

COMPOSITE PRINTERS

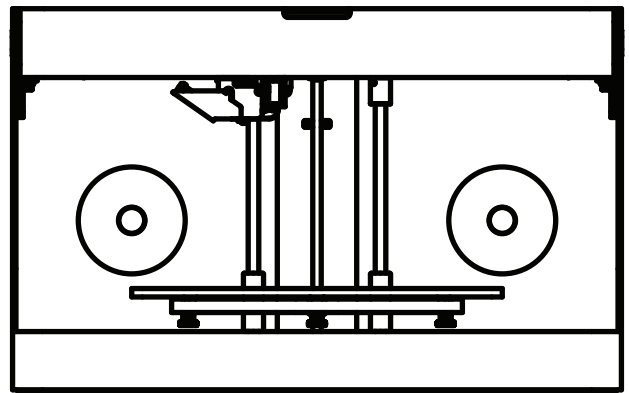
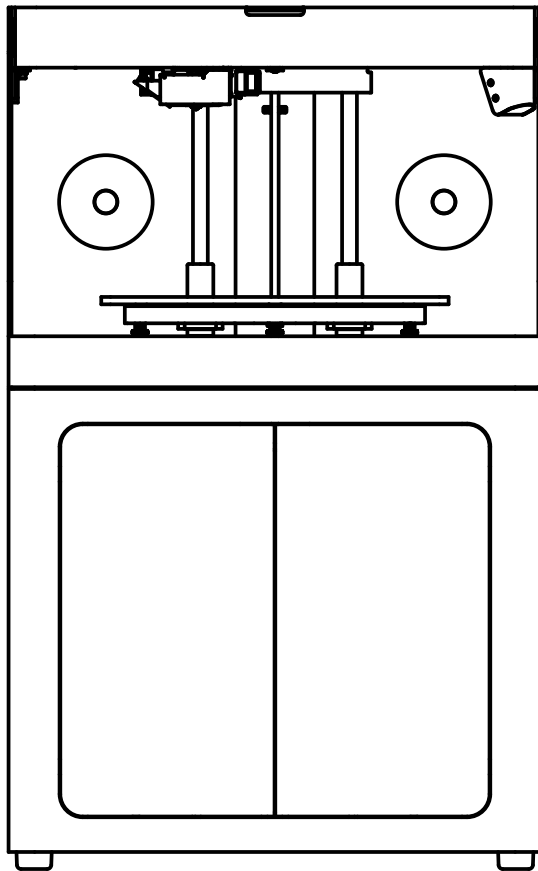


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Markforged : 480 Pleasant St : Watertown, MA 02472

OVERVIEW

CONTACT INFORMATION

Markforged. 480 Pleasant St., Watertown, MA 02472.

SYSTEM COMPOSITION

The Markforged Composite Printer will arrive at your facility fully assembled and will require limited initial setup.

All specifications in this document are approximate and subject to change without notice. Specifications (e.g. electrical and space requirements) can vary from region to region; consult your local suppliers and regulatory agencies for additional information.

FACILITIES PREPARATION

This guide addresses the following planning considerations:

- Modifications to the installation area
- Site accessibility
- Planning the production area
- Electrical and environmental requirements
- Network connectivity
- Environmental health and safety

All information in this guide assumes knowledge of the following:

- Architectural and planning requirements
- Applicable laws, regulations, and standards

WASTE DISPOSAL

Material handling, storage, and disposal should be performed according to local laws and regulations. See the Safety Data Sheets (SDS), if available, for storage and handling information. Follow your Environmental Health and Safety regulations where applicable, as well as supplier instructions.

SOFTWARE

MARKFORGED SOFTWARE INTEGRATION

Markforged Eiger software can be accessed at <https://www.eiger.io/>. All Markforged products can be accessed or controlled via Eiger.

SOFTWARE UPDATES

In order to improve performance and offer additional system capabilities, software and firmware updates are pushed regularly to all machines. Any machine that is online will be automatically prompted to update whenever changes are available. Updates should be performed at the earliest convenient time.

NETWORK REQUIREMENTS

For assistance with setting up your network, contact your internal IT team.

Ethernet connections must utilize cables with a maximum length of 30 meters.

DHCP

Markforged devices support both DHCP and static IP configurations. For more information, see the *Advanced Networking Features* article on the support site.

PORTS/HOSTNAMES

Markforged products must have access to the following hostnames and ports:

HOSTNAME	PORT	PROTOCOL	REQUIRED?	REASON
s3.amazonaws.com	443	TCP	yes	device operation
mfeiger-production.s3.amazonaws.com	443	TCP	yes	device operation
cdn.eiger.io	443	TCP	yes	device operation
www.eiger.io	443	TCP	yes	device operation
*.pool.ntp.org	123	UDP	yes	network time protocol
ipv4.connman.net	80	TCP	-	online status check
data.logentries.com	443	TCP	-	remote logging
data.logentries.com	10000	TCP	-	legacy remote logging if software version older than 9/14/2018

BROWSER

Only Google Chrome is supported. WebSockets must be enabled.

PRINTERS

ELECTRICAL REQUIREMENTS

Circuit Type	Dedicated branch circuit
Wiring System	Single phase with safety ground
Input Frequency	50 - 60 Hz

VOLTAGE/CURRENT SPEC

Input voltage is 100-240V, drawing up to 3 amperes.

RECEPTACLE TYPES

Country	Standard Receptacle Type	Available Alternate Receptacle Types**
USA	NEMA 5-15	NEMA 5-20; NEMA L5-20
Germany	CEE 7/7	IEC309; NEMA L6-20
UK	BS 1363	IEC309; NEMA L6-20
Japan	NEMA 5-15	NEMA 5-20; NEMA L5-20

*** Customer will need to purchase additional power cord to utilize alternate receptacle
This list is not exhaustive. It is regularly updated as more regions are added.*

ELECTRICAL ACCESS

The printer installation must provide space for easy access to all electrical disconnecting devices:

- Power switch on rear face of printer
- Facility power shutoff

In case of emergency, use the disconnecting devices to cut power to the printer.

PRINTERS

ENVIRONMENTAL REQUIREMENTS

CLIMATE CONTROL

Room Temperature (Operation)	18.8°C – 35°C (66°F – 95°F)
Humidity Requirement (Operation)	0% - 90%, non-condensing
Room Temperature (Idle)	18.8°C – 35°C (66°F – 95°F)
Humidity Requirement (Idle)	0% - 90%, non-condensing
Altitude	< 3000m (9842ft)
Pollution Degree	2

OPERATING ENVIRONMENT

Composite printing materials are highly hygroscopic and will absorb any available moisture. For best results, operate your printer in a typical climate-controlled office environment (20-26°C, 40-60% relative humidity). Running the system or storing the print materials in an extremely humid environment may require additional purge strip prints or an increased frequency in material changeover.

VENTILATION REQUIREMENTS

Markforged Composite Printers melt thermoplastics and emit thermoplastic odors during printing. Ensure your printer is used in a well-ventilated area. No dedicated exhaust is required for the printer. Additional measures may be required based on local regulations.

MATERIAL STORAGE

Keep spools under 40 degrees Celsius (104°F) for long-term storage.

Store material in original sealed packaging and place the included desiccant pack into the drybox when loading the spool to ensure a dry environment. Old desiccant packs should always be disposed of when loading a new spool into the drybox.

PRINTERS

INSTALLATION PLANNING

Printer	Desktop	Industrial
Package Dimensions	0.432m x 0.229m x 0.356m (17in x 9in x 14in)	1.219m x 0.787m x 0.737m (48in x 31in x 29in)
Package Weight	27 kg (60 lbs)	52 kg (144 lbs)

SHIPPING AND UNLOADING

- Allow for an area of at least 3m x 3m (10ft x 10ft) to unbox the printer
- Plan on having two people to lift the printer
- An elevator is recommended for moving the Industrial Series printers between floors
- A dolly or cart that can support the printer's weight should be used to move the printer
- NOTE: Industrial Series printers are delivered on a pallet. Request a lift gate on your delivery vehicle if your facility is not otherwise equipped with a dock, forklift, etc.

MOVING INFORMATION

If you need to move the printer, please ensure all material is unloaded and spools are removed.

Always lift printers from the bottom with at least two people.

PRINTERS

OPERATIONAL SPACE PLANNING

Ensure the new location of the printer meets all facility requirements, including electrical and table requirements.

Printer	Desktop	Industrial
Printer Dimensions	0.584m x 0.330m x .355m (23in x 13in x 14in)	0.584m x 0.483m x .914m (23in x 19in x 36in)
Printer Weight	16 kg (35 lbs)	48 kg (106 lbs)

ACCESS REQUIREMENTS

Connectivity Access (Wi-Fi, Ethernet)	0.15m (6in) at the back and side of the printer
Maintenance Access	0.5m (20in) between wall and back edge of printer table

NOTES

- Place printer within 3m (10ft) of a dedicated outlet to ensure the cord will reach

TABLE REQUIREMENTS

- Markforged printers must be placed on tables during operation. They are not certified for free-standing floor use
- Ensure that the table can support 1.5x the full load weight of the printer
- Place the printer on a stable surface and take steps to dampen vibration, as excessive vibration may degrade system performance

Note: Place printer within 3m (10ft) of a dedicated outlet to ensure cord will reach