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stratasys J3 Series 3D Printing System

stratasys J3 Series 3D Printing System Installation Guide

Contents

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stratasys J3 Series 3D Printing System

Product Information

Specifications

- **Product Name:** Stratasys J3 Series 3D Printing System
- **Trademark:** Stratasys, Stratasys J3 Series
- **Weight:** 104 kg / 230 lb (Printer), 153 kg / 338 lb (Printer on shipping pallet)

Product Usage Instructions

- Shipment to the customer will be arranged as specified in the price quote. The customer is responsible for providing detailed delivery information, including whether or not there is a loading dock at the delivery site.
- The printer on the shipping pallet weighs approximately 153 kg / 338 lb. Ensure proper handling and use of lifting equipment for unloading.
- The unloading area should be a level surface. The customer is responsible for unloading the printer from the truck and transferring it to the installation location.

FAQ

- **Q:** How do I transport the printer to the installation site?
- **A:** The customer is responsible for transporting the printer to a suitable installation site. Your Stratasys service provider can offer advice on this matter upon request.
- **Q:** What are the electrical requirements for the printer?
- **A:** The manual provides detailed information on power requirements, grounding, and the use of a Residual Current Device (RCD) for electrical safety.
- **Q:** Are there specific environmental conditions needed for the printer?

- **A:** Yes, maintaining suitable temperature, humidity, and air quality levels is important for optimal printer performance. Refer to the manual for recommended environmental conditions.

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Feedback
If you have any questions or comments about the way information is presented in this document, or if you have any suggestions for future editions, please send a message **toc-support@stratasys.com**.

Introduction

- The information and requirements provided in this document ensure proper installation and operation of the Stratasys J3 Series printing system. The customer is responsible for preparing the site as described in this document, and according to any applicable local regulations.
- If you have any questions about the information in this document, contact your Stratasys representative.
- All site requirements must be met before the installation date. The Site Preparation Checklist should be submitted to your Stratasys representative. Shipping will be arranged after the checklist is received by Stratasys.
- Non-compliance with the requirements specified in this document may result in additional installation charges.

Installation and Training Schedule

Installation and training take between one and several work days and include: •

- Basic installation and adjustment •
- Operator training including practice under supervision

Physical Description

The Stratasys J3 Series printing systems consist of the following main components:

- printer
- client workstation provided by the customer

Figure 1 Stratasys J3 Series printer

Size and Weight

The following table shows the size and weight of the printer.

Table 1 Size and weight

Unit	W × H × D (cm)	W × H × D (inch)	Weight (kg/lb)
Printer	65 × 76 × 66	25.6 × 29.9 × 26	104 kg /230 lb

- W = Width; H = Height; D = Depth

Shipment and Delivery

Shipping Information and Customer Responsibility
Shipment to the customer will be arranged as specified in the price quote. The customer is responsible for providing detailed delivery information, including, whether or not there is a loading dock at the delivery site. The customer is responsible for transporting the printer to a suitable installation site. Upon request, your Stratasys service provider will advise regarding these matters.

Shipping Pallet
The following table shows the approximate size and weight of the printing system mounted on a pallet.

Table 2
Size and weight of printer on a shipping pallet

	W × H × D (cm)	W × H × D (inch)	Weight (kg/lb)
Printer	115 × 109 × 75	45.3 × 42.9 × 29.5	153 / 338

- W = Width; H = Height; D = Depth

Lifting Equipment

- lifting capacity: 200 kg (441 lb)
- extension: 100 cm (40 in.)

Unloading

- The unloading area should be a level surface.
- The installation location must be accessible from the unloading area. The customer is responsible for unloading the printer from the truck and transferring it to the installation location.
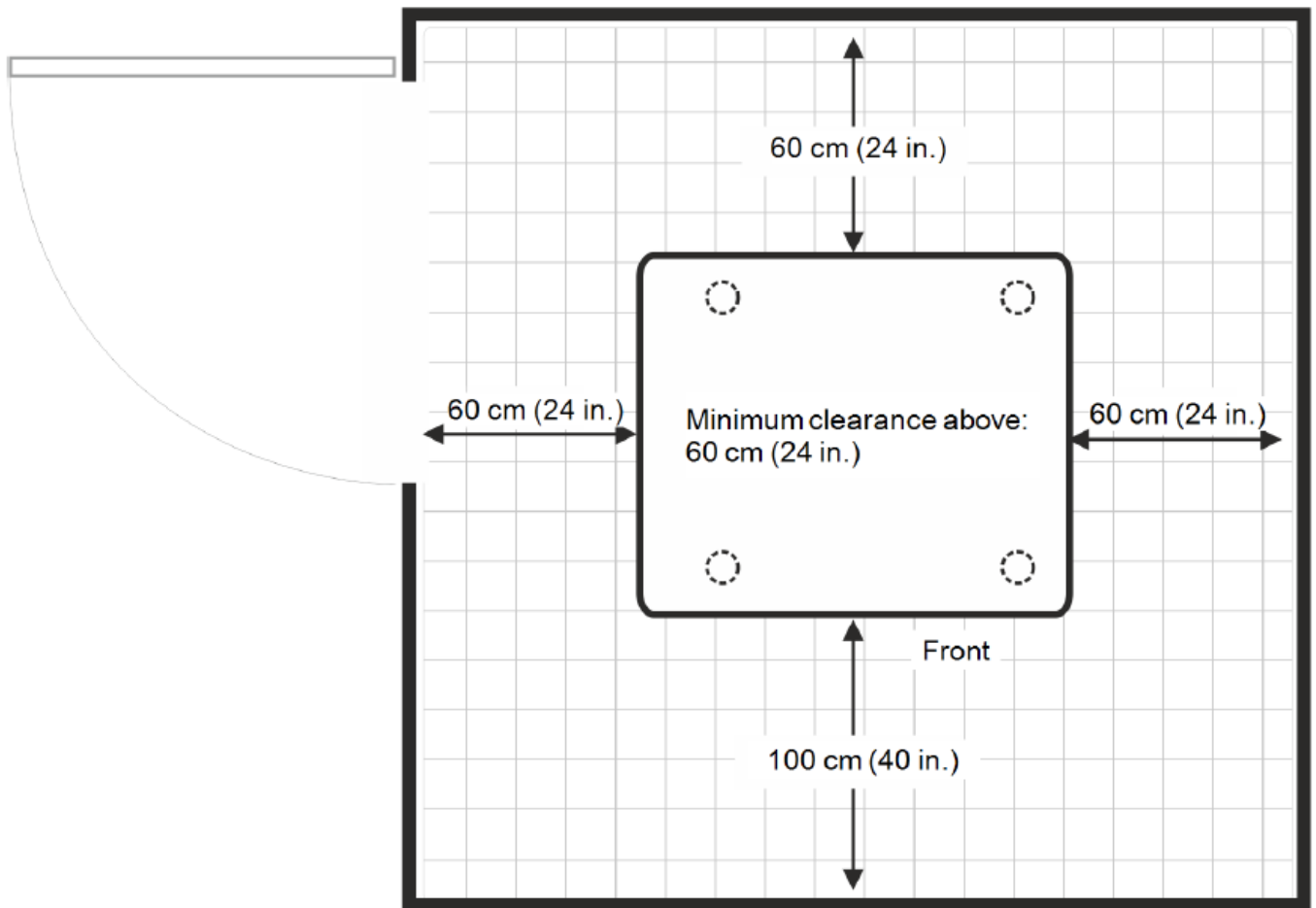
Installation Area

- The installation area should be free of sources of vibration and electromagnetic interference that could affect the proper functioning of the printer.
- The printer should be positioned on a stable surface, such as a stand with lockable wheels.
- A suitable stand can be ordered from Stratasys.
- The maximum table load is 200 Kg (441 lb).
- The required table height is 62-72 cm (24.8-28.8 in.).
- Clearance around and above the printer should ensure convenient access and servicing.
- The printer has not been designed to meet water-ingress protection standards, nor is it recommended for the printer to be in an area where there is a high relative humidity (see Environmental Conditions). Therefore, Stratasys recommends a distance of approximately 5 m between the printer and any source of water (such as a cleaning station). However, it is the customer's responsibility to ensure that this distance meets all local and/or regulatory requirements governing water-ingress protection and water-related electrocution hazards. Consult with an expert, as necessary.
- Shelves and cabinets are recommended near the printer for convenient storage of tools, parts, accessories, manuals, and materials.

Floor Plan (Printer Area)
The following is a sample floor plan, showing the 3D printing system. The dimensions shown in the figure are the minimum clearance requirements.

Figure 2 Printer floor plan (sample, not to scale)

GrabCAD Print Workstation

- A computer with GrabCAD Print installed on it is necessary to interface with the printer.
- The workstation must have access to the internet and to the local network to which the printer is connected, and it must be prepared before installation.
- To view the specifications for client workstations, go to: **http://help.grabcad.com/print/system-requirements**.

GrabCAD Print Server

- The GrabCAD Print Server is recommended and can be downloaded onto any computer within the same intranet network as the printer. The computer on which it is installed must have access to the Internet, and this must be prepared before installation.
- To view the recommendations for GrabCAD Print Server, go to: **https://help.grabcad.com/article/201-printing-monitoring-remotely**

Electrical Requirements

- The customer is responsible for ensuring that all tasks described in this section are performed by authorized personnel.

Power
A stable, reliable source of power is required. Power to the UPS (or printer) should be supplied directly from the main electrical panel. Other electrical outlets should not be connected to the line.

Printer power rating:

- 100-240 VAC, 50/60 Hz, 10 A, 650 W
- If the power at the facility does not support the above specifications, contact your Stratasys specialist.

Actual power consumption

- Maximum: 551 Watt (during printing)
- Minimum: 79 Watt (when the printer is idle)

Grounding
The printer is grounded through a single-phase, AC plug. Make sure that the AC outlet is properly grounded, under local electrical codes.
Neutral to ground rating

- 0 volts—not to exceed 3 volts

Residual Current Device (RCD)

- The wall outlet must be connected to a residual current device (RCD).

Power Connection
The printer is shipped with two power cables:

- 2.5 m (8.2 ft) long—suitable for 240 V
- 2 m (6.5 ft) long—suitable for 120 V

If the cable plug cannot be used locally, the customer must provide the correct plug and have it installed by a certified electrician.

The following electrical outlets are required:

- one outlet behind the printer
- one outlet near the air extractor unit, if applicable (see Accessories and Utilities)

UPS (Uninterrupted Power Supply)

- The printer must be powered through a UPS unit, provided by the customer. This ensures that—
- the quality of printing is not affected by power fluctuations from the mains.
- The UPS specifications are listed below.

Table 3 UPS requirements

Voltage1	Current	Power	Power Factor2	Bridging Time	Interface	**Topology**
100–120 VAC	22 Amps	1800 W			USB port3 Compatible with	Double
			0.9	15 minutes	Windows® 10	conversion
220–240 VAC	10 Amps	2700 W			Command-line control4	online

1. Single-phase; 50/60 Hz
2. Defined as the input-to-output ratio of the UPS.
3. UPS units that only connect to a serial communication port are not suitable.
4. Command-line control is necessary for the UPS software to execute a script in the printer software when shutting down.

Environmental Conditions

Temperature and Humidity
The temperature and relative humidity around the printer must be maintained within certain limits. Peak conditions occur when the printer draws maximum electrical power, resulting in the heat dissipation listed in the table below.

Table 4 Heat dissipation (peak conditions)

	Heat Dissipation
Printer	1500 W (5140 BTU/hr)

- The room temperature and relative humidity should not exceed the limits listed in the table below.

Table 5 Room temperature and relative humidity specifications

	Range
Temperature	18°C to 25°C (64.5°F to 77°F)
Relative humidity	30%–70% non-condensing

Air Quality

- The system should be installed in an office environment that is free from dust and debris.
- The printer enclosure has been designed to meet ingress protection code level 4 (IP4X), according to standard IEC60529.
- The room ventilation system should change the air at least four times every hour.

Noise Level

The noise level around the printer is typically less than 53 dB during printing.

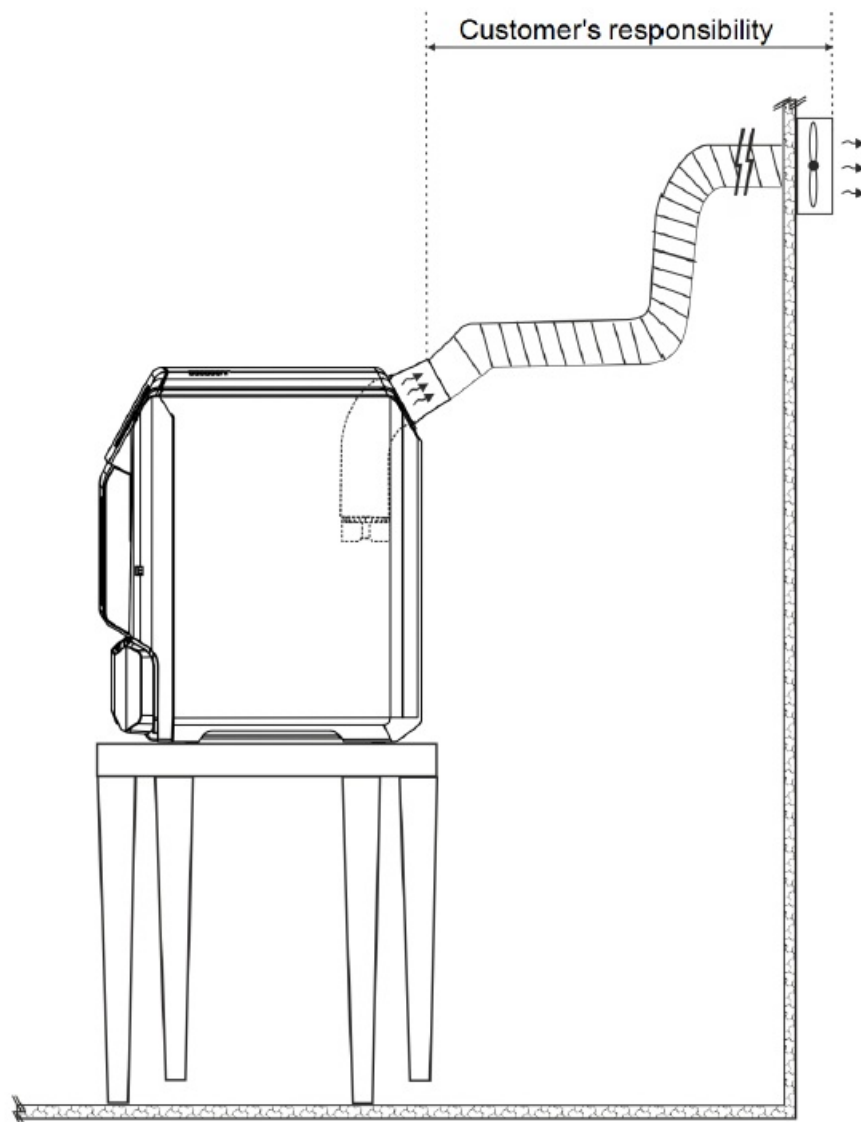## Accessories and Utilities

Start-Up Kit

The printer is supplied with a start-up kit, which includes tools and accessories. These tools and accessories should be available during printer installation and operation.

Exhaust Adapter

An exhaust adapter is supplied with the printer. If the exhaust adapter is not used, then an extraction (filtration) unit must be installed. See Extraction (Filtration) Unit. When attached to the back of the printer and connected to an external ventilation fan with a duct, air expelled from the printer is discharged directly outdoors, as shown in the figure below.

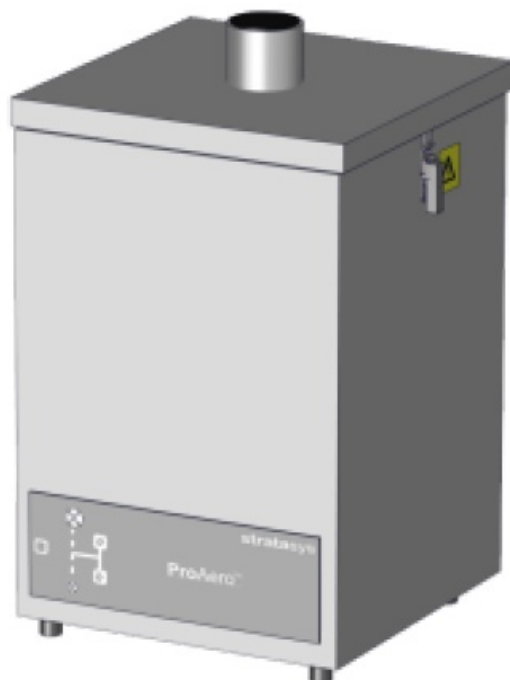|	Required Suction at the Exhaust Adapter	
Duct Diameter	Minimum	Maximum
4 in (100 mm)	57 cfm (1.61 m3/min)	63 cfm (1.8 m3/min)

Figure 3   Printer exhaust system

Extraction (Filtration) Unit

If an exhaust tube is not installed (see Exhaust Adapter), the customer must install an extraction (filtration) unit capable of extracting air from the printer and expelling it to the site after it has been totally filtered. Stratasys supplies the ProAero™ air extractor.

Figure 4 ProAero air extractor

- For specifications, contact your Stratasys representative.

Fire Safety Equipment
A gas-based fire extinguisher is recommended in case of fire in or near the system. Some other fire extinguishers are also acceptable, but liquid fire extinguishers should not be used. Contact local fire authorities for specific recommendations.

Materials Handling and Storage

Printing Materials
Printing materials should be stored indoors, in a dry area with adequate ventilation. The following table lists general requirements for storage, inventory control, and disposal.

Table 6 Requirements for hazardous materials

Topic	Requirement
Storage	15°C to 27°C (59°F to 81°F)
Inventory control method	First In First Out (FIFO)
Disposal	In compliance with local regulations

These specifications apply to most printing materials. Requirements for handling and storing specific materials appear in the Material Safety Datasheet (MSDS) included with each material.

Note

- Non-compliance with these recommendations might result in reduced shelf life.
- Disposal of all liquid and solid waste, cleaning cloths, gloves, and empty material containers must be done under local laws and regulations.

Cleaning Solvent

- One litre of isopropanol (IPA) or ethanol (ethyl alcohol) should be available at all times for cleaning purposes.
- The customer is responsible for ensuring that the material storage area complies with local regulations.

Site Preparation Checklist

- A checklist is provided by your Stratasys representative listing all of the tasks described in this document.
- Fill in the information requested in the checklist, and submit it to your Stratasys representative. Once the checklist has been received, an installation date will be scheduled.

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Documents / Resources

Site Preparation Guide **stratasys** Stratasys J3 Series 3D Printing System	**stratasys J3 Series 3D Printing System** [pdf] Installation Guide J3 Series 3D Printing System, J3 Series, 3D Printing System, Printing System, System

References

- **GC System requirements for GrabCAD Print - GrabCAD Help Center**
- **Stratasys - Industrial 3D Printing Manufacturers**
- **Stratasys - Industrial 3D Printing Manufacturers**
- **GC Printing & monitoring remotely with GrabCAD Print Server - GrabCAD Help Center**
- **User Manual**