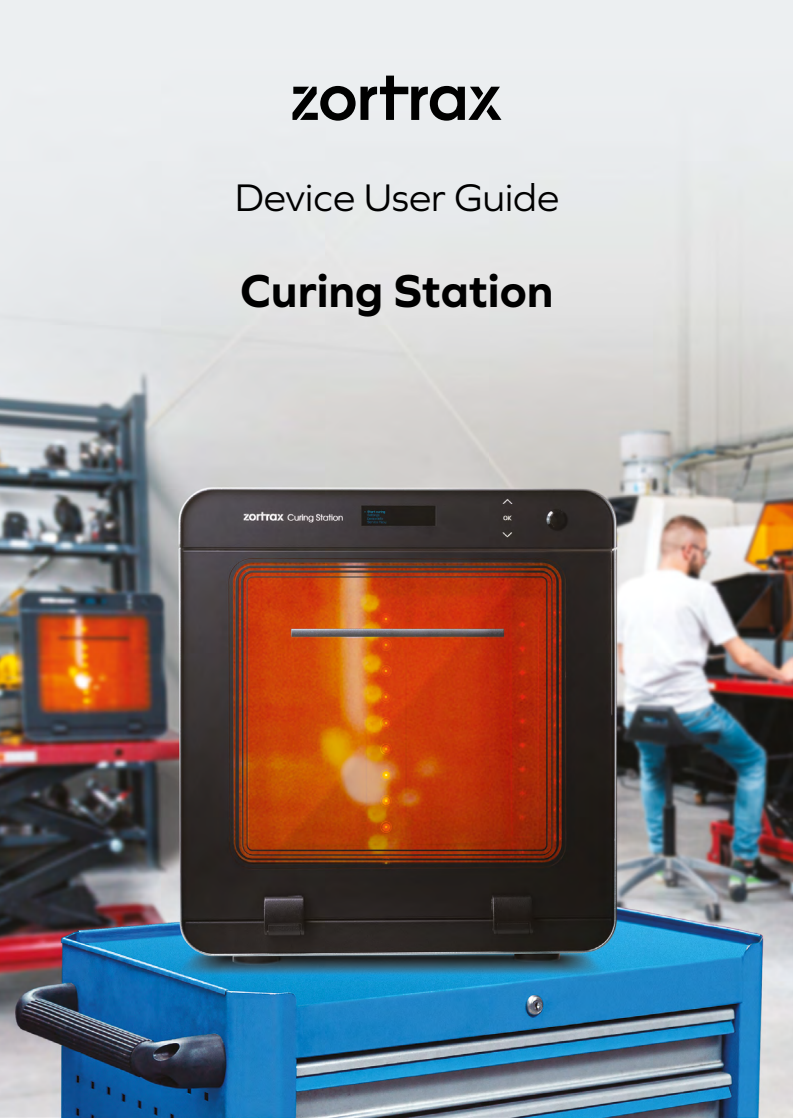
zortrax

Device User Guide

Curing Station



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Introduction

Read this User Guide carefully and thoroughly before operating the Zortrax Curing Station for the first time. The User Guide includes basic information about the device, safety and protection guidelines as well as advice on preparing the machine for the first curing process and basic maintenance work. Ignorance and non-compliance with these instructions may result in property damage, injuries, or device failures. It is also necessary to ensure that every device user knows, fully understands and follows the instructions provided in this User Guide.

The Manufacturer makes every effort to ensure that Zortrax products are safe in transportation, installation, usage, storage and disposal. However, given the lack of direct and indirect control over the device and a number of other factors influencing the device, the Manufacturer is not responsible for damage, injuries, failures, and costs resulting from improper transportation, installation, usage, storage, and disposal.

Furthermore, the users should take into consideration the risk of possible damage of the device resulting from defects in material and workmanship.

The users are responsible for qualifying and determining the intended use of 3D printed models. The Manufacturer takes no responsibility for any use of printed objects, especially when those objects constitute a part of safety devices or strictly regulated by specific rules medical, military or space science equipment.

Due to the size and specificity, the Zortrax Curing Station is not intended for use by minors and by people with reduced manual, motor and psychomotor skills. The Manufacturer recommends providing assistance and guidance to people with disabilities and older adults who wish to operate the device.

General Safety Information

This User Guide contains important safety directions that should be followed during installation and operation of the Zortrax Curing Station. It also mentions situations which require special attention and includes warnings against negligence and misuse that could cause damage or injuries.

Always read the safety data sheets available at: https://zortrax.com/resins/. They are a source of basic information and safety procedures for the materials you bought.

Visit our website: https://zortrax.com/ to learn about the latest news and updates.

The curing process in the Zortrax Curing Station involves using synthetic resin which in a liquid form is toxic and may cause allergic reactions. Therefore, you must protect your skin and eyes when using the device by wearing safety gloves and glasses. Provide proper ventilation on site while the machine is in operation.

It is also extremely important to avoid spilling the cleaning solvent on the device and its surroundings. Ensure that the device is leveled and placed on a stable surface. Do not open the device during the curing process.

Do not leave the machine unattended during the curing process - check it periodically for proper functioning in order to avoid potential accidents or breakdowns. Do not ignore warnings and notifications displayed on the screen.

Monitor your device for wear and tear regularly. Contact our Support Center via the support form at: https://support.zortrax.com/support-form/ for assistance when necessary.

Keep the device away from heat sources, flammable materials, equipment emitting radiation, sources of fire, humidity, water and other liquids. To prevent any inadvertent use, keep the device out of reach of children and animals. It is forbidden to drop or shake the device as it may cause breakdowns. The equipment is not intended for use in a potentially explosive environment.

The Manufacturer strongly recommends setting up a special room dedicated only to 3D printing and post-processing. The room should be as free of daylight as possible and properly ventilated. It is important to avoid situations in which liquid resin is exposed to daylight.

Workplace Health and Safety

All service and maintenance activities as well as device operation and maintenance require using safety gloves and glasses included in the Starter Kit. It is also advisable to wear protective clothing.

Keep the workplace clean. Containers with resin should be tightly closed and kept in a dark place.

The device should be configured according to its intended purpose. Improper configuration may cause defective operation which may lead to damage of the device.

Food and beverages should be kept away from both the device and the 3D printed objects. Do not put any objects inside the device.

While operating the Zortrax Curing Station, all measures regarding health and safety that are provided in this User Guide as well as in separate regulations should be taken into account.

If the device begins to operate in an unidentified way, safely unplug it from the power source and immediately contact the Manufacturer through the support form at: http://support.zortrax.com/support-form/.

Electrical Safety

Zortrax devices have been tested for compliance with Low Voltage Directive. In order to ensure the highest safety standards, including protection against short circuit, overload, overvoltage and device overheating, do not attempt to modify the device and do not use electronic replacement parts other than those recommended by the Manufacturer.

Before plugging the power cable into the outlet, make sure that the power supply voltage in the outlet matches the required value provided on the nameplate at the back of the device. Avoid overloading the outlet with too many devices.

The device must be well-grounded. Always make sure that the ground complies with local and national regulations.

Use only the original power cable supplied with the device. Do not damage, cut or repair the cable. A damaged cable should be immediately replaced with a new one. The cable should be used according to its intended purpose and should be protected from heat, oils, sharp edges and moving components of the device. A damaged cable increases the risk of an electric shock.

All maintenance and repair work should be carried out while the device is off and unplugged. Modifications such as soldering of electronic subunits are forbidden.

Mechanical Safety

The Zortrax Curing Station has movable components, such as the glass table. Therefore, it is forbidden to reach into the device or put anything inside the device when it is running or about to start running. This may lead to serious injuries or damage.

Tools and accessories delivered with the device should be used with special care only for intended purposes. Improper use may cause serious injuries.

While following post-processing procedures, wear safety gloves and glasses to avoid injuries that may be caused by sharp edges and fragile elements of models.

Risk of Burns

There is no risk of burns as all components working in high temperatures are enclosed and protected from being touched.

Constructional modifications of the device's operating temperature are not permitted as it may cause serious injuries or bring damage to the device.

Safe Storage and Transport Guidance

Zortrax devices must be stored between 0 and 35° C [32 - 95° F]. The storage space should be free of moisture and other extreme conditions.

Transport instructions:

When stacking several devices on a pallet, follow the instructions provided on the packaging. Once device may weigh more than 34.6 kg [76.3 lb]. It is therefore advisable to provide safe pallet storage but not higher than 1.7 m [5'7"]. It should be noted that the packages must not project beyond the outline of the pallet. Packages stacked on the pallet should be then bound together and wrapped in foil. The pallet prepared as above can be then forwarded to the shipping company.

Pallet stacking and destacking should be carried out by two people. The package with the device should be lifted or moved using special handles.

Electromagnetic Compatibility (EMC)

The Zortrax device complies with Part 15 of the FCC rules. Its operation is subject to the following two conditions: this device may not cause harmful interference, and this device must accept any interference received, including interference that may cause undesired operation.

The device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the following User Guide, may cause harmful interference to radio communications. Operation of this device in a residential area is likely to cause harmful interference, in which case the user will be required to eliminate the interference at his own expense.

How does the Zortrax Curing Station work?

UV curing is a post-processing step required by nearly all leading resin manufacturers to achieve desired mechanical and thermal properties of their 3D printing materials. To guarantee consistent results it has to be performed in controlled conditions. Zortrax Curing Station provides additional UV curing of parts made in all resin 3D printing technologies.

The curing chamber in Zortrax Curing Station ensures all surfaces of a resin 3D model get consistent UV exposure. The chamber's wall are made with 304 stainless steel sheet polished up to the EN 10088-2 2P standard which acts as a mirror, reflecting UV light at all sides of the model. Consistency of exposure is further enhanced by a rotating table on which the parts are placed. This makes the models free of weak spots caused by insufficient UV exposure.

The Zortrax Curing Station has multiple systems ensuring safety of its operators. The post- -processing device detects when the curing chamber door is open and immediately turns off the UV lamps to prevent harmful UV irradiation. During the curing process all UV radiation is stopped by a filter built in the front glass panel. Finally, a separate system prevents the UV LEDs from overheating.

The Zortrax Curing Station is a standalone device that can complement all UV LCD, SLA, or DLP resin 3D printers available on the market. It has a large workspace that enables curing of sizable 3D prints made on industrial machines. There aren't any design or software features that lock a user into one particular 3D printing ecosystem.

Zortrax 3D Printing Technology Glossary

FIRMWARE

the software programmed into Zortrax devices, which controls and monitors all the data in the device. It also gives the possibility to enable/disable the device's functions.

GLASS TABLE

the glass, rotating component on which parts intended for curing are placed in the device's chamber.

STARTER KIT

several pieces of equipment that are put together in one set and delivered with the device. The set contains tools and protective equipment. The tools from the starter kit are required for operating the device as well as for performing maintenance work.

UV LCD TECHNOLOGY

a technology which relies on curing photopolymers layer after layer. This UV LCD technology involves projecting images of successive layers on the underside of the tank with liquid resin and curing them using backlight from a UV lamp.

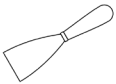
What's in the Box

Zortrax Curing Station

Quick Start Guide

Power Cable

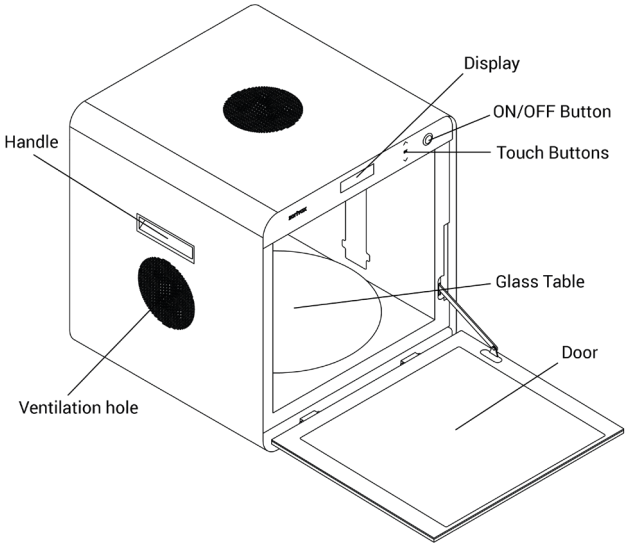
Safety Glasses



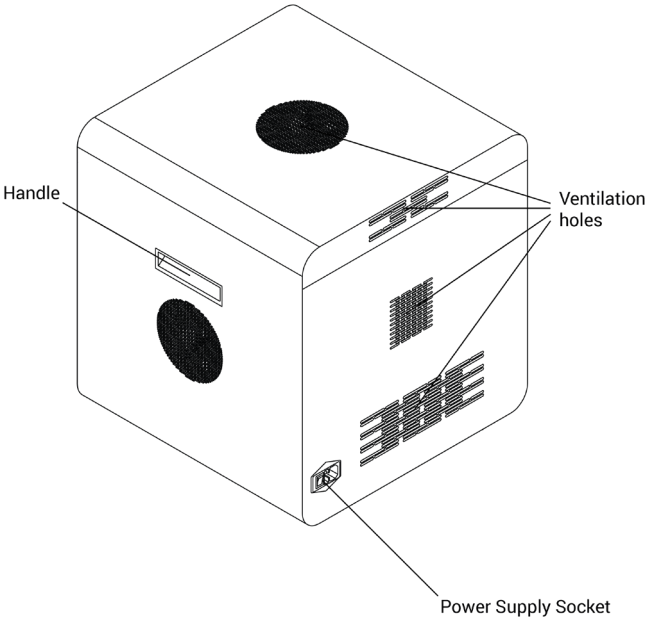
Spatula

Main Components

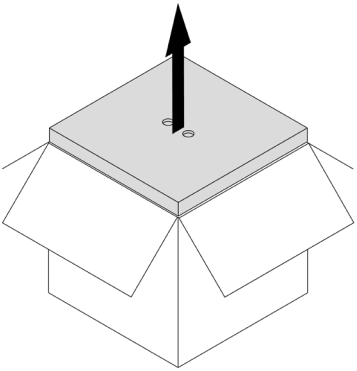
1. Front view (opened)



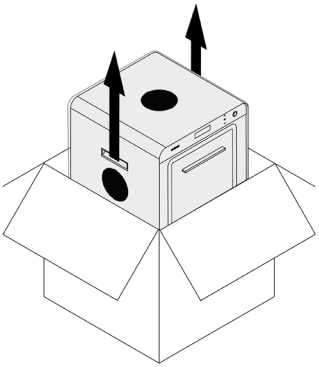
2. Back view (closed)



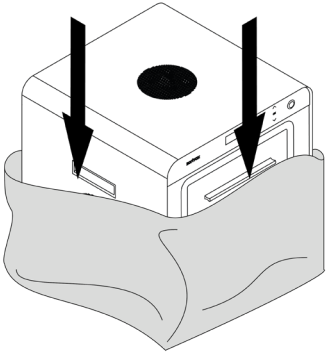
First Use Preparation



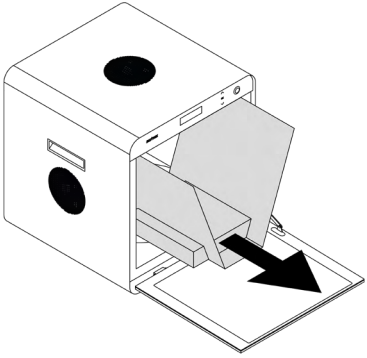
1. Open the shipping box and remove the upper cushioning.



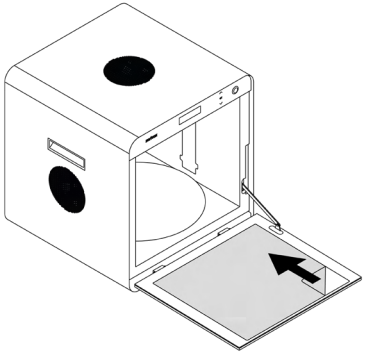
2. Take the device out of the box.



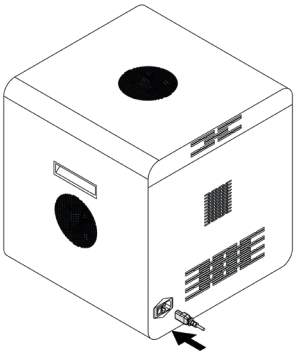
3. Remove the protective foil and place the device on a flat and stable surface.



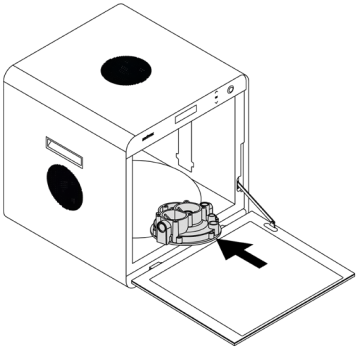
4. Remove the box with accessories and remove the cardboard protection from the inside of the chamber.



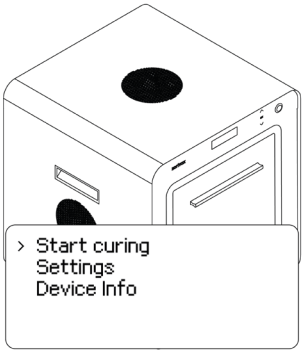
5. Remove the protective foils from the inside and outside of the device. Close the front door.



6. Plug the power cable in.



7. Place the model(s) on the glass table inside the device.



8. Run the curing program with appropriate time settings using the ***Start Curing*** option from the menu.

Navigating through the Menu

Start Curing - this option allows you to start the curing procedure. First, you have to set the curing time.

Settings:

Curing Power - this option allows you to set the curing power in the range of 10 to 100%,

Rotation Speed - this option allows you to set the rotation speed of the glass table in the range of 10 to 100%,

Buzzer Settings - this option allows you to change the Button Click Sounds (Disabled/Enabled) and the Procedure End Sound (Disabled/Single beep/Melody),

Language - this option allows you to change the language of the menu,

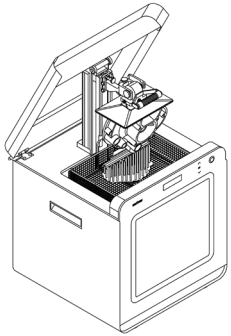
Standby Time - this option allows you to set the time after which the device goes into the sleep mode.

Device Info - this tab contains information which identifies the device model, its firmware and hardware version, serial number, and total curing time.

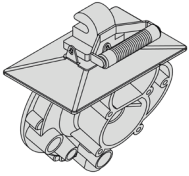
How to Cure a Print

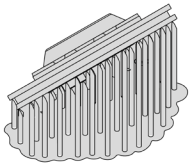
Caution

Wear safety gloves during all procedures.

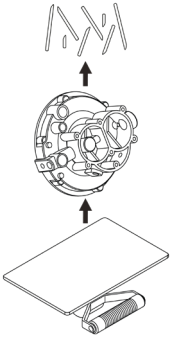


1. Make sure that the models you are about to cure have been cleaned properly and there is no liquid resin on them.

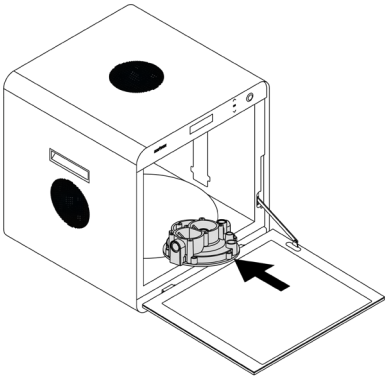




2. Leave the models to air dry and ensure that they are not exposed to the UV light until they are completely dry.

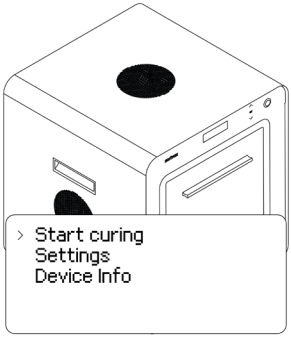


3. Remove the model from the platform by hand or use a spatula. If you have problems with removing the print, use a cutting knife. Remove the raft and support structures from your model.

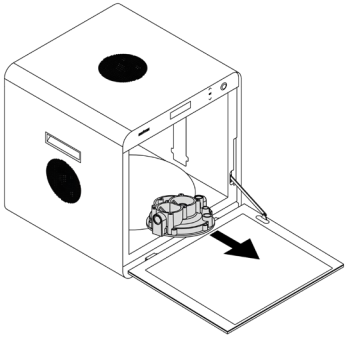


4. Put the model in the Curing Station or in any source of UV light (e.g. direct sunlight).*

*Depending on the type of resin you've used for printing, this step is optional.



5. Run the curing program with appropriate time settings using the *Start Curing* option from the menu.



6. Once the curing process is finished, open the front door and remove the models from the glass table.

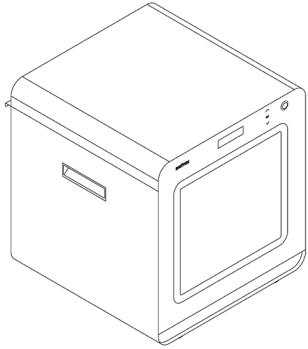
Basic Maintenance and Service Work

Maintenance work should be regular in order to keep the device in good condition. Some components require maintenance before each curing session and some every few hundred working hours. All maintenance activities do not take much time and are not complicated. Before commencing any repair, it is important to turn the device off and let it cool down. Remember to always wear gloves and glasses.

The device is delivered with a full set of tools needed to carry out maintenance service work.

The following tables present maintenance and repair guidelines connected with each section of the Zortrax Curing Station, together with specific check points, necessary activities and their frequency.

1. Main



Activity	Frequency	Solutions to the problems	Necessary accessories
Cleaning the machine, its interior and surroundings	Before each printing process	Remove dust and drops of resin from the machine with paper towels. If it's necessary, use IPA.	-paper towels, -IPA, -safety gloves

Error Messages

Whenever there is a technical issue caused by a hardware failure, negligence or inappropriate use of Zortrax devices, the firmware immediately displays an error message on the screen. The following list explains all error messages and provides potential causes and suggested solutions.

Error Message	Potential Cause	Suggested Solution
#01 Upper fan not working	The upper fan does not work or the reading of the fan's RPM is not possible	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/
#02 Right fan not working	The right fan does not work or the reading of the fan's RPM is not possible	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/
#03 Rear fan not working	The rear fan does not work or the reading of the fan's RPM is not possible	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/
#04 Left fan not working	The left fan does not work or the reading of the fan's RPM is not possible	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/
#05 Overheating of the upper UV lamp	The temperature of the upper UV lamp is too high	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/
#06 Overheating of the right UV lamp	The temperature of the right UV lamp is too high	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/
#07 Overheating of the rear UV lamp	The temperature of the rear UV lamp is too high	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/
#08 Overheating of the left UV lamp	The temperature of the left UV lamp is too high	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/
#09 Upper temperature sensor error	Incorrect reading of the upper sensor temperature	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/
#10 Right temperature sensor error	Incorrect reading of the right sensor temperature	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/

#11 Rear temperature sensor error	Incorrect reading of the rear sensor temperature	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/
#12 Left temperature sensor error	Incorrect reading of the left sensor temperature	Contact Zortrax Support Center through the support form: https://support.zortrax.com/support-form/

	If the device begins to operate in an unidentified way, safely unplug it from the power supply and immediately contact the Support Center specialists via the support form at: http://support.zortrax.com/support-form/.
	While shipping the device to the Manufacturer's technical service, it is important to properly prepare a package. Use the original packaging. Detailed instructions on how to pack the device are available at: http://support.zortrax.com/curing-station-packing/.

More manuals and tips & tricks articles are available at our Support Center.

www.zortrax.com

Specification

Weight and physical dimensions	
Device (W x D x H)	464 x 470 x 501 mm (18.3 x 18.5 x 19.7 in)
Device	
Workspace volume	300 x 200 x 300 mm (11.8 x 11.8 x 7.9 in)
Light source	UV light - 405 nm wavelength
UV light power	75 mW/cm^2
Chamber	Metal with a mirrored surface supporting even light distribution around 3D prints
Door	Made of a glass layer with a PMMA filter
Display/control panel	Touch control panel; single color display; on/off button
Security	- Door opening sensor - UV filter embedded into the front door
Electrical	
AC input	100 - 240 V AC max 2 A - 120 V; max 1 A - 230 V 50/60 Hz
Maximum power consumption	240 W
Additional information	
All information contained in this User Guide and specication is subject to change without notice.	

Recycling

Disposal of paper and plastic packaging

To protect the environment, the Manufacturer recommends placing used paper and plastic packaging in specially designated containers, according to your local recycling guidelines.

Disposal of resin

Printing and post-processing waste, including empty bottles, failed prints, supports, rafts as well as paper towels with resin residues should be put in the Zortrax Curing Station or in any source of UV light before disposal. Uncured resin has to be disposed of in accordance with national and local regulations concerning hazardous waste.

Disposal of cleaning solvent

Detailed information regarding usage and waste disposal of the liquid detergent utilized to clean 3D prints should be found in the SDS delivered by the producer of the liquid.

Waste electrical and electronic equipment

This symbol indicates that it is electrical and electronic equipment which must not be disposed of with household waste. Substances contained in the equipment may be harmful to natural environment. Waste electrical and electronic equipment cannot be disposed of in landfills and must be recycled. For information on where to dispose of waste equipment, contact the reseller, the Manufacturer, or the importer of the device. Disposing of waste electrical and electronic equipment along with other waste is prohibited by the Directive 2012/19/UE.

Certification

The Manufacturer ensures that the equipment complies with all relevant standards. In case of questions and problems contact the Manufacturer through the support form: http://support.zortrax.com/support-form/.

zortrax

office: office@zortrax.com

technical support: support@zortrax.com

more information: zortrax.com

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