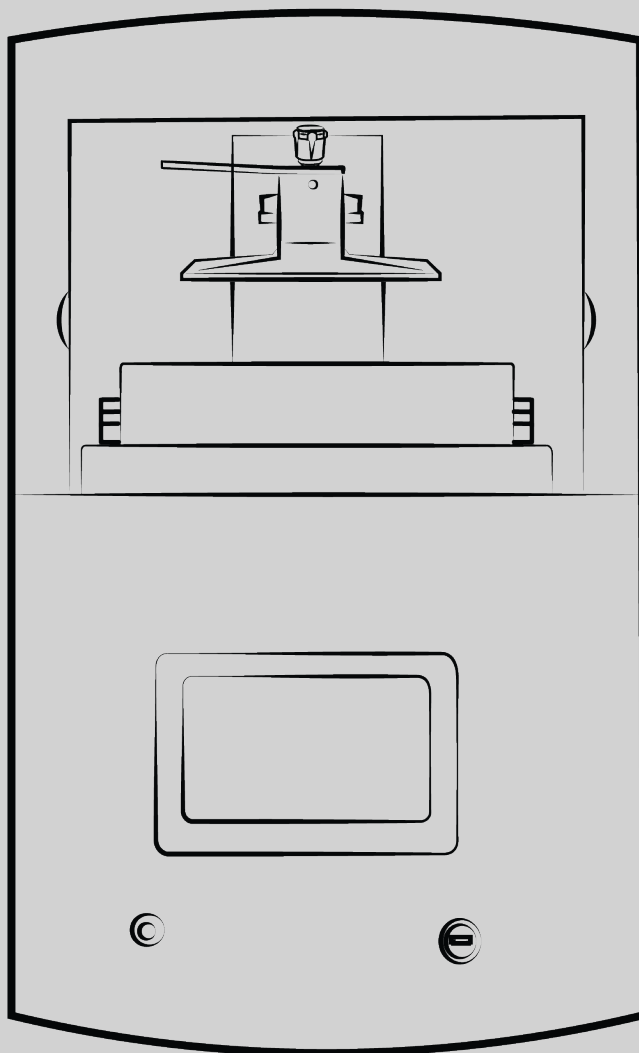


English



This Guide applies to the ETEC™ Envision One cDLM printer.

#### **FCC Compliance Information**

These devices comply with part 15 of the FCC Rules as applicable. Operation is subject to the following two conditions:

- (1) These devices may not cause harmful interference, and
- (2) these devices must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Desktop Health™ could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

#### **ISED compliance information**

This device complies with the Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
  - (2) This device must accept any interference, including interference that may cause undesired operation of the device.
- CAN ICES-003(A) / NMB-003(A)

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Envision One cDLM Compliance & Safety Guide: E1-CS-00017-Rev01-EN, October 2022



Hereby, EnvisionTec declares that the radio equipment for Envision One cDLM Printer is in compliance with Directive 2014/53/EU. The full text of the EU Declaration of Conformity is supplied with the equipment and is available at the following Internet address:

<https://knowledge.envisiontec.com/hc/en-us/articles/8113028865175-Envision-One-cDLM-Compliance-Safety-Guide>

Radio equipment contained in this product operates at the following frequencies:

Wi-Fi Frequency range: 2.4 GHz and 5 GHz band.

Transmission power (EIRP): 100 mW

Card RFID frequency: 13.56MHz



EU WEEE Directive 2002/96/EC

This equipment at the end of life must be discarded in accordance with the National or Local Regulations. Please contact your dealer or supplier for further information.

ETEC

**Manufacturer:**

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10/2022

# Product Overview

The Envision One cDLM printer produces small, premium components requiring a high level of precision and uses industrial UV LEDs as the light source.

The Envision One cDLM printer builds 3D models by curing liquid materials through a projector system.




The model created in CAD (Computer-Aided Design) software is loaded into the Envision One RP software supplied with the printer. Envision One RP software slices the model, which then is sent to the printer.

## Safety Procedures and Protocols










**READ THESE SAFETY INSTRUCTIONS PRIOR TO INSTALLING, OPERATING OR PERFORMING MAINTENANCE ON THE PRINTER. DO NOT DISCARD.**

### Conventions

 <b>DANGER</b>	Indicates a hazardous situation that, if not avoided, will result in death or serious injury.
 <b>WARNING</b>	Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.
 <b>CAUTION</b>	Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.
<b>NOTICE</b>	Indicates important information or a situation that, if not avoided, could result in equipment or property damage.

### Safety Pictograms



	<b>Lifting hazard:</b> Indicates possibility of strain or other injury when lifting heavy objects.
	<b>Electrical hazard:</b> Indicates risk of electrical shock which can cause serious injury or death, or damage to equipment. Do not touch anything that displays this label.









	<b>Hot surface:</b> Indicates risk of burns due to heated areas or surfaces. Avoid areas marked with this label.
	<b>Pinch / Crush hazard:</b> Indicates parts within the furnace that may pinch or crush.
	General warning sign.
	<b>UV Radiation:</b> Risk of eye or skin injury due to UV radiation.
	Consult User Manual for instruction for use.










### Mandatory Action Signs





		
Use protective hand wear	Use protective goggles	Use protective clothing
		
Use safety boots	Use dust mask	

### Printer Safety Warnings

 WARNING	<b>Risk of electric shock:</b> Disconnect power before servicing the printer.
 WARNING	<b>Risk of electric shock:</b> Make sure all conducting components are in good order and condition. The switch cabinet may be opened by trained and authorized service personnel only. Do not try to set up the printer yourself. Have the printer set up by trained and authorized service personnel only.

 <b>WARNING</b>	<p><b>Risk of UV radiation hazard:</b> Never look directly into the projector's beam.  Looking into the projector with unprotected eyes may cause injury.  Use protective goggles and wear safety gloves when working with the printer.</p>
 <b>WARNING</b>	<p><b>Risk of injury:</b> The use of the materials intended for the printer may cause risks to the health and safety of the operator or third persons. To ensure safe handling of the materials, the hazard and precautionary statements must be observed.</p>
 <b>WARNING</b>	<p><b>Risk of electric shock:</b> Connect the printer to a grounded outlet.</p> <p>Only use the plug and socket type for the country of intended use of the printer.</p>
 <b>CAUTION</b>	<p><b>Risk of hand crushing caused by automatically moving printer parts:</b> Always keep the hood closed when operating the printer. The printer may only be operated if the protecting devices are working properly.</p> <p>The printer may only be operated by specially trained personnel. Only execute the calibration tasks described in the Operations and Maintenance Guide. For the remaining tasks, have the printer calibrated by trained and authorized service personnel only.</p>
 <b>CAUTION</b>	<p><b>Risk of injury:</b> Printer overturning during transportation can cause injury.</p> <p>Do not try to move the printer yourself.  Have the printer transported by trained personnel only.</p>
 <b>CAUTION</b>	<p><b>Risk of damage to the printer:</b> Make sure the build platform torque knob is secured before printing. Failure to do so will cause the build platform to be uneven and can cause build failures.</p>
 <b>CAUTION</b>	<p><b>Risk of damage to the printer:</b> To prevent damage to the printer, do not add water to the oxygen concentrator.</p>
 <b>CAUTION</b>	<p><b>Risk of damage to the printer:</b> Priming must finish before plugging the oxygen concentrator into the printer.</p>

 CAUTION	<b>Burn hazard:</b> Some printer parts may be hot. Allow the printer to cool down before touching any parts with burn hazard signs.
 CAUTION	<b>Risk of injury caused by improper handling of the build platform:</b> Before taking the build platform out, make sure that all persons are clear of the danger zone.
 CAUTION	<b>Risk of injury:</b> Avoid unnecessary movements. Avoid non-ergonomic joint positions.
 CAUTION	<b>Risk of injury:</b> Risk for the operator to slip, stumble or fall. Keep the floor of the printer area clear of loose cables, objects, or liquids.
 CAUTION	<b>Burn hazard:</b> Touching the hot light source might result in severe burns. Use heat-resistant protective gloves.  Only authorized, trained personnel may touch the light source.
 CAUTION	<b>Risk of injury:</b> Protection hood must always be closed, except when removing models from the printer. After the models are removed, close the hood on the printer.
 CAUTION	<b>Risk of injury from crushing caused by moving printer parts:</b> Printer may only be operated by instructed and specially trained personnel. The printer may only be operated if the protecting devices are working properly.
 CAUTION	<b>Risk of injury:</b> Use the appropriate personal protective equipment: protective gloves, safety boots, laboratory coats, safety goggles, and dust mask during post-processing.
 CAUTION	<b>Risk of injury:</b> Do not use materials other than the materials branded or manufactured or qualified for use by ETEC. Observe the relevant Material Safety Data Sheets for the materials. Use the appropriate personal protective equipment.

 <b>CAUTION</b>	<p><b>Risk of injury:</b> As handling chemicals puts you at risk of coming into contact with corrosive chemicals, being burnt, inhaling poisonous vapors, etc., always put on suitable protective clothing (gloves, protective goggles) before working with construction substances.</p> <p>Take utmost care to avoid getting any chemicals in your eyes or breathing the chemical vapors.</p> <p>Always wash your hands thoroughly afterwards with soap and water. Don't use Isopropyl alcohol to wash your hands if come in contact with materials. Be careful not to spill chemicals.</p>
 <b>CAUTION</b>	<p><b>Risk of injury:</b> Crushing caused by automatically moving printer parts.</p> <p>Body parts may be crushed by movements of the build platform.</p> <p>The printer may only be operated if the protecting devices are working properly.</p>
 <b>CAUTION</b>	<p><b>Risk of injury:</b> Always wear nitrile gloves when handling the material tray.</p>
 <b>CAUTION</b>	<p><b>Risk of injury:</b> Maintain a healthy posture.</p> <p>Instruct the personnel to follow the principles of ergonomics.</p>
<b>NOTICE</b>	<p>The printer may only be used for the intended purposes. The printer may only be operated if in a flawless state in terms of technical safety.</p>
<b>NOTICE</b>	<p>When working with materials, observe the instructions regarding personal protective equipment in the relevant Material Safety Data Sheets.</p>
<b>NOTICE</b>	<p>The printer must be positioned on a flat and even surface to prevent the printer from moving.</p> <p>Check the horizontal orientation of the printer at regular intervals. This can be done by use of a spirit level placed on the build platform.</p> <p>If the printer is not levelled any more, e. g. if it has suffered an impact, have the printer repositioned by trained and authorized service personnel.</p>




<b>NOTICE</b>	Incorrect positioning of the printer can cause damage to the printer and/or to the printed models. Please, follow the guidelines.
<b>NOTICE</b>	Ensure that you put the RFID material tag into the material tag reader. Failure to do so can result in damage to the RFID material tag and material tag reader.
<b>NOTICE</b>	Do not try to touch or open anything on the screen before the Controller Software has finished booting. This can cause damage to the files on the printer.
<b>NOTICE</b>	Always remove the build platform before taking the material tray out of the printer. Failure to do so can result in material dripping down into the safety glass causing failed builds and ruined equipment.
<b>NOTICE</b>	Use a different material tray for each kind of material to avoid contamination. If not possible, clean the material tray carefully and thoroughly.
<b>NOTICE</b>	<p>Improper use of the remote printer control over local network using VNC software may lead to damage.</p> <p>Use the remote printer control with great attention.</p> <p>Do not use the remote printer control without an operator next to printer.</p> <p>The printer owner is responsible for any unsafe operation of the printer using the remote printer control.</p>
<b>NOTICE</b>	Do not turn the printer off during software update.
<b>NOTICE</b>	Make sure that during calibration your material tray does not contain material in it. Material residue in the material tray during the calibration will give a false reading to the sensors.

<b>NOTICE</b>	<p>Always remove the platform before taking the material tray out of the printer.</p> <p>Failure to do so can result in material dripping down into or onto the printer causing failed builds and damaged equipment.</p>
<b>NOTICE</b>	<p>Checking the printer ensures the highest quality of printed models and minimizes the risk of errors or printer malfunctioning.</p>
<b>NOTICE</b>	<p>Make sure the build platform is clean and the material tray is in place and has material in it before starting a print.</p> <p>Failure to do so will result in failed builds and damage to the equipment.</p>
<b>NOTICE</b>	<p>Carry out the maintenance tasks according to the maintenance schedule in the Operations and Maintenance Guide and the intervals specified therein.</p>
<b>NOTICE</b>	<p>Use 99% IPA away from the material tray and thoroughly wipe all IPA completely from the build platform before installing it back onto the printer.</p>
<b>NOTICE</b>	<p>Always clean the material tray each time you need to change the material for printing parts on the printer.</p>
<b>NOTICE</b>	<p>Do not pour material from your material tray into the bottle it came from. This can potentially contaminate the whole bottle of material and ruin it.</p>
<b>NOTICE</b>	<p>Use only authorized chemicals inside the material tray.</p> <p>Non authorized chemicals will contaminate and ruin any material you put into the material tray.</p>

<b>NOTICE</b>	<p>All emergency stopping devices and protection doors must be checked one by one and separately.</p> <p>In case of defective safety equipment, shut the printer down immediately and secure it against being switched on again.</p>
<b>NOTICE</b>	<p>Manufacturer assumes no responsibility or liability for damages to the Printer resulting from: Operating the printer with inappropriate materials; Exceeding the technical values specified for normal operation; Operating the printer with damaged printer parts; Unauthorized modifications and changes to the Printer.</p>

## Users in California: California Proposition 65

 <b>WARNING</b>	<p><b>Cancer and Reproductive Harm:</b> This product can expose you to chemicals including Lead (CAS 303-4-34) and Nickel (CAS 74400-02-), which are known to the State of California to cause cancer, birth defects or other productive harm. For more information, go to <a href="http://www.p65warnings.ca.gov/">http://www.p65warnings.ca.gov/</a>.</p>
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## General Safety

All general workplace safety rules should be followed when operating the printer. It is the responsibility of the user to ensure compliance with all local, regional, and national regulations. Additionally, it is the responsibility of the user to ensure that the system is installed and maintained properly by ETEC.

People who suffer from skin sensitization problems, asthma allergies, chronic respiratory illnesses should not be deployed in the preparation process.

## Materials Safety

Safety data sheets (SDS) for materials used in the printing process are available either from ETEC or directly from suppliers. Read and understand the information provided in these documents prior to attempting to operate the printer or handle any media.

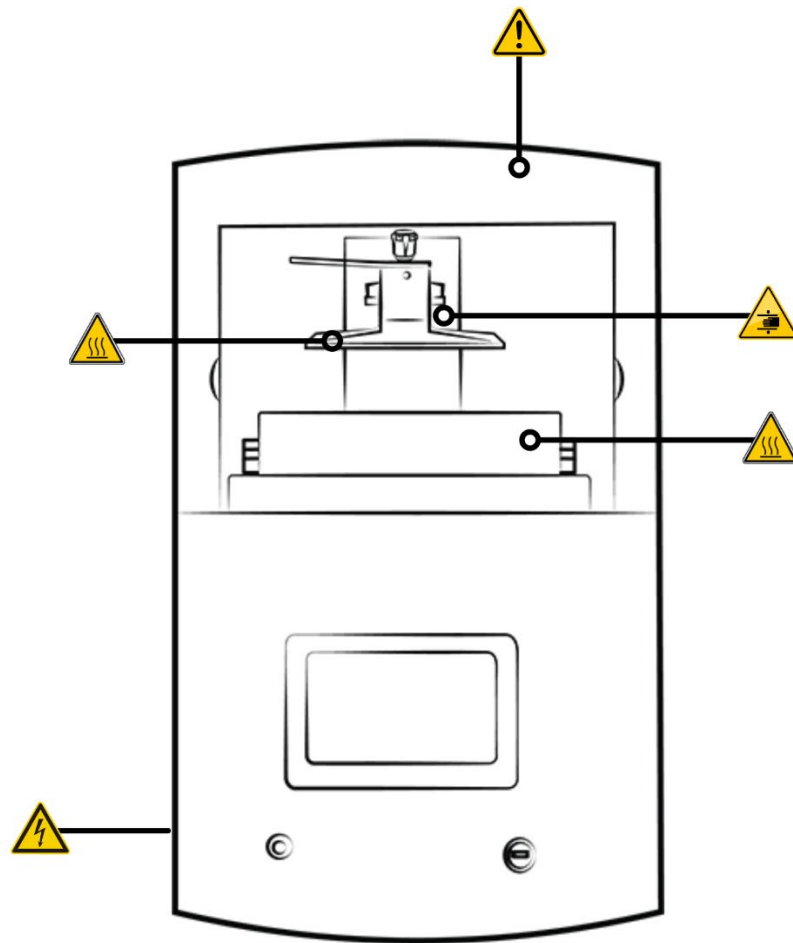
**Note:** Make sure the extraction is sufficient. ETEC recommends an air change of 25 m<sup>3</sup>/h per m<sup>2</sup> effective surface of the laboratory per EN 16798-3 or 3.2 m<sup>3</sup>/h per m<sup>2</sup> per US ANSI ASRAE 62. Check local requirements.

For accident prevention, make sure all operators wear suitable protective clothing:

- protective gloves
- safety boots
- laboratory coats
- safety goggles
- dust mask during post-processing

## First Aid

If you are injured while operating the printer or handling media, refer to any first aid directions included in the material SDS. If minor injury occurs—such as cuts, bruises, lifting injuries, or other related injuries—generally accepted first aid procedures should be followed. If serious injury occurs, procedures for contacting emergency first responder personnel should be immediately implemented.



Printer operational considerations



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