterilizer, please disconnect it from the power supply. UVC rays are dangerous for the eyes and for the skin. Do not let the UVC lamp work if outside the unit.

The treated water must not be coloured or loaded with suspended solid particles, iron, lime-scale nor nitrate.

4. Maintenance

FILTER with sleeve

Before disassembling the bowl, close the upstream and downstream valves and release the pressure.

Maintenance and replacing the filter screen for drinking water is advised at least twice per year. The filters graded 5, 10, 25, 50 & 100µ are intended for a single use. Cleaning them would change the structure of the fibre, so degrading the fineness of the selected filtering and making the filter more fragile, which could lead to tearing.

The nylon filters graded 150 & 300 µ are designed to be cleaned and re-used.

The thread of the bowl must stay clean and greased for easy fitting and removal of the bowl during its life time. The sealing ring between the head and the bowl must also remain clean and greased for good sealing. Plan to replace it every 5 years. All slots and O-ring seatings must remain clean and without burrs. Every component of the filter, even if only slightly damaged, must be replaced immediately to ensure good performance under pressure and water-tightness of the whole filter.

FILTER with activated carbon

Your filter is fitted with a container cartridge (CTN) for holding the filling of activated carbon (or other treatment substances). This CTN cartridge is identical for all models. Its available internal volume is 0.57 litres. The lower part of the cartridge has 0.6 mm holes; the upper filter has 0.3 mm holes.

Replacement of the activated carbon in the models for drinking water is necessary every 12 m³, and in other cases at least every 6 months.



- Remove the filter bowl
- Withdraw the CTN cartridge by pulling downwards (do not rotate it [screwing or unscrewing] to withdraw the cartridge).
- Unscrew the black top of the cartridge
- Fill the container with activated carbon (or other substance) up to the indicated "max" level. The CINTROPUR pack contains enough activated carbon for 6 refills.
- Screw the top back onto the container.
- Insert the filled cartridge into the head of the filter. As in b), replace the cartridge by pushing vertically without rotating [screwing or unscrewing].
- Manually screw the bowl into the head. The spanner is for disassembly.

UV STERILIZER

It is MANDATORY to change the UV lamp after 1 year of use (or 8,760 hours). After this working period, the sterilization efficiency will no longer be guaranteed.

The maintenance consists in changing the UV lamp and cleaning the quartz tube if necessary. After 5 years, due to the solarisation effect, it is recommended to replace the quartz.

When restarting the unit, press the button on the back of the blue strip time indicator to ensure optimum follow-up of the lifespan of your lamp (see section "installation"). The white viewing window will gradually move to red as time passes (after 12 months, it will be completely red). Repeat this process with the new strip time indicator each time you change the lamp.

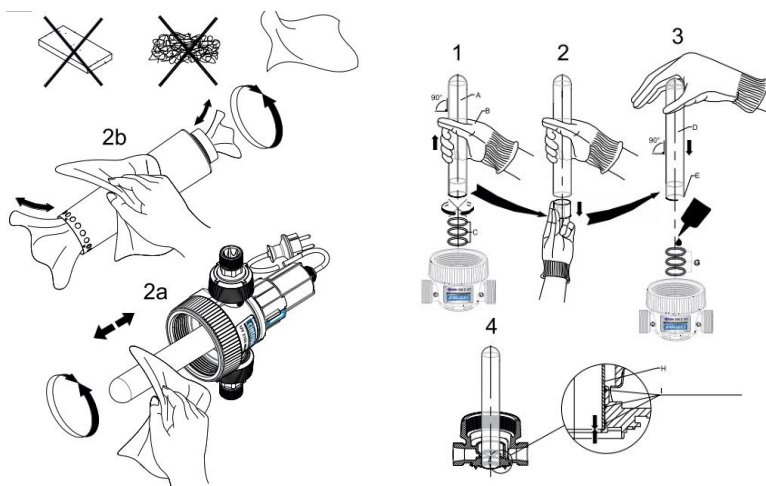
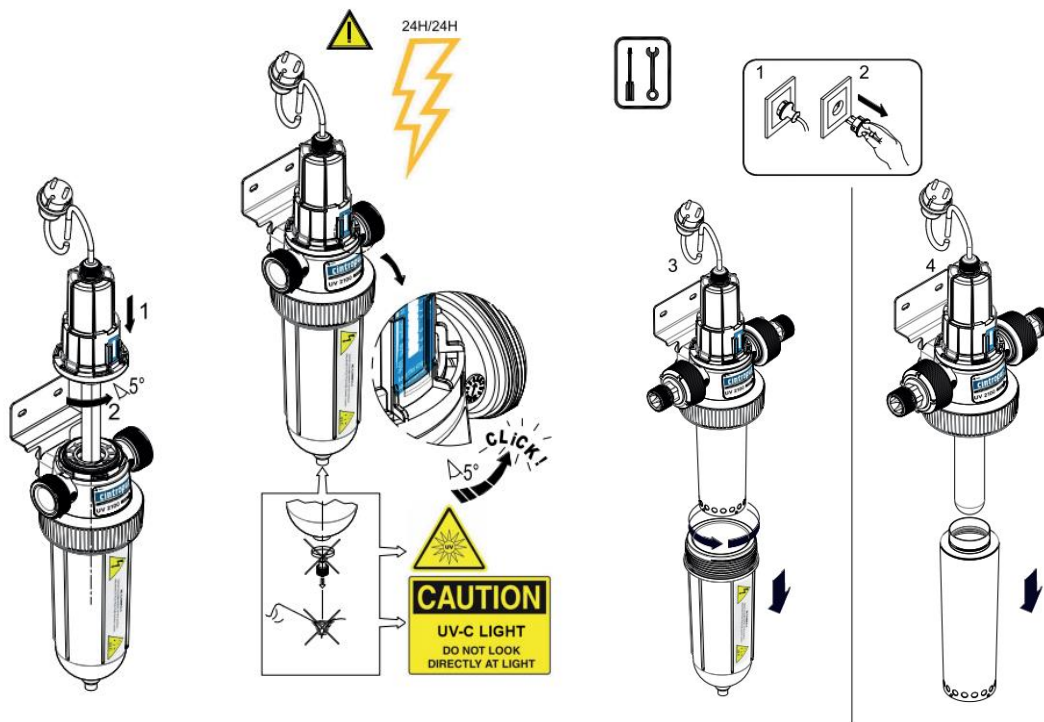
Removing the black bowl from the sterilizer allows direct access to the stainless steel chamber. This is the UV treatment chamber. It must be kept clean for an optimal UV radiation.

INSTALLATION OF THE NEW LAMP

The new UV lamp must be perfectly dry before positioning it into the quartz tube. Be careful not to put your fingers on the lamp. Cleaning the lamp with alcohol will remove any fingerprints.

Cintropur makes your life easier by providing you with the lamp connected to the ballast (integrated in the black handle). A rotating movement of 5° will fix the lamp to the sterilizer by a bayonet system. This rotating movement will automatically activate a micro-switch to switch on your lamp.

Note: As well as fluorescent tubes, a defective UV lamp must be removed according to the national regulations or left in a waste sorting centre because the lamp contains mercury particles.



QUARTZ PIPE

The quartz pipe may become dirty or show a lime-scale deposit. In this case you must disassociate it to clean it with diluted acid (hydrochloric acid, vinegar, anti-lime scale solution). The product used must not be abrasive.