amt postpro®



postpro SF100 SITE PREPARATION GUIDE

February 2024 / V1.6

*SUBJECT TO CHANGE

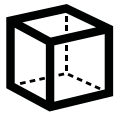
DOCUMENT IS CONFIDENTIAL

Data supplied in this document shall not be duplicated, used or disclosed in whole, or in part, for any purpose other than evaluation.

The contents will not be passed in any form verbal, paper or electronic to any other company or individual without the express permission of Additive Manufacturing Technologies Limited.

1 // Contents


Customer Responsibility


Equipment Description


Shipment & Delivery


Electrical Requirements


Ventilation & Environmental


Room & Connection Layout


Health & Safety


Network Connectivity


Consumables

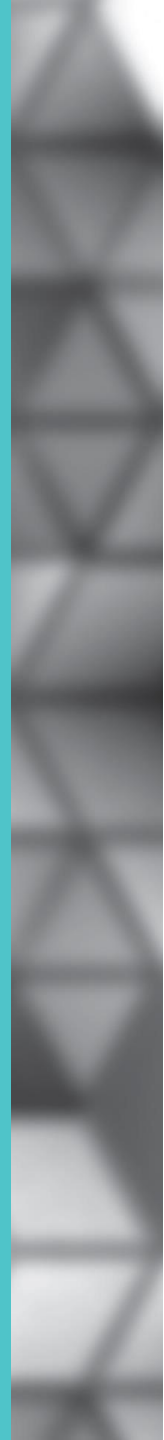

Waste Disposal


De-commissioning


Pre-Install Checklist

2 // Customer Responsibility

1. To ensure a safe working environment for operators and installation engineers.
2. To ensure the installation site has been prepared in accordance with this document, prior to the installation date.
3. To unload the machine and ancillary items from the transport vehicle to the installation site and unload from the transportation packaging.
4. To ensure adequate electrical configuration and supply for the machine and ancillary items.
5. To ensure adequate ventilation and connections are available for the machine and ancillary items.
6. To ensure the room and environmental conditions are in accordance with the specifications in the attached document.



3 // Equipment Description

3.1 // Overview

The PostPro SF100 offers a controllable surface finish which reduces surface roughness (Ra values) of 3D printed polymer without the loss of detail and definition. In addition, the smoothing process naturally seals the surface of the 3D printed part, which significantly enhances the water-protective properties of the material.

The machine has been successfully tested with a range of polymers including: Polyamide (PA)-12, PA-11, PA-6, Thermoplastic Polyurethane (TPU), TPE-210 elastomer materials, Polymethyl Methacrylate (PMMA) Acrylonitrile butadiene styrene (ABS) and many more. It is capable of processing Multi Jet Fusion (MJF), Selective Laser Sintered (SLS), High Speed Sintered (HSS) and Fused Deposition Modelling (FDM) 3D printed parts to the desired surface roughness.

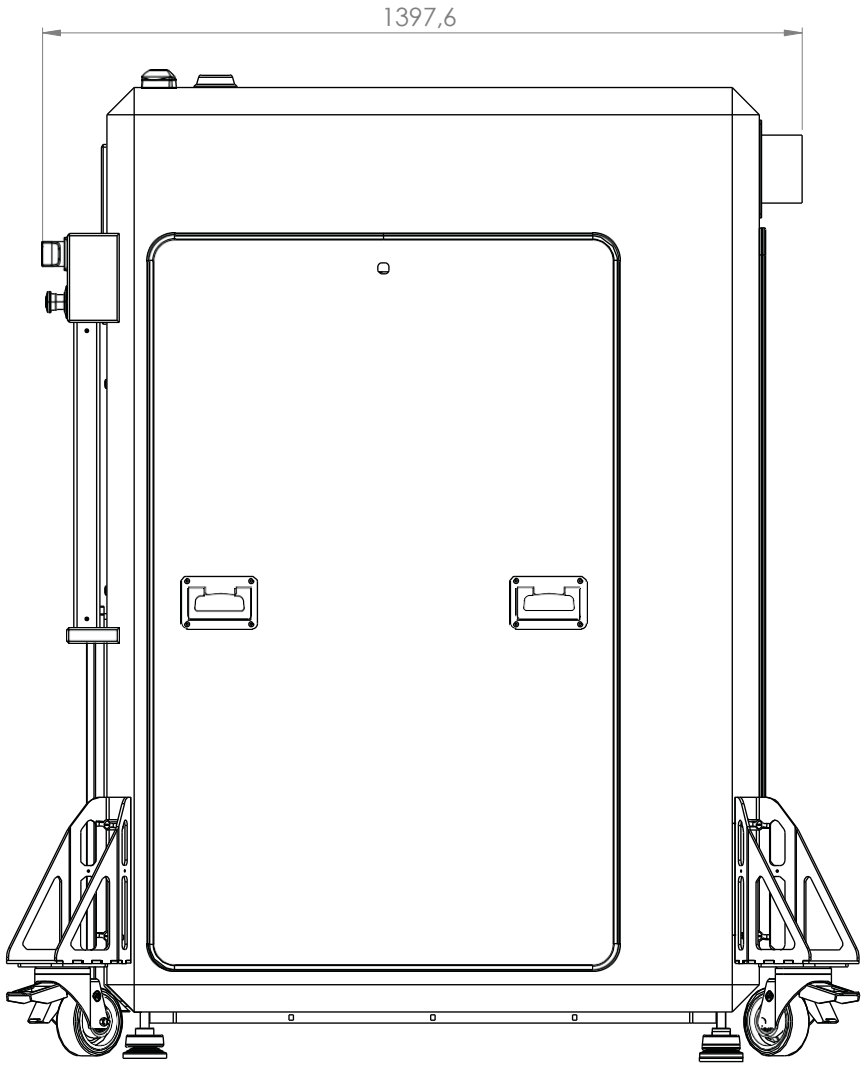
3.2 // PostPro SF100 Dimensions

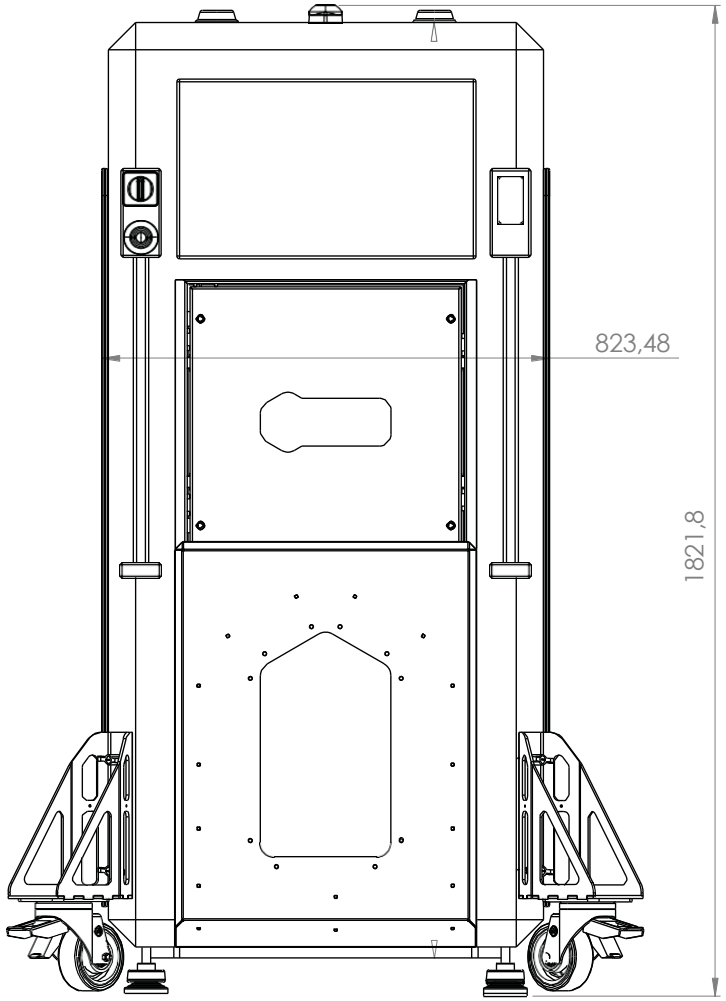
	mm / Kg	In / lbs
Width	824 mm	32.5 in
Depth	1,398 mm	55.5 in
Height	1,822 mm	72 in
Weight	800 Kg	1,765 lbs

3.3 // Extractor Dimensions

	mm / Kg	In / lbs
Width	440 mm	17.5 in
Depth	515 mm	20.5 in
Height	975 mm	38.5 in
Weight	65 Kg	143 lbs

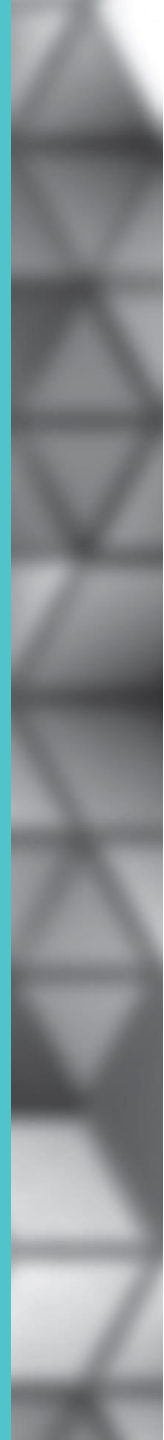
PostPro SF100 Dimensions in mm





3.4 // PostPro SF100 Packaged Dimensions

	mm / Kg	In / lbs
Width	1,600 mm	63 in
Depth	1,100 mm	44 in
Height	2,050 mm	81 in
Weight	850 Kg	1,874 lbs



4 // Shipment and Delivery

1. // Overview

Additive Manufacturing Technologies can help arrange shipment and customs clearance to the client's facility, please contact support@amtechnologies for more information. The client is responsible for transporting the crates from point of delivery to the installation site based on the following shipment information.

2. // Items Supplied

- PostPro SF100
- Extractor
- Extraction duct & clips
- Processing racks
- Preparation Stand
- Storage Stand
- Access Cards
- Panel Keys
- AMT Installation Testing & Commissioning Parts

- Consumable canisters will be supplied separately

4.3 // Shipping Crate

The PostPro SF100 machine will arrive to the client's facility packed in a crate. The crate will have the dimensions and weights as per Table 3.4.

Once the PostPro SF100 and accessories have been unloaded, the client will need to store the crate on- site in the unlikely event that the machine needs to be returned to AMT.

4.4 // Unloading the Crate

It is the responsibility of the client to unload the crate from the delivery vehicle and position the crate in a suitable position for unpacking.

Unloading can occur at, or near the installation site if there is sufficient clearance for the PostPro SF100.

The crate should be inspected for damage and the shipping tilt/impact indicators should be reviewed.

If any damage has occurred during transit, then this should be noted and logged with the shipping company at the point of receipt.

4.5 // Safety Measures for Unloading

Unloading procedures must be performed by trained personnel in accordance with occupational health and safety measures enforced at the install country or state. Prior to unloading ensure the immediate area is:

- Clear of other traffic, pedestrians and people not involved in loading or unloading
- Clear of overhead electric cables so there is no chance touching them, or of electricity jumping to ‘earth’ through machinery, loads or people.
- Clear of obstacles and/or debris that could inhibit the movement of the machine.

4.6 // Machine Unboxing

It is the responsibility of the customer to unbox the PostPro SF100 from the shipping crate in which it is supplied. For instructions on how to do this please refer to the **PostPro SF Unboxing Guide.**

5 // Electrical Requirements

⚠ The client is responsible for connecting all supplied equipment to the building's power supply prior to the installation date.

5.1 // PostPro SF100

The PostPro SF100 is available in multiple electrical configurations to suit different facility electrical supplies. The electrical configuration must be specified at the point of sale. The tables below show the electrical supply specifications for each configuration.

Always check the machine plate before connection. For additional information please contact AMT Support.

Specification	Option 1		Option 2
Phases	Three Phase		Three Phase
Voltage	3 x 400V		3 x 480V
Frequency	50/60Hz	or	50/60Hz
Mains Fuse Protection	C16A		C16A
Connection	L1 + L2 + L3 + N + PE		L1 + L2 + L3 + PE
Maximum Power Consumption	11.0 Kw		11.0 Kw

⚠ The client is responsible for connecting all supplied equipment to the building's power supply prior to the installation date.

5.2 // Extraction Unit

Specification	
Phases	Single Phase
Voltage	110 - 240V
Frequency	50/60Hz
Mains Fuse Protection	12.5A
Connection	L + N + PE

6 // Ventilation and Environmental Requirements

⚠ PostPro SF100 should not be installed in a potentially explosive atmosphere.

6.1 // Extraction Requirements

The PostPro SF100 is connected to the external extractor (supplied), the waste air from the extractor must be exhausted out of the working room to atmosphere. The client should consult their local legislation regarding requirements for exhaust emissions.

It is the responsibility of the Client to connect the waste air output from the extractor to the facility extraction system.

The building extraction connection must comply with the following:

	Specification	Comments
Duct Diameter	75 mm / 3 in	
Duct Maximum Length	10 m / 33 ft	This length should be decreased by 0.75 meters (2.5 feet) for every 45-degree bend the duct makes and 1.5 meters (5 feet) for every 90-degree bend the duct makes
Air Flow	380 m^3/hr / 223 CFM	This is the maximum air flow exhausted from the extractor. This should be considered when installing the air extraction system.

6.2 // Temperature Control

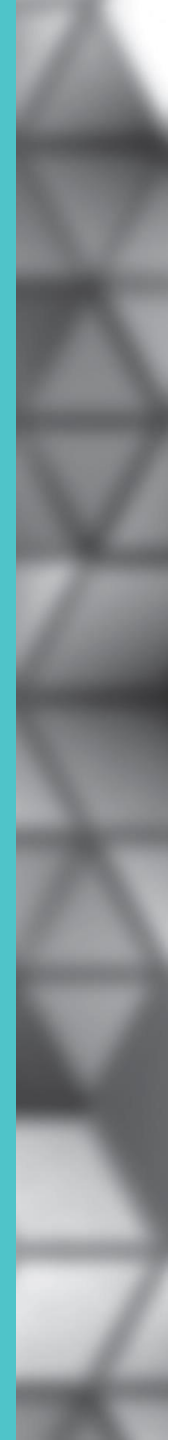
Temperature control within the working room is very important to ensure consistent and repeatable results. Fluctuations in temperature will impact on the performance of the machine.

The installation and operation room must have:

- Heating, Ventilation and Air Conditioning (HVAC) to ensure a constant and stable ambient temperature and humidity.
- Temperature control: 15°C (59°F) - 20°C (68°F).
- Humidity control: 15 - 20°C (59 -68°F) at 30-40 % relative atmospheric humidity.

Working temperatures and humidity outside these ranges can be accommodated only after discussion with AMT. Best results are achieved when the room temperature is stable. Please contact AMT support for further guidance.

If the operation room cannot be kept at a stable temperature and humidity, parts to be processed should be stored in controlled chamber (or similar) to improve processing performancee.



6.3 // Other Considerations

- The room should be free of dust and particulate matter.
- No single-sided local heating or cooling of the machine, such as by a radiator or air-conditioner, solar irradiation through a window/loading door or irregular flow of air.
- Minimum of 10 ACH (Air Changes per Hour)

7 // Room and Connection Layout

7.1 // Room Layout

The following diagrams show the recommended minimum processing room size and working area required for operating the PostPro SF100.

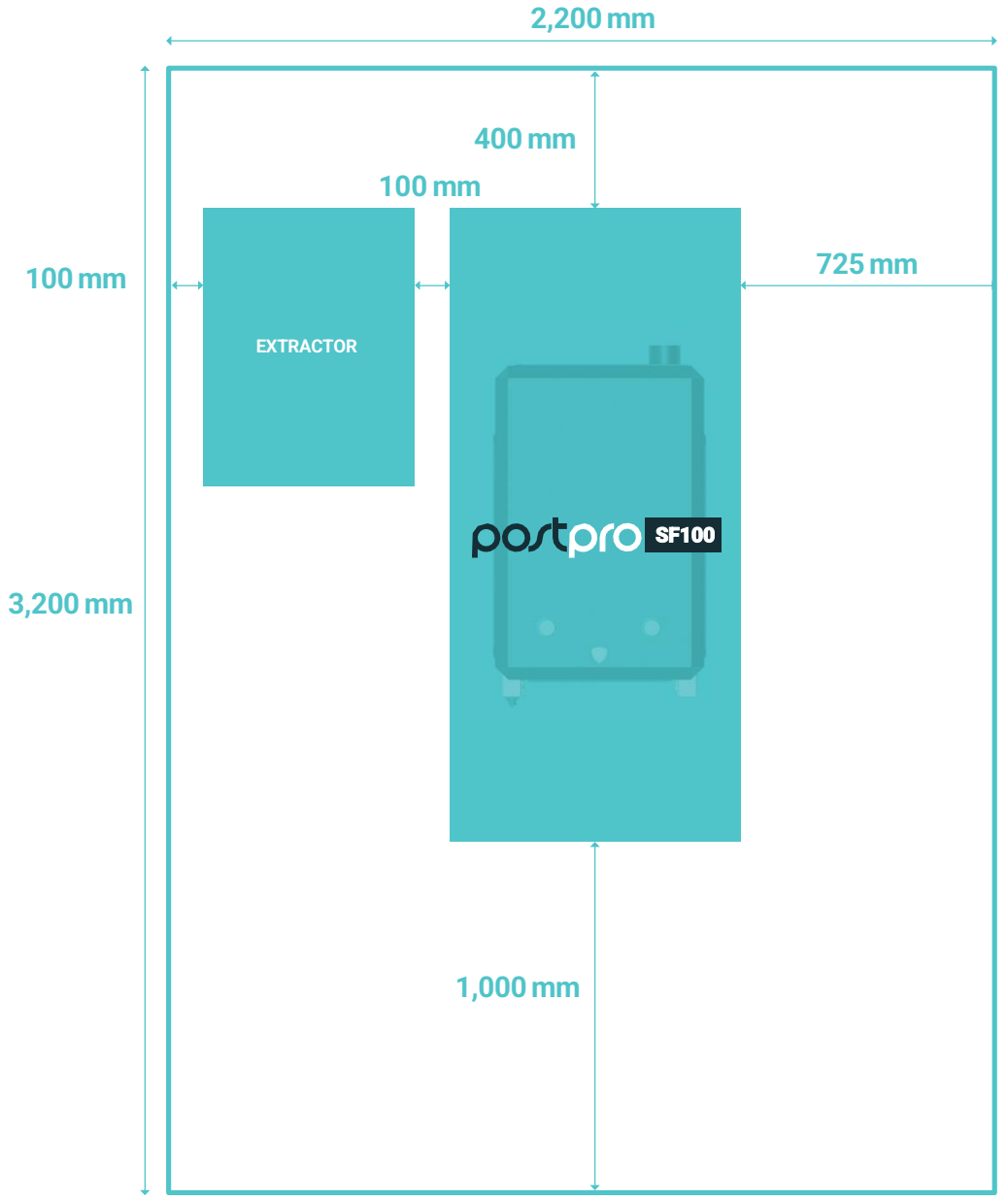
The recommended operating area of the PostPro SF100 and accessories is at least 2.20 meters (7.2 feet) in width and 3.2 meters (10.5 feet) in depth. Smaller working spaces can be accommodated following discussion with AMT or your authorized reseller.

The room of installation/operation and access must be ready in advance of delivery.

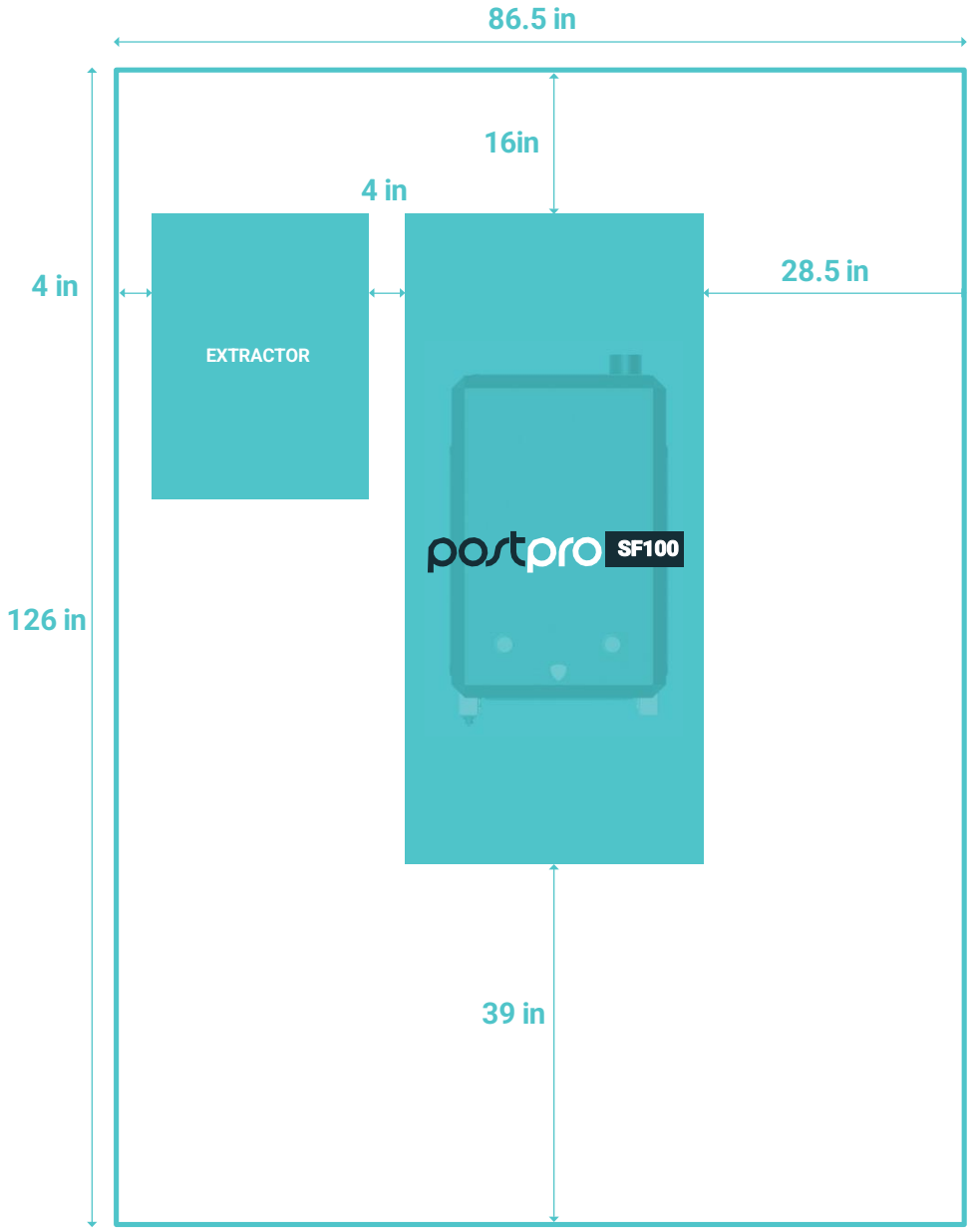
The client is responsible for unpacking the crate and siting the equipment in the designated install room. Mishandling of the PostPro SF100 and its accessories during installation may damage the device, requiring it to be returned to AMT.

Free access must be ensured around the machine for installation and maintenance procedures.

7.2 // Recommended Operating Room Dimensions and Space Requirements



7.3 // Recommended Operating Room Dimensions and Space Requirements



7.4 // Connection Layout

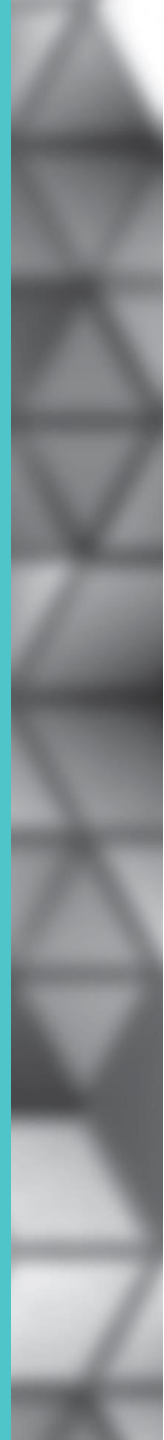


7.5 // Other Considerations

Additive Manufacturing Technologies require the client to prepare the PostPro SF100 room prior to installation and ensure that the room conforms to the minimum dimensions shown in Sections 7.2 and 7.3. The PostPro SF100 must be positioned in such a way to ensure access to the power outlet and switches, including emergency shutoff switches.

The following conditions are required for access to and within the working area:

- Level, hard flooring (no carpet) that can handle a device weight in accordance with Tables 3.2 and 3.3.
- The floor must be hard, flat, and level. Unevenness of the area for the machine should be less than 5 mm/m² (0.0182 inches/Square foot)
- The floor in the PostPro SF100 machine room shall be easy to clean and chemically resistant.



- 400mm (16in) of clearance should be provided from the back of the machine to plug in power, extraction and Ethernet cords, as shown in drawing in Section 7.4.
- The ceiling height should be greater than 1 meter (3.25 feet) higher than the top of the PostPro SF100.
- PostPro SF100 should be installed in a vibration free area and should not be located near machinery or equipment that cause high vibration levels.
- When possible, the PostPro SF100 should be installed and operated in a closed room.
- Access to the PostPro SF100 machine room shall be level and without steps.
- Inform AMT in advance if seismic anchoring is required.

7.6 // Workstation area

The client is responsible for supplying a work bench next to PostPro SF100 machine for pre-preparation and unloading of process racks. The client should have enough space for:

- One bench
- Shelves and cabinets should be near the PostPro SF100 to allow convenient and safe storage of tools, accessories, consumables, training manuals, etc.

7.7 // Chemical Storage

AMT recommends that the client stores the chemicals safely and to a standard that is in accordance with regulations, fire department and insurance requirements, and in accordance with Section 7 of the relevant chemical MSDS.

7 .8 // Safety Eye Wash and Shower

Before starting to use PostPro SF100 the client should establish at least one working eye-wash station near the machine and have a safety shower available.

7.9 // Chemical Spills

AMT recommend that before installing the PostPro SF100, the client establishes a procedure on how to handle chemical spills. PostPro SF100 is designed to prevent spills or leakages as the chemicals used are within sealed units. However, a spill may occur if the equipment is damaged or mistreated in some way. All spills should be reported to the client's safety officer and to AMT.

7.10 // Precautions in the Event of Fire

AMT recommend that before installing PostPro SF100 the client should establish a procedure on how to handle fires in or near the PostPro SF100 machine room, just as the client will have done with any other machinery that has been installed. These procedures should focus on the fighting fires where high voltages are being used and the potential by-products produced from combusted polymers and processing chemicals form toxic gases and fluids.

Please consult the MSDS of the chemicals used for further information.

8 // Health & Safety

⚠ It is the responsibility of the customer to ensure the PPE being worn is compliant with the company, local and national safety regulations.

Additive Manufacturing Technologies recommends the following minimum Personal Protective Equipment (PPE) be worn when operating the PostPro SF100:

- Disposable nitrile gloves
- Closed toe safety shoes
- Laboratory spill resistant coat
- Close fitting chemical eye protection
- Half face mask with AX type filters.

The Client should also ensure the following safety equipment and information is available in the room of operation:

- MSDS safety sheets displayed in a prominent position
- Safety shower
- Eye wash station
- Spill clean-up kit

9 // Network Connectivity

The PostPro SF100 machine is a networked device. It communicates with AMT Servers securely via the inbuilt 4G modem.

The PostPro SF100 must be connected to AMT Servers to operate. In exceptional circumstances machines can be installed ‘offline’. Please consult AMT or your authorized reseller for additional information.

9.1 // Connectivity Requirements

The PostPro SF100 process control computer is permanently connected to the internet via a 4G modem, however in the event no 4G network is accessible, customers are required to establish an internet connection via ethernet.

The PostPro SF100 machine requires a wired ethernet connection to a network that offers un-interrupted access to the Internet. “Guest networks” that require regular renewal of credentials are not sufficient in this regard. PostPro SF100 does not support Wi-Fi.

The ethernet connection must not be powered.

Please contact AMT for further information if connection restrictions are in place at your facility.

Address	Port(s)	Purpose	Remarks
Windows Update and Microsoft Intune		Access to Windows Update and Microsoft Intune are required to keep the Windows OS on the PC up to date, and to manage software deployment(s), security policies, etc. on the PC.	Unfortunately, Microsoft does not provide an exact and official list of IP addresses or ranges for either of these services. Please see the following for more information and address ranges: https://learn.microsoft.com/en-us/mem/intune/fundamentals/intune-endpoints https://learn.microsoft.com/en-us/troubleshoot/windows-client/deployment/windows-update-issues-troubleshooting The PCs are managed via Microsoft Intune and are members of an Azure Active Directory domain, receiving security and quality updates from Microsoft.
amt.beyondtrustcloud.com	80, 443	BeyondTrust support software. This is required in order that AMT engineers could provide remote assistance and perform troubleshooting.	BeyondTrust is a vendor of privileged identity and access management software.
sfvpn.ppesds.com	11319	VPN connection to AMT's servers. This connection is required for the SF machine to report hardware troubleshooting information to AMT, and to receive updates from AMT to its control software and kiosk UI.	AMT's servers are located in Veszprém, Hungary, on AMT's premises. Please see (location placeholder) for detailed breakdown of the types of data transferred to and from AMT over this connection.

10 // Consumables

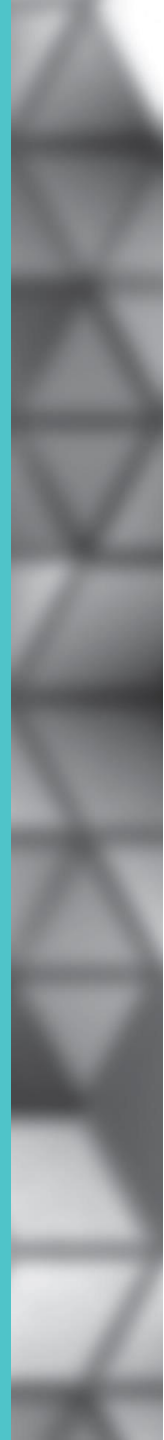
The PostPro SF100 must only be re-supplied with consumables by an individual who has been trained on how to operate the machine.

No attempt must be made to open or re-fill the canisters by the client.

All consumables are supplied with an RFID identification tag, any attempt to remove or tamper with this device will void the machine warranty.

Do not use any consumables other than those supplied by AMT. Failure to comply with this will void the manufacturer warranty of the machine.

The consumables are supplied in canisters which remain the property of Additive Manufacturing Technologies.



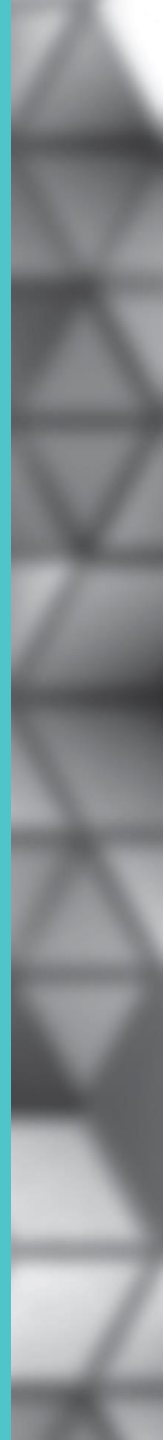
11 // Waste Disposal

The client is responsible for having liquid and solid waste management in place and is responsible for disposing of all liquid and solid waste according to the local laws and regulations.

The client must follow its facility's procedures and all federal, state, and local regulations describing the disposal of hazardous waste.

The PostPro SF100 is closed loop system, as a result of this there is no liquid or solid hazardous waste to dispose of. Once the recovery canister has been filled and/or the virgin canister has been emptied, AMT will arrange for the collection of the canisters to be returned to a AMT facility for processing.

Any other solid non-hazardous waste should be disposed of in a general lab waste container in accordance to local regulations.



12 // De-Commissioning

Upon request AMT can decommission the PostPro SF100. Contact AMT technical support for details and arrangements.

12.1 // WEEE Compliance

AMT is a registered member of WEEE compliance schemes throughout Europe. As such AMT will be responsible for the decommissioning and disposal of the equipment and packaging once it has reached end of life. For further information please contact AMT Support.

13 // Pre-Installation Checklist

Prior to the delivery and installation of your machine we require you to review this document and complete the pre-installation checklist to confirm you comply with the requirements.

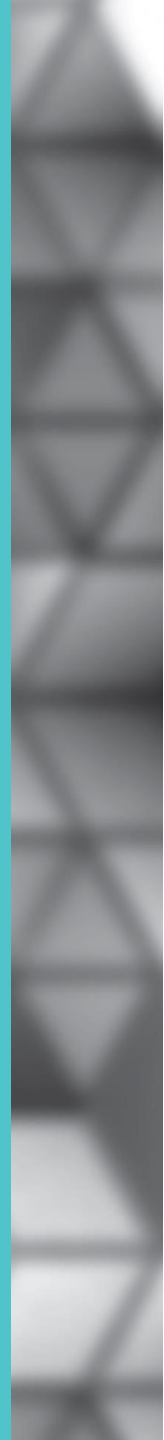
The pre-installation checklist can be accessed via the link below:

PRE –INSTALLATION CHECKLIST

If you have questions or problems in providing anything described in the checklist, please contact AMT or your AMT reseller for assistance.

Please be aware that the installation will not be scheduled until the checklist is received and approved.

For further information please contact support@amtechnologies.com



FOR MORE INFORMATION:

support@amtechnologies.com

