

# Einstein™ Pro XL Site Prep Guide



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## History of Changes

Date	Changes	Revision
Sept-2022	Document creation	1.0
Feb-2023	<ul style="list-style-type: none"><li>• Updated document style</li><li>• Updated <a href="#">Legal Notice</a></li><li>• Updated <a href="#">About This Guide</a></li><li>• Updated <a href="#">Environmental Conditions</a></li><li>• Updated <a href="#">Einstein Pro XL Process Flow-Recommendation</a></li><li>• Updated <a href="#">Primary Supplies</a></li><li>• Updated <a href="#">Secondary Supplies</a></li><li>• Updated <a href="#">General Items</a></li></ul>	2.0

## About This Guide

This document serves as a comprehensive guide to prepare your site for the Einstein Pro XL 3D printer.

See [Einstein Pro XL Operations and Maintenance Guide](#) for full printer operation instructions.

See [Einstein Pro XL Compliance and Safety Guide](#) > **Safety Procedures and Protocols** for a description of safety warning conventions utilized in this document.

Einstein Pro XL Site Prep Guide: PRX-SPG-00032-Rev02-EN, February 2023

# User Information

## Product Overview

### Introducing the Einstein Pro XL 3D Printer

A production-grade 3D printer built for reliability, uptime, and consistent quality performance. Einstein Pro XL delivers precision DLP® printing of dental and orthodontic models, temporary and permanent restorations, and other dental and medical devices in the largest build volume in its price category.

With high-speed and predictable 3D printing enabled by proprietary HyperPrint™ technology, Einstein Pro XL can print more than more than 330 crowns in about 30 minutes or 30 full arch dental models in about an hour.

Based on 20+ years of research and development from industry leaders in 3D printing technologies, Desktop Health's Einstein Pro XL DLP 3D printer delivers high-accuracy and high throughput, consistently, to keep your large-scale production on schedule.

Transform your digital workflow from fit to finish with the Einstein 3D printer series.

## Customer Responsibilities

**NOTICE**

**Risk of equipment damage, risk of injury, and void warranty:**  
Comply with the below responsibilities.

Prior to installation, the customer is required to ensure the site is ready for the Einstein Pro XL. These responsibilities are:

1. Provide a location to receive crated packages per individually listed shipping dimensions.
2. Provide a clear pathway from the receiving site to the installation site.
3. Provide resources to move the equipment from the receiving site to the installation location, with respect to:
  - a. The dimensions and weight of each system component.
  - b. Thresholds and corners.
4. A mover is required for unloading, uncrating, and moving the printer into location.
  - a. The printer requires a forklift or pallet jack to move the pallet to the site.
  - b. Carefully disassemble the crate.
  - c. Lift the printer out of the crate and place it in its final destination.
5. Create a component layout based on the system requirements included in this document.
6. Select a location that provides all services listed on each component page as necessary for operation.
  - a. Distance the printer from climate control systems. Do not direct airflow onto or within the printer's footprint. This includes air conditioning (window, wall, or similar), fans (ceiling, tabletop, or similar), heaters (space heaters, or similar).
  - b. Do not expose the printer to any direct sunlight or UV radiation.
  - c. Keep the printer and accessories away from water sources such as sinks, tubs, wash stations, etc.
  - d. Do not place the printer near any vibration source, or on a wooden surface that can easily transfer vibrations.
  - e. Do not place the printer near polishing stations.
7. Meet all National/Governmental or Environmental Health and Safety (EHS) regulations.
  - a. See [Product Safety](#).
  - b. Review material storage as well as processing/operation guidelines.
8. Install all safety equipment required for operation, according to codes and regulations.
9. Perform risk analysis and address deficiencies.

10. Operate the Einstein Pro XL indoors, as designed.
11. Locate the Einstein Pro XL away from equipment that produces dust or vibration.



**Note:** If you have questions, please contact [Technical Support](#).

## Einstein Pro XL Process Flow-Recommendation

### Process Steps

#### Model Processing:

1. Prepare the .stl file in CAD software.
2. Import the .stl file into [Envision One RP Software](#).
3. Use automatic placement to place parts.
4. Generate supports, if required.
5. Generate the job in Envision One RP.
6. Send the build job to the printer.

#### At the Printer:

1. Install a clean material tray in the printer.
2. Prepare the material to print.
3. Add material to the material tray.
4. Install the clean build platform in the printer.
5. Close the printer hood.
6. On the touchscreen, navigate to the required build job.
7. Start the job. Wait for the job to finish.
8. Remove the build platform with printed model(s) from the printer.
9. Use the paint scraper to remove the model(s) from the build platform.

#### Cleaning Station:

1. Remove supports, if required.
2. For medical materials, follow instructions in the [Instructions for Use \(IFU\)](#) to clean models.
3. For non-medical materials, follow instructions in the [Material Best Practice guide](#) to clean models.

#### Post Curing:

1. Bring the clean and dry model(s) to the curing unit and place it in the unit.
2. Set the timer as per the recommended cure times (material dependent).

#### Finishing:

1. If model(s) were printed on supports, then sand away all support points starting from a coarser grit to a finer one until the supported surface is smooth.
2. Final finishing processes are material dependent.



**Note:** The Einstein Pro XL printer, curing unit, and washing unit are provided by Desktop Health. All other items are purchased from third party suppliers. See [Shopping List](#) for recommendations.

# Site Information

## Environmental Conditions

Distance the printer from climate control systems. Do not direct airflow onto or within the printer's footprint. This includes air conditioning (window, wall, or otherwise), fans (ceiling, tabletop, or similar), heaters (space heaters, or otherwise).

- Do not expose the printer to direct sunlight or UV radiation.
- Do not place the printer near a doorway.
- Avoid temperature changes.
- Keep the printer and accessories away from water sources such as sinks, tubs, wash stations, etc.
- Do not place the printer near polishing stations.

Ensure the room temperature remains within the following range:

- Minimum temperature of 21°C (69.8°F)
- Maximum temperature of 28°C (85°F)

Follow the temperature instructions for each material.

- These instructions can be found on the label of the material bottle.
- Extended instructions are located in the [Instructions for Use \(IFU\)](#) for medical materials, and the [Material Best Practice guide](#) for non-medical materials.



**Important:** The humidity should be below 45%.

## Air Quality Considerations

Use the Einstein Pro XL in a clean atmosphere. High levels of impurities in the air may find their way into printed models.

- The room must allow heat generated from the system to dissipate at 0.03 m<sup>3</sup>/min airflow.
- Air conditioning units should be at least 3 m (10 ft) away from the printer with no airflow pointing directly at the printer.

Maintain a space with little or limited:

- Dust
- Smoke
- Steam

## Einstein Pro XL Footprint

### NOTICE

**Risk of equipment damage:** Incorrect positioning of the printer can cause damage to the printer and/or to the printed models. Please follow the positioning guidelines.

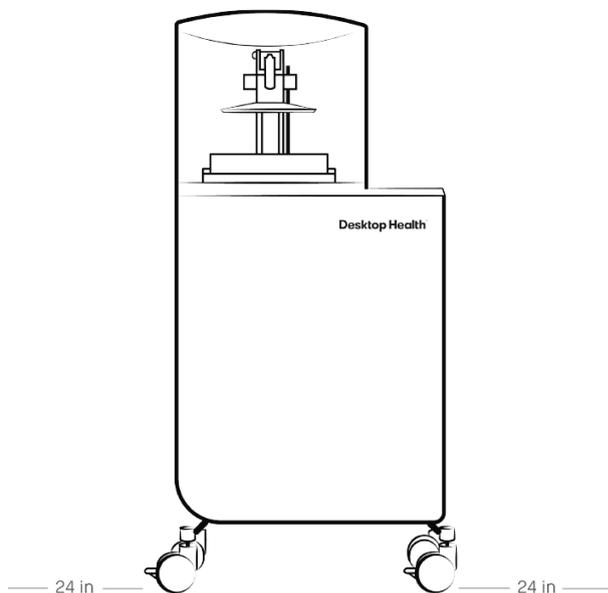
See [Printer Technical Specifications](#) for product dimensions.

The Einstein Pro XL must be installed on a sturdy surface that can comfortably hold over 90 kg (198.42 lb).

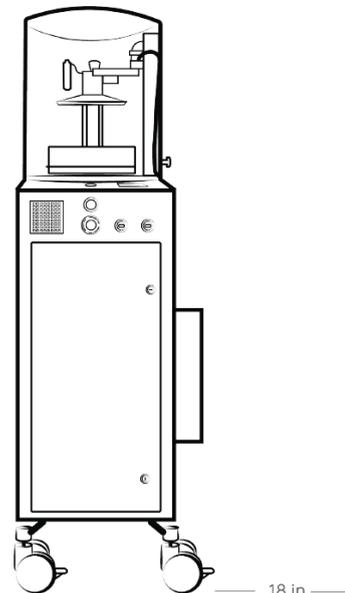
The printer requires a minimum amount of space for operation, maintenance, and heat dissipation.

- A minimum of 46 cm (18 in) behind the printer.
- A minimum of 61 cm (24 in) on the right side of the printer.
- A minimum of 61 cm (24 in) on the left side of the printer.

**Fig. 1** Einstein Pro XL Clearance, Front View    **Fig. 2** Einstein Pro XL Clearance, Side View



**Fig. 1** Einstein Pro XL Side Clearance



**Fig. 2** Einstein Pro XL Back Clearance

## Product Safety

Desktop Health's Einstein Pro XL has been designed to comply with safety standards.

See [Einstein Pro XL Compliance and Safety Guide](#) > Safety Procedures and Protocols for a description of safety warning conventions utilized in this document.

### 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 Desktop Health.

### Material Safety

Safety data sheets (SDS) for materials used in the printing process are available in the Desktop Health Knowledge Base:

[Safety Data Sheets](#)

Read and understand the information provided in these documents prior to attempting to operate the printer or handle any media.

# Einstein Pro XL Printer

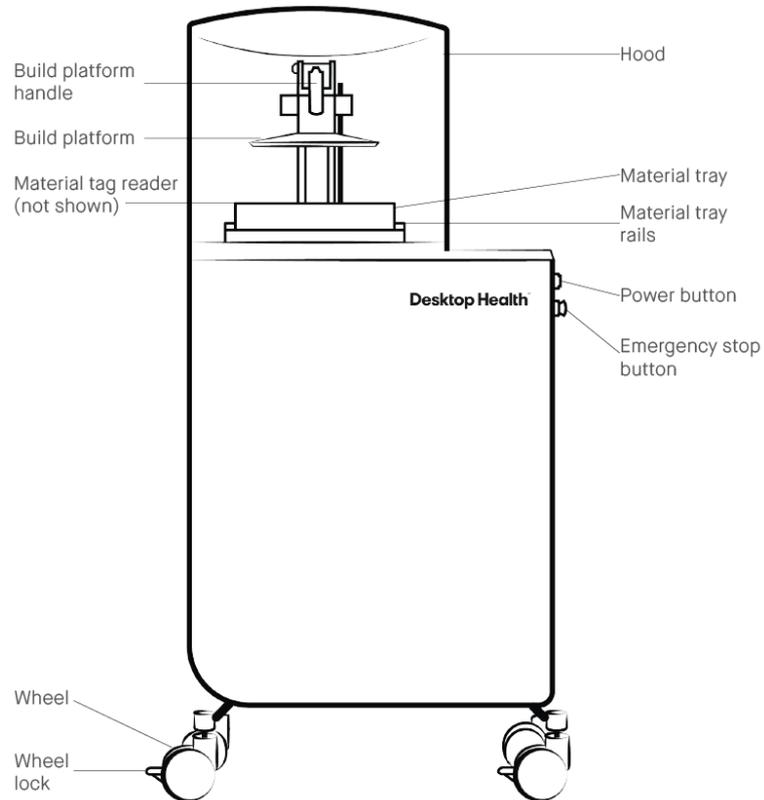


Fig. 3 Einstein Pro XL Front View

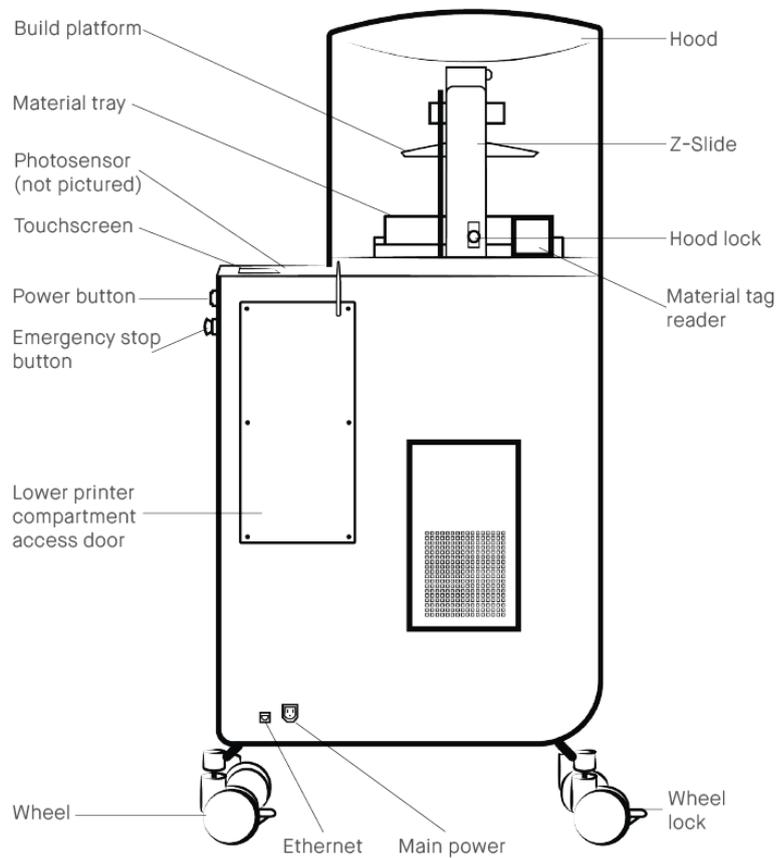


Fig. 4 Einstein Pro XL Back View

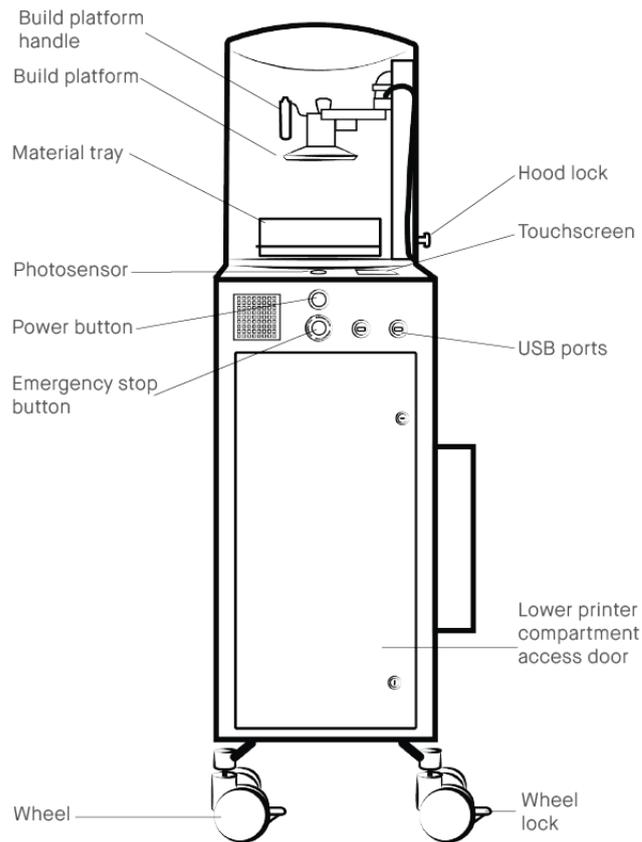


Fig. 5 Einstein Pro XL Right Side View

## Printer Technical Specifications

Unit Dimensions	90 x 60 x 152 cm (35.43 x 23.62 x 59.84 in)
Shipping Dimensions (estimate)	81.28 x 119.38 x 187.96 cm (32 x 47 x 74 in)
Unit Weight	90 kg (198.42 lb)
Shipment Weight (estimate)	102.06 kg (225 lb)
Electrical	Printer: 100-250V AC, 6.3A, 50Hz/60Hz
Ethernet (Not Required)	Cable: Cat 6 or better
USB	Type: USB 2.0 Standard A

# Software

## Overview Envision One RP Software

Envision One RP automatically orients your model, adds supports, if necessary, and sends the file to the printer, resulting in your three-dimensional model. Everything that is printed using Desktop Health printers must pass through this software successfully.

## System Requirements Envision One RP



**Note:** Envision One RP requires Windows Operating System.  
The software is not compatible with macOS.

Operating System	Windows 10 or higher
Working Memory	>= 8GB RAM
Hard Drive	400 MB Free space
CPU	Multi Core Processor e.g. Core i5, >= 3GHz, >= 6MB Cache
Graphics	Dedicated 3D graphics card with >= 1 GB memory and OpenGL 4.3 and higher. It is recommended to use the Nvidia graphics card.

## Install Envision One RP Software

It is recommended to install Envision One RP software prior to the arrival of your Einstein Pro XL printer.

1. [Download](#) Envision One RP Software.
2. Open the **Downloads** folder on your computer.
3. Find a file named *EnvisionOneRP.exe* and double-click it to start the installation.  
→ A setup window opens.
4. Follow instructions on the screen to complete the installation.

## License Envision One RP Software

Licensing Envision One RP provides access to the software's full functionality. There are two license types available:

- The **Standard license** allows you to use the whole software functionality for 12 months. After its expiration, you will have to request a new license.
- The **Trial license** allows you to use the whole software functionality for 14 days. After its expiration, you will have to request the **Standard license**.



**Important:** It is not possible to use the software without a license. If no license is available, the software is blocked.

See the Desktop Health Knowledge Base for further [licensing instructions](#), [software knowledge articles](#), and the [Envision One RP User Guide](#).

# Accessories

## Bottle Roller

### Dual Motion Bottle Roller Front View

The Dual Motion Bottle Roller is the recommended material mixing solution for all Desktop Health materials.

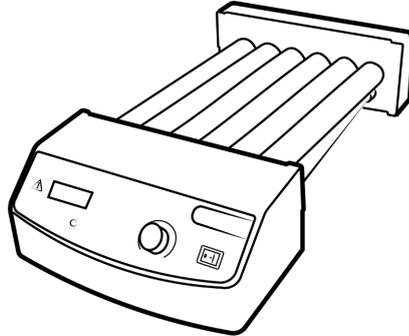


Fig. 6 Dual Motion Bottle Roller

Unit Dimensions	47 x 26 x 12 cm (18.5 x 10.24 x 4.72 in)
Shipping Dimensions	63.5 x 50.8 x 50.8 cm (25 x 20 x 20 in)
Unit Weight	5.1 kg (11.25 lb)
Shipment Weight	6.8 kg (15 lb)
Electrical Requirements	100-240V AC, 50Hz/60Hz

## Washing Unit

### PWA 2000 Front View

The PWA 2000 Parts Washing Apparatus is a brushless, contactless agitator and is the recommended washing unit for non-medical materials.

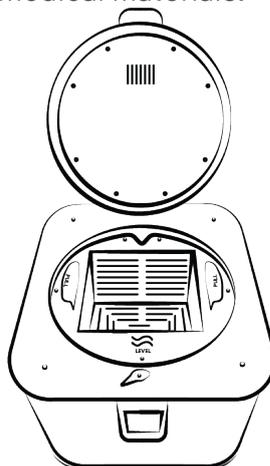


Fig. 7 PWA 2000 Parts Washer, Open

Unit Dimensions	32 x 33 x 24.6 cm (12.60 x 12.99 x 9.69 in)
Shipping Dimensions	40.64 x 40.64 x 40.64 cm (16 x 16 x 16 in)
Unit Weight	4.6 kg (10.2 lb)
Shipment Weight	9.07 kg (20 lb)
Electrical Requirements	100-230V AC, 0.3A, 50Hz/60Hz. External power adapter: 12V AC, 2A

## Curing Units

### Otoflash Front View

The Otoflash is the recommended curing unit for medical materials.

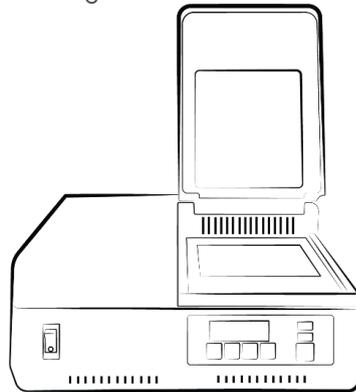


Fig. 8 Otoflash Curing Unit, Open

Unit Dimensions	31 x 31 x 14 cm (12.2 x 12.2 x 5.5 in)
Shipping Dimensions	38.1 x 33.02 x 17.78 cm (15 x 13 x 7 in)
Unit Weight	6.3 kg (13.9 lb)
Shipment Weight	8.16 kg (18 lb)
Electrical Requirements	100-230V AC, 15A, 50Hz/60Hz, 275 Watts

**PCA 4000 Front View**

The PCA 4000 Parts Curing Apparatus is the recommended curing unit non-medical printing materials.

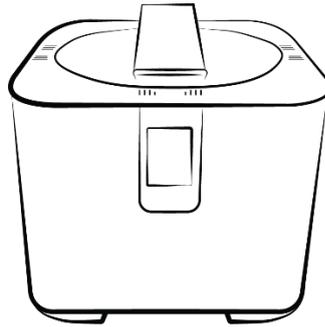


Fig. 9 PCA 4000 Curing Unit

Unit Dimensions	36.4 x 40.4 x 31.9 cm (14.33 x 15.9 x 12.55 in)
Shipping Dimensions	20 x 20 x 20 in. (50.8 x 50.8 x 50.8 cm)
Unit Weight	8.03 kg (17.7 lb)
Shipment Weight	11.34 kg (25 lb)
Electrical Requirements	100-230V AC, 4-6A, 50Hz/60Hz, 300 Watts

# Shopping List

## Starter Kit

The Einstein Pro XL is shipped with a Starter Kit to assist the 3D printing workflow. Starter Kit items are primary supplies that do not need to be purchased separately.

- **Allen keys, 2mm, 2.5 mm:** Required for printer calibration and to assist with technical support cases. They are not required for day-to-day operation.
- **Crossover network cable, 5 mm, colored plug:** This cable connects the printer to the operating computer, as needed. The cable inserts into the I/O panel behind the printer. The other end plugs into the operating computer. The printer can only be operated by the connected computer.
- **Feeler gauge, 0.15 mm:** Required for printer calibration and to assist with technical support cases. It is not required for day-to-day operation.
- **Grey filter foil:** Required for light calibration and to assist with technical support cases. It is not required for day-to-day operation.
- **Material mixing cards:** Required to gently mix material in the material tray before each print.
- **Network cable, 5 mm:** This cable connects the printer to the local network. The cable inserts into the I/O panel behind the printer. The other end plugs into a modem or a network outlet. The printer can be operated by other Windows computers on the network.
- **Paint scraper:** Use the scraper to remove printed models from the build platform. You can also use the scraper to remove material residue from the build platform after a print.
- **USB drive:** The USB is a back-up for transferring print information from the operating computer to the printer. Between 8 and 32 GB size is recommended.
- **UV safety glasses:** Required for light calibration and to assist with technical support cases. They are not required for day-to-day operation.

## Primary Supplies

Primary supplies should be acquired prior to printer delivery. Obtain the proper tools to prepare for successful printing and post-processing.

- **99% Isopropyl alcohol (IPA):** IPA breaks down uncured material on the surface of printed models. This product can be purchased from many big box stores, and from medical and business supply stores. Do not use denatured alcohol. Do not use less than 99% IPA.
- **Absorbent paper towel:** Required to clean the printer, material tray, and build platform. Inter-folded paper towel, found in labs or offices, is not as effective as a standard roll of absorbent paper towel.
- **Air compressor/forced air system:** Required for drying models during post processing. Forced air also removes the cleaning agent from the surface of the models. Do not use canned air. For those without a forced air system, compressors can be purchased and installed into the post-processing station.
- **Cone-shaped paint filters:** Filters are used to strain material. The filter removes particles that may be too small to see but can affect print quality. They will be used while pouring material from the tray into the material storage containers for maintenance. Each filter is approved for one-time use only. Do not leave filters in the bottle of material for longer than 5 minutes. Do not use coffee filters.
- **Desktop Health's Dual Motion Bottle Roller:** The Dual Motion Bottle Roller provides a gentle but highly efficient rocking and rolling motion for 3D printing materials. The bottle roller almost eliminates the separation of resin and allows for an even

distribution of the material. [Contact your Desktop Health Sales Representative](#) for more information.

- **Desktop Health's curing unit:** 3D printed models must be post-cured to achieve the final, end-use state. Desktop Health offers the Otoflash curing unit for medical materials, and the PCA 4000 curing unit for non-medical materials. See [Otoflash](#) and [PCA 4000](#).



**Note:** Desktop Health only supports Desktop Health curing units.

- **Desktop Health's washing unit:** 3D printed models must be washed prior to post-curing. Desktop Health offers the PWA 2000 washing unit for non-medical materials. See [PWA 2000](#).
- **Digital calipers:** Required during printer calibration. The printer may need to be calibrated when new material is purchased, or for maintenance reasons. Digital calipers are used to check the accuracy of printed models against the computer's measurements. Find calipers from major manufacturers only. Look for accuracy of  $\pm 0.02$  mm.
- **Waste containment:** Foot actuated garbage cans and/or liquid solvent waste containers. Please refer to your local regulations for Hazardous Waste disposal.
- **Personal Protective Equipment (PPE):** Including disposable gloves (such as Nitrile Gloves), safety glasses, and lab coats. PPE is required when working with the printer or prior to touching anything that may come into contact with uncured material. See [Safety Data Sheet](#) for proper handling guidelines.
- **Storage containers for material:** Required to store material after it is removed from the material tray. To avoid contamination, never pour used material back into the original bottle. Storage containers must be completely clean, opaque, and have a strong seal to keep material fresh. Containers must not let any light through. See [Safety Data Sheet](#) for proper handling guidelines.

## Secondary Supplies

Secondary supplies are recommended for the 3D printing workflow and may be acquired after printer delivery.

- **Magnification loupe:** Recommended to look at the fine details of printed models.
- **Post-processing tools:** Electric hand-tools, files, rasps, needle-nose pliers, sandpaper (220 grit +), and snips are all helpful tools for removing supports and polishing supported surfaces.
- **Soft brush:** Recommended to clean model(s) during post processing. Do not use a toothbrush as they are too rigid and can scratch printed models.



**Note:** [Contact your Desktop Health Sales Representative](#) for more information on any Shopping List item.

# Appendix A – Site Prep Checklist

Contact Information:	
Company Name:	
Street Address:	
City:	
Postal Code:	
Country:	
Phone:	
Printer Operator:	
Email:	
Phone:	
IT Administrator:	
Email:	
Phone:	

## General Items

### Receiving & Site Access

- Receiving location meets requirement for size and weight of equipment ----- Y / N  
 Clear path to install location (clear corners, doors, etc.) ----- Y / N  
 Forklift or pallet jack available to move items ----- Y / N  
 Two individuals to lift 90 kg (198.42 lb) printer ----- Y / N  
 Room accessible and Desktop Health staff access permitted ----- Y / N

### General Facility Requirements

- Space available meets minimum footprint requirements ----- Y / N  
 Room meets ventilation requirements for safe operation ----- Y / N  
 Room is able to maintain 21-28°C (69.8-85°F) operational temperature ----- Y / N  
 No vibration that will impact performance ----- Y / N  
 Room is able to maintain less than 45% humidity ----- Y / N  
 All necessary corporate, local, regional, or national approvals for operation ----- Y / N

### Room Layout

- Required component clearances available 61 cm (24 in) on right and left sides --- Y / N  
 Required component clearances available 46 cm (18 in) behind the printer ----- Y / N

### Safety

- Completed a preinstall safety review ----- Y / N  
 Installed fire extinguishers as required by local code ----- Y / N

### Printer

- Power 100-250V AC, 6.3A, 50Hz/60Hz ----- Y / N

### Materials

- Printing material arrived on site and is undamaged ----- Y / N  
 Instructions for Use or Material Best Practice located and understood, mixing procedure understood, SDS located and understood ----- Y / N

---

## Checklist Signoff

Sign below to acknowledge that the checklist is complete, accurate, and the site is ready for install:

Name of signatory: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_



**Note:** If you have questions, please reach out to [Technical Support](#).



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