UltiMaker Factor 4

Installation and user manual

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Disclaimer

This manual sets out the instructions on how to install and operate the UltiMaker Factor 4. Please read and understand the contents of this installation and user manual carefully. Failure to read the manual may lead to personal injury, inferior print results, or damage to the UltiMaker printer or its accessories.

Always make sure that anyone who uses this 3D printer knows and understands the contents of the manual to make the most out of the UltiMaker printer.

Upon delivery of the product, installation shall be done in accordance with the instructions in this user manual. The handling, storage, use, and disposal of the device are beyond our control and are for your sole responsibility. We do not assume responsibility and expressly disclaim liability for loss, injuries, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of the product.

Although we achieved a very high standard in the reproduction of 3D models with the usage of UltiMaker Cura, the user remains responsible to qualify and validate the application of the printed object for its intended use. This is especially critical for applications in strictly regulated areas like medical devices and aeronautics.

The information within this document has been collected and represented with great care and is considered accurate. In case inconsistencies or inaccuracies are observed, those are unintentional and UltiMaker welcomes to be made aware of those. Submit your feedback to UltiMaker via support.ultimaker.com.

This installation and user manual is available in several languagues. In case of discrepancies between the original English version and the translated text, the English version is leading. Please contact UltiMaker support if you notice any inaccuracies, or in case of questions or concerns.

Intended use

UltiMaker 3D printers are designed and built for fused filament fabrication mainly within a commercial, professional, or industrial environment. The mixture of precision and speed makes UltiMaker 3D printers very suitable for concept models, functional prototypes, and small series production.

UltiMaker 3D printers, including the UltiMaker Factor 4, are compatible with an increasing range of materials available in our Marketplace and optimized for usage with UltiMaker materials. While being an open material platform, the best results will be achieved with UltiMaker materials, as effort has been made to match material properties with machine settings.

Tip: See **section 2.1** for a description of the UltiMaker Factor 4 and its components.

1. Safety and compliance

Read the important notices in this chapter to ensure the safety of the UltiMaker Factor 4 and its operators. Additionally, this chapter contains compliance and regulatory information.

1.1 Safety messages

The information provided below applies to the UltiMaker Factor 4 when used with its original and optional additional compatible UltiMaker accessories (“UltiMaker products”).

This guide contains tips and notes:

Tip: Additional information that is helpful to do a task or learn more.

Note: Important information to avoid problems.

The following ISO warning symbols are also used in this document and on the printer:

Read the user manual (ISO 7010-M002). Before using this product, read the complete user manual to learn about all its features and safety-related information. This symbol is placed on the gantry, on the back panel, and inside the back compartment.

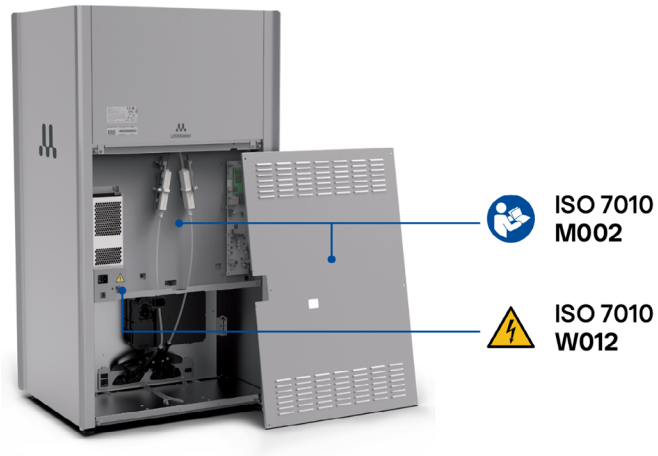
Warning (ISO 7010-W001). Warns of a situation that may cause material damage or injuries if the safety instructions are not followed.

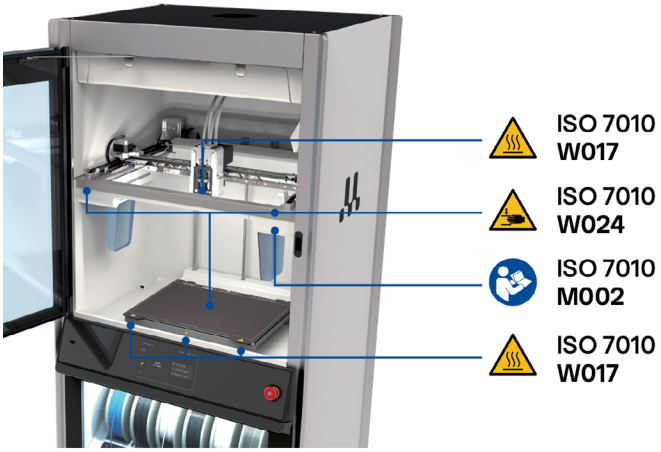
Magnetic field (ISO 7010-W006). This product contains magnets. Magnets are used in the build plate, print head, and Material Station door. Ensure a distance of > 4 cm from sensitive electronic equipment and any implanted electronic medical devices.

Electricity hazard (ISO 7010-W012). This printer uses mains power, which is hazardous when touched. This symbol is placed on the power supply.

Hot surface (ISO 7010-W017). The print head and build plate of this product can reach high temperatures. Always allow the machine to cool down before reaching inside. This symbol is placed on the print head and build plate.

Crushing of hands (ISO 7010-W024). This product contains moving components. Never reach inside the printer while it is in operation. For maintenance processes, always follow the instructions on the display. This symbol is placed on the gantry and underneath the build plate.





1.2 General safety information

Intended use and required skill level

- UltiMaker products shall only be used by persons who have carefully read and understood the user manual and the safety provisions in it.
- The UltiMaker Factor 4 is targeted for professional and/or light industrial use and can be used by ordinary, instructed, and skilled persons. This manual describes operations that may require different levels of qualifications to ensure safety. See definitions below.
- Unless stated otherwise in the respective (maintenance) instructions, maintenance activities shall only be carried out by skilled or instructed persons. Where stated so, specific activities can be carried out by ordinary persons as well.
- This product is not intended for use by children. This equipment is not suitable for use in locations where children are likely to be present.
- UltiMaker products are not intended for use by persons with reduced physical and/or mental capabilities, or persons with a lack of experience and knowledge, unless they are supervised or have been given instructions concerning the use of the appliance by a person responsible for their safety.

Definitions of ordinary, instructed, and skilled persons:

- **Ordinary person.** A person other than an instructed or skilled person. Ordinary persons can start and remove print jobs and perform basic operations such as loading material or changing print cores, provided they have read and understood the manual and safety instructions. Performing other actions is only allowed when explicitly stated in the respective manuals (including e.g. maintenance instructions).
- **Instructed person.** Someone who has been instructed and trained by a skilled person. Instructed persons are allowed to perform the same actions as an ordinary person, plus maintenance actions as indicated in the manuals. Can perform actions of a skilled person when supervised by a skilled person who is responsible for the instructed person's safety, e.g. as part of a training to become a skilled person.
- **Skilled person.** A term applied to persons who have been trained or have experience in the equipment technology, particularly in knowing the various energies and energy magnitudes employed in the equipment. Skilled persons are expected to use their training and experience to recognize energy sources capable of causing pain or injury and to take action for protection from injury from those energies.

General safety notices

- UltiMaker 3D printers generate high temperatures and have hot moving parts that can cause injury. Never reach inside UltiMaker 3D printers while they are in operation. Control the printer using the touchscreen, power switch, or via UltiMaker Digital Factory.
- The red stop button at the front of this product can be used to instantly stop the printing process. Please note that pressing this button will stop the supply of power to moving and heating parts, but surfaces may still remain hot for a while.
- Allow the UltiMaker 3D printers to cool down sufficiently before reaching inside, unless explicitly stated otherwise for certain (maintenance) processes. Always wait until the display indicates that the build plate has cooled down to a safe temperature.
- Do not change or adjust any parts of the product unless the change or adjustment is authorized by UltiMaker.
- Do not store items inside UltiMaker products, except compatible material spools in the Material Station.
- Do not store items on top of the UltiMaker Factor 4 and never cover the exhaust vent in the top panel.
- When performing maintenance procedures, follow the guided procedures in the printer's firmware where possible. Otherwise, turn off the printer to ensure new print jobs cannot start unexpectedly.
- If the door must be opened to remove the print, change the printer configuration, or for maintenance or repair actions, close the door immediately afterward to prevent the risk of bumping into it.

1.3 Hazards

Electrical safety

The UltiMaker Factor 4 is powered by mains voltage, which is hazardous when touched. The power supply and electronics are located at the back of the printer. Always turn off the printer and disconnect the power cable before removing the back panel. Only skilled or instructed persons should remove the back panel while the power is on. Always check local regulations.

Warning: Always reinstall the back panel after maintenance and/or service actions.

A mains socket with a protective earth/ground terminal must be used. Make sure that the building installation has dedicated means of over-current and short-circuit protection. Please use a dedicated circuit breaker with a current rating not exceeding 16A.

Warning: Only use the original power cable supplied with the device. Do not damage, cut, or repair the cable. A damaged cable should be immediately replaced with a new one.

Warning: Always unplug the product before performing maintenance or modifications, unless explicitly stated otherwise for certain (maintenance) processes.

Mechanical safety

Pinching and entanglement hazard. Do not reach into the gantry area of the printer during operation due to a pinching hazard. Do not lean over the gantry during operation and/or maintenance due to risk of entanglement of hair, jewelry, and/or scarfs. This may cause minor pain, but no significant injury to the user is expected from pinching or entanglement by the drive belts or X beam.

Crushing or pinching hazard. The force of the build plate is limited but may cause minor injury, so stay out of the reach of the build plate during operation.

Note: Keep the door closed during operation unless explicitly stated otherwise for certain (maintenance) processes. The printer will pause when the door is opened during printing.

Risk of burns

Hot surface hazard. There is a potential risk of burns: the print heads of the UltiMaker 3D printers can reach temperatures above 200 °C, while the heated bed can reach temperatures above 100 °C. Do not touch either of these parts with your bare hands. This symbol is placed on the print head and on the build plate to warn the user about this hazard.

Warning: Allow the UltiMaker 3D printers to cool down sufficiently before reaching inside, or performing maintenance or modifications, unless explicitly stated otherwise for certain processes. Always wait until the display indicates that the build plate has cooled down to a safe temperature.

Emission hazard

During 3D printing, Ultrafine Particles (UFPs), Volatile Organic Compounds (VOCs), and other chemical substances may be emitted. Above certain concentrations (Threshold Limit Values, TLV), these emissions can pose a risk. Concentrations are influenced by the filament and adhesive used, print conditions (e.g. print temperature), room volume, Air Exchange Rate (AER), and number of printers in a room.

The UltiMaker Factor 4 has an integrated air management system with a HEPA filter, which filters Ultrafine Particles generated during the 3D printing process.

UltiMaker products are designed for use with UltiMaker materials and are open for use with materials from third-party suppliers.

- **Safe use information for UltiMaker materials.** UltiMaker materials can be printed safely without any additional filtering using the recommended temperatures and settings in a well-ventilated area (minimum refresh rate or AER of 1.8 for a room size of 30.6 m3). When multiple UltiMaker 3D printers are operated in a contained environment, concentrations of UFPs and/or VOCs will increase. Depending on the specific situation, please consider other safety measures, such as a dedicated ventilation system.
- **Safe use information for third-party materials.** Make sure to check with your material supplier whether additional risks and safety measures apply. Additional safety measures may be required for the safe usage of such materials. Always take the relevant information provided by the supplier of third-party materials into account for safe operation. Please check the safety data sheet of each specific material for information. UltiMaker cannot be held responsible for any adverse effects from the use and/or performance of third-party materials.

Magnetic field

Static magnetic field hazard. Due to the static magnetic field caused by the magnets in the printer, keep a distance of at least 4 cm (1.5 in) between these magnets and any implanted electronic medical devices and implants containing ferromagnetic materials. Magnets are used in the build plate, print head, and Material Station door.

Personal protective equipment

The following items are recommended for working safely with the UltiMaker Factor 4, especially for performing maintenance actions:

- **Tweezers.** These are required for safely removing material residue from the tip of the nozzle.
- **Pliers.** When cleaning the inside of the nozzle with the hot and cold pull procedure, hold the filament with pliers to prevent damage to your hands in case the material breaks.
- **Gloves.** It is recommended to wear thermal gloves while cleaning the nozzle as the nozzle will be hot during these procedures. Protective gloves are recommended while removing brims or support structures.

1.4 Regulatory information

This section contains country-specific regulatory statements.

Tip: Additional country-specific compliance information and certification labeling, where relevant, can be found on the compliance label at the back of the printer.

EU / UK - Declaration of Conformity

The UltiMaker Factor 4 is compliant towards the essential requirements and other relevant provisions of the Machinery Directive 2006/42/EC, EMC Directive 2014/30/EU, RED 2014/53/EU, RoHS Directive 2011/65/EU, and WEEE Directive 2012/19/EU.

The EC and UKCA Declarations of Conformity are proof of this.

Tip: A signed copy of the EC / UKCA declaration of conformity (EN) can be downloaded from our website.

USA - FCC Supplier's Declaration of Conformity

Model Number:	UltiMaker Factor 4
Responsible Party:	MakerBot Industries, LLC
Address:	55 Water St., 51 st Floor, New York, NY 10004

FCC Statement
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.

FCC Caution
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC RF Exposure Warning:
This product complies with the FCC radiation exposure limits set forth for an uncontrolled environment with a minimum 8 in spacing requirement between transmitter all person's body during wireless modes of operation.

Tip: A signed copy of the cDEKRAus certificate can be downloaded from our website.

Canada - Industry Canada Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003. This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). 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

Caution:
The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

Radiation Exposure Statement:
This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 22 cm between the radiator and your body.

Tip: A signed copy of the cDEKRAus certificate can be downloaded from our website.

Mexico - Instituto Federal de Telecomunicaciones

IFT statement:
The operation of this equipment is subject to the following two conditions:
(1) it is possible that this equipment or device may not cause harmful interference and (2) this equipment or device must accept any interference, including interference that may cause undesired operation.

2. Introduction

In this chapter, you will be introduced to the parts and specifications of the product. Getting to know the main components and their names is helpful during the installation and operation of the UltiMaker Factor 4.

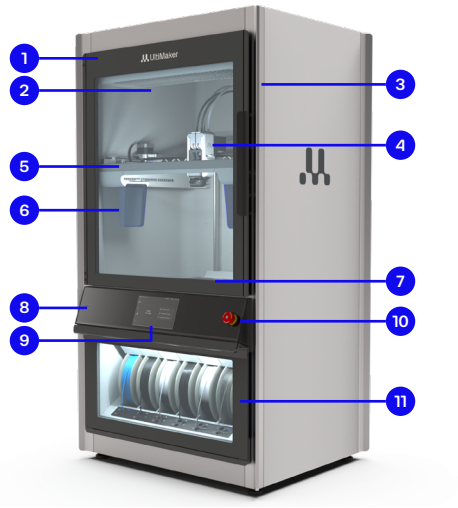
2.1 Product explanation

The UltiMaker Factor 4 is a dual-extrusion, industrial-grade 3D printer using fused deposition modeling (FDM) technology. The UltiMaker Factor 4 can make three-dimensional objects from a wide range of polymers. Print objects with a single material, two materials or colors, or by using a build material and a support material.

Prepare your 3D models in UltiMaker Cura, our free print preparation and slicing software. Cura converts 3D objects into a readable format for the printer, with optimized material and print profile settings for various applications. Monitor your print jobs and manage your digital library using the UltiMaker Digital Factory for a streamlined, cloud-based workflow.

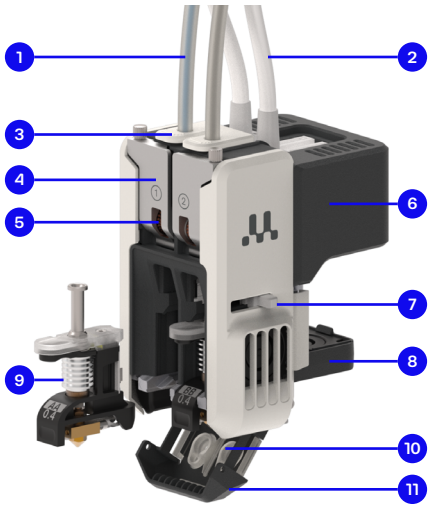
The UltiMaker Factor 4 features a direct drive print head with easily swappable print cores, an enclosed build chamber for enhanced part stability, an air filtration system with HEPA filter, and an integrated Material Station for automated material switching.

2.2 Main components



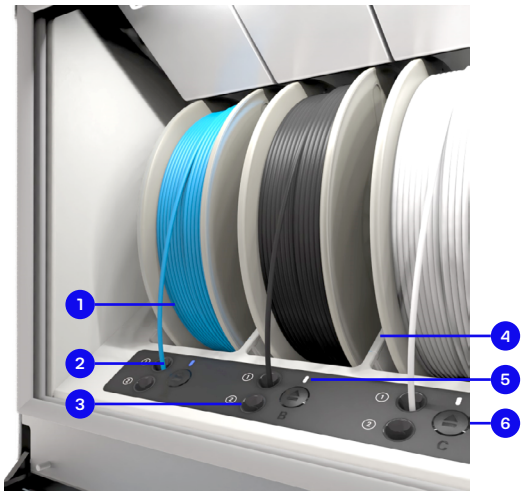
UltiMaker Factor 4

1. Build chamber glass door
2. Air filtration system
3. Camera
4. Print head *(see details on the right)*
5. Gantry system
6. Purge buckets
7. Z stage with flexible build plate
8. USB port
9. Interface with touchscreen display
10. Red stop button
11. Material Station *(see details on the right)*



Print head

1. Bowden tubes
2. Print head communication and motor cables
3. Bowden release clip
4. Feeder latch
5. Feeder wheels
6. Feeder motors
7. Lift switch
8. Cooling fans
9. Print cores
10. Nozzle cover
11. Front bracket



Material Station

1. Material bay (A - F)
2. Filament entry port 1
3. Filament entry port 2
4. Bay divider with NFC
5. Material indicator light
6. Eject button

Tip: For more information about the different components and their functions, visit this support article.

2.3 Specifications

Printing properties	Technology	Fused deposition modeling (FDM)
	Extrusion system	Dual-extrusion, direct drive print head with unique auto-nozzle lifting system and swappable print cores.
	Build volume (XYZ)	330 x 240 x 300 mm *(~ 13 x 9.4 x 11.8 in)*
	Filament diameter	2.85 mm
	Dimensional accuracy	± 0.2 mm ± 0.2 % feature nominal length For detailed conditions, visit ultimaker.com/factor4
Hardware properties	XYZ resolution	6.25, 7.8, 2.5 microns
	Build plate	PEI-coated flexible build plate
	Build plate temperature	Up to 120 °C *(248 °F)*
	Build volume temperature	Actively controlled up to 70 °C *(158 °F)* with nozzle plane temperature uniformity within: ± 3 °C *(5.4 °F)* for temperatures < 50 °C *(122 °F)* ± 5 °C *(9 °F)* for temperatures < 70 °C *(158 °F)*
	Max. extrusion temperature	280 °C *(536 °F)* – (Print core AA, BB, DD) 300 °C *(572 °F)* – (Print core CC) 340 °C *(644 °F)* – (Print core HT)
	Material handling system capacity	6 material bays with NFC recognition *(max. 1 kg (2.2 lbs) spool size)*
	Material handling system humidity control	Average relative humidity < 15 % in all operational conditions.
	Microparticulate filtration system	HEPA H13
	Display	7 inch touchscreen *(resolution 1024 x 600 px)*
	Power requirement	100 – 240 V AC, 50 – 60 Hz max., 6A
	Connectivity	Wi-Fi 2.4 & 5 GHz: IEEE 802.11a/b/g/n/ac LAN: Gigabit Ethernet USB: 2.0
Physical dimensions	Dimensions	695 x 605 x 1287 mm *(27.5 x 24 x 51 in)*
	Shipping dimensiones	760 x 800 x 1587 mm *(30 x 31.5 x 62.5 in)*
	Weight (net)	120 kg *(265 lbs) – Excluding materials*
	Shipping weight	137 kg *(302 lbs)*
Ambient conditions	Operating sound	< 50 dBA in operation
	Operating environment	Temperature: 18 °C – 30 °C *(64 – 86 °F)*, humidity: 30 – 70% RH
	Storage environment	Temperature: 5 °C – 40 °C *(41 – 104 °F)*, humidity: 20 – 90% RH
Software	Print job preparation	UltiMaker Cura *(5.7.1 or newer)* - Learn more
	Print job management	UltiMaker Digital Factory - Learn more
	Print process reporting	Supported *(premium firmware license)* - Learn more
	System requirements	Windows 7 (64-bit) Mac OS X 10.12 OpenGL 2.1 4 GB de RAM *(8 GB recommended)*
Safety and warranty	Warranty period	12 months Limited Warranty
	Safety features	Red stop button immediately stops motion and heat sources. Open door sensor pauses motion and extrusion.

Tip: Download the full specifications in the UltiMaker Factor 4 product data sheet from our website.

2.4 Software and accounts

Use UltiMaker's software and cloud solutions in combination with your UltiMaker Factor 4 for an integrated digital workflow.

Tip: You can already download the software and set up your account before unboxing the printer for a more efficient gettingIt is recommended to set up your account and download the software before unboxing the printer.

Digital Factory

Via a set of cloud-based tools, you can manage your printers, print jobs, and projects. Set up your workspace at digitalfactory.ultimaker.com.

Tip: Want to upgrade your experience? Find more information about UltiMaker's software plans on the UltiMaker website.

UltiMaker Cura

Prepare your models in UltiMaker Cura, our easy-to-use 3D printing software. Download UltiMaker Cura for free from ultimaker.com/cura.

Tip: For more information about UltiMaker Cura and system requirements, please consult the UltiMaker Cura support pages at support.ultimaker.com. For the best printing results, always use the latest version of UltiMaker Cura.

Print Process Reporting

Print Process Reporting is a new feature for Factor 4, which can be activated using a premium firmware license. Within 15 minutes after each print job is completed, this comprehensive onboard report simplifies validation and quality assurance before parts are deployed.

Each Factor 4 printer includes a trial license. The leaflet contains step-by-step instructions on how to activate the license. Go to subscription.ultimaker.com and enter the trial activation code to get started.

Tip: Visit the UltiMaker website or this support article to learn more about Print Process Reporting features.

3. Set up for first use

In this chapter, you will learn how to unbox your new printer and set it up for first use. This includes installing some hardware components, completing the welcome setup, and ensuring that you have the necessary software and accounts to start printing.

Note: Only skilled persons are allowed to install or move the machine.

Warning: Due to the size and weight of the printer, the UltiMaker Factor 4 is considered non-portable. Do not attempt to carry the printer, but use proper means to move and install this product, such as a forklift or similar device.

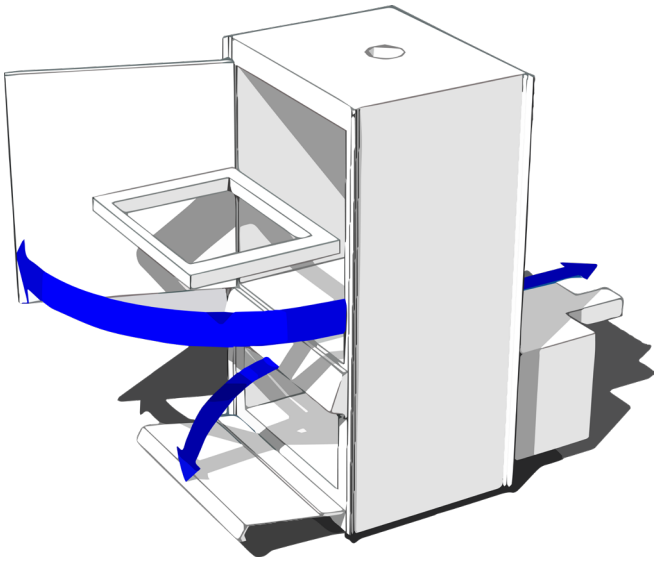
Falling hazard: Always keep the printer vertical; do not tilt the machine more than 10º to prevent it from falling over. This can extensively damage the machine and may cause serious injury or death.

3.1 Location

Before unboxing, choose a suitable location to install the UltiMaker Factor 4. Take the following into consideration:

- Install the product on a flat, level, and stable surface that is capable of carrying the printer's weight (~ 130 kg / 287 lbs).
- The recommended height of the installation surface for ergonomic operation of the UltiMaker Factor 4 is 650 mm (26 in).
- Unless the printer will be installed on a movable cabinet, there must be sufficient space around the printer:
  - **Back:** Ensure that the back of the printer is accessible for maintenance purposes; keep a clearance of 650 mm (26 in) behind the printer. If the printer must be placed close to a wall, the surface area must be at least 800 x 800 mm (31.5 x 31.5 in) to safely rotate the device.
  - **Front:** There must be at least 700 mm (27.5 in) of clearance in front of the printer to fully open the door.
  - **Top:** There must be at least 150 mm (6 in) of clearance above the printer for unrestricted airflow.
- The UltiMaker Factor 4 must be positioned out of direct sunlight when in use.
- The ambient conditions must be well controlled and never exceed the maximum recommended operating temperature. When the printer is used in ambient temperatures outside of the recommended range, optimal performance cannot be guaranteed.

Tip: For additional information about installation requirements and advice for installing multiple printers, please visit ultimaker.com/factor4-installation.



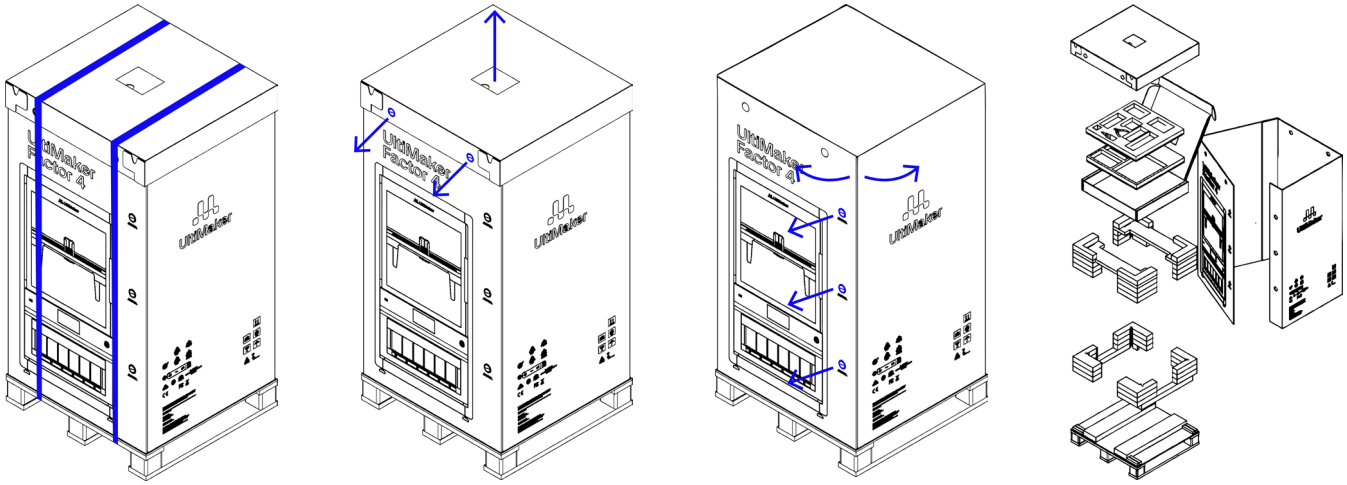
3.2 Unboxing

The UltiMaker Factor 4 is delivered in durable packaging, specifically designed to protect your 3D printer. Follow the steps below to properly unpack your new UltiMaker printer.

Tip: It is recommended to remove the packaging materials with the box placed on the floor.

1. Cut and remove the Nylon straps from around the box.
2. Open and remove the four plastic locking clips from the cardboard cap at the top. There are two at the front and two at the back.
3. Lift the cardboard cap off the printer.
4. Open and remove the three plastic locking clips from the large outer box.
5. Fold the outer box open to remove it from the printer.
6. Remove the starter kit and protective foam from the top of the printer.
7. Remove the protective foam from around the bottom of the printer.

Note: The printer must stay on the pallet until the installation, so it can be raised to the height of the installation surface.



3.3 Starter kit

The UltiMaker Factor 4 is supplied with a starter kit, which contains the following items:

- Print core AA 0.4 (2x)
- Nozzle cover (2x)
- Flexible build plate
- Purge bucket (2x)
- Power cable
- Wire cutters
- USB stick
- XY calibration guide
- Tough PLA Black (750 g)

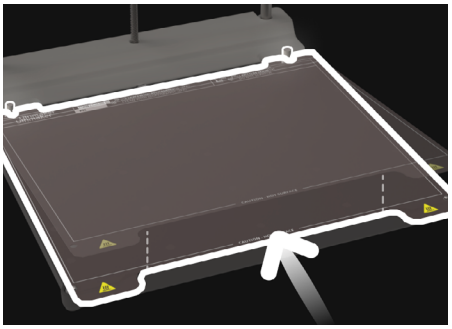
3.4 Installation

Warning: Due to the size and weight of the printer, the UltiMaker Factor 4 is considered non-portable. Do not attempt to carry the printer, but use proper means to install this product, such as a forklift, pallet lift, or similar device. Do not tilt the machine to avoid the printer falling over.

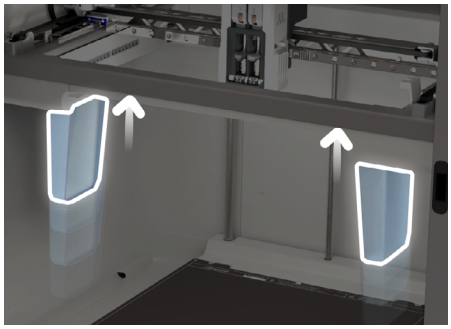
1. Raise the UltiMaker Factor 4 including the pallet to the height of the installation surface.
2. With at least two people, slide the UltiMaker Factor 4 backward off the pallet and onto the surface.
3. Rotate the printer's adjustable feet so that the printer sits perfectly level on the surface.

3.5 Accessories

Before powering on the printer, install several of the accessories from the starter kit. This includes the flexible build plate, the purge buckets, and the power cable. Take these items from the starter kit and open the build chamber door to get started.



1. **Flexible build plate**
   Align the flexible build plate with the pins at the back of the base plate and lower it into place. Ensure that the build plate is correctly aligned and completely flat.



2. **Purge buckets**
   Push the purge buckets into the slots on each side of the gantry. Ensure that the transparent side of the purge buckets is facing towards the middle of the printer.

3. **Power cable**
   Connect the power cable to the printer and the other end to a power outlet.

⚠ **Warning:** A mains socket with a protective earth/ground terminal must be used. Make sure that the building installation has dedicated means of over-current and short-circuit protection. Use a circuit breaker with a current rating not exceeding 16A.

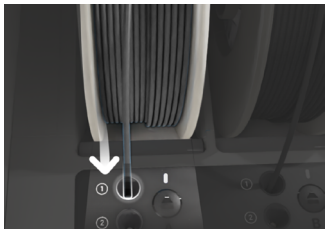
3.6 Welcome setup

Turn on the printer using the power switch at the back. When you power on the UltiMaker Factor 4 for the first time, you will first be asked to select your preferred language. After this, the welcome setup will appear on the display.

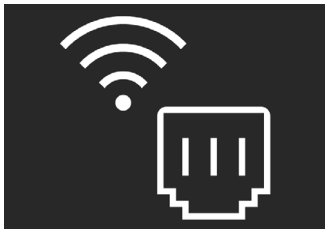
Tip: You can always change the language again later. Open the *Options* menu (gear icon), and go to *Settings* → *Language*.

During the welcome setup, you will load material, connect the printer to the network, and add it to your Digital Factory workspace. The printer will guide you through the steps.

1. Confirm that the print cores are installed in the print head.



2. Cut the end of the filament and load the material spool into the Material Station.



3. Connect the printer to a network via Ethernet cable or Wi-Fi.

4. Set up your printer in your Digital Factory workspace using a verification code.

Tip: If you have not already set up your Digital Factory workspace, create a new account.

Tip: You can load more materials after completing the welcome setup.

4. Operation

This chapter explains exactly how to use the UltiMaker Factor 4, from material handling and printing to changing the configuration and calibrations.

4.1 Touchscreen

You can control the UltiMaker Factor 4 by using the touchscreen at the front of the printer.

Note: When turned on for the first time, the UltiMaker Factor 4 will run the welcome setup. After completing this, the main menu will be shown when the printer is turned on.

The main menu offers several options, represented by the following icons:

The **Status** overview lets you start a print from USB or view the progress of the print while printing.

The **Configuration** overview shows which print cores are installed, which materials are preloaded in the Material Station, and you can change the configuration.

The **Options** overview consists of three sub-menus: settings, maintenance, and network.
- In the **Settings** menu, you can change general settings such as the language or lighting.
- In the **Maintenance** menu, you can perform the most important maintenance, calibration, and diagnostics procedures.
- The **Network** menu allows you to change network settings or to perform the Wi-Fi setup.

Tip: The **Settings** menu also shows pending printer tasks, if there are any. This can include installing new firmware or performing recommended calibrations.

Premium license:
The **Print Process Reporting** feature (if enabled) lets you generate in-depth print job reports, showing any potential deviations for a number of control loops. These include extrusion factors, nozzles, build volumes, and build plate temperatures.

4.2 Materials

Material compatibility

The UltiMaker Factor 4 supports all UltiMaker 2.85 mm materials that are currently available.

Tip: Find an overview of the complete Factor 4 material compatibility on support.ultimaker.com.

All UltiMaker materials have been extensively tested and have optimized profiles in UltiMaker Cura to ensure the best print results. Therefore, it is advised to use one of the default profiles in UltiMaker Cura for the highest reliability. Using UltiMaker materials will also allow you to benefit from the NFC detection system. UltiMaker spools will be automatically recognized by the material bays. This information is directly transferred to UltiMaker Cura when connected to a network, for a seamless connection between the printer and UltiMaker Cura software.

The UltiMaker Factor 4 has an open material system that also allows printing with third-party materials. Visit the UltiMaker Marketplace to find and download compatible material profiles. These profiles are extensively tested by our material partners for optimal print results.

Note: The UltiMaker Factor 4 is only compatible with 2.85 mm materials.

Spools with the following dimensions are compatible with the Material Station:

Width:	**Diameter:**	**Core diameter:**
50 – 70 mm *(2 – 2.7 in)*	197 – 203 mm *(7.8 – 8 in)*	> 98 mm *(3.8 in)*

Print recommendations

Each material requires different settings for optimal results. When using UltiMaker Cura and UltiMaker materials, the print settings are automatically updated based on the selected print cores and material(s).

Tip: For detailed instructions on which settings and adhesion methods to use per UltiMaker material, visit the material support pages on support.ultimaker.com.

When using third-party materials, check the UltiMaker Marketplace for the latest print profiles. Synchronize installed profiles with your printer via Digital Factory or USB.

Tip: To benefit from the automatic material switching during a print when a spool runs out, it is recommended to have at least two spools of the same material loaded into the Material Station.

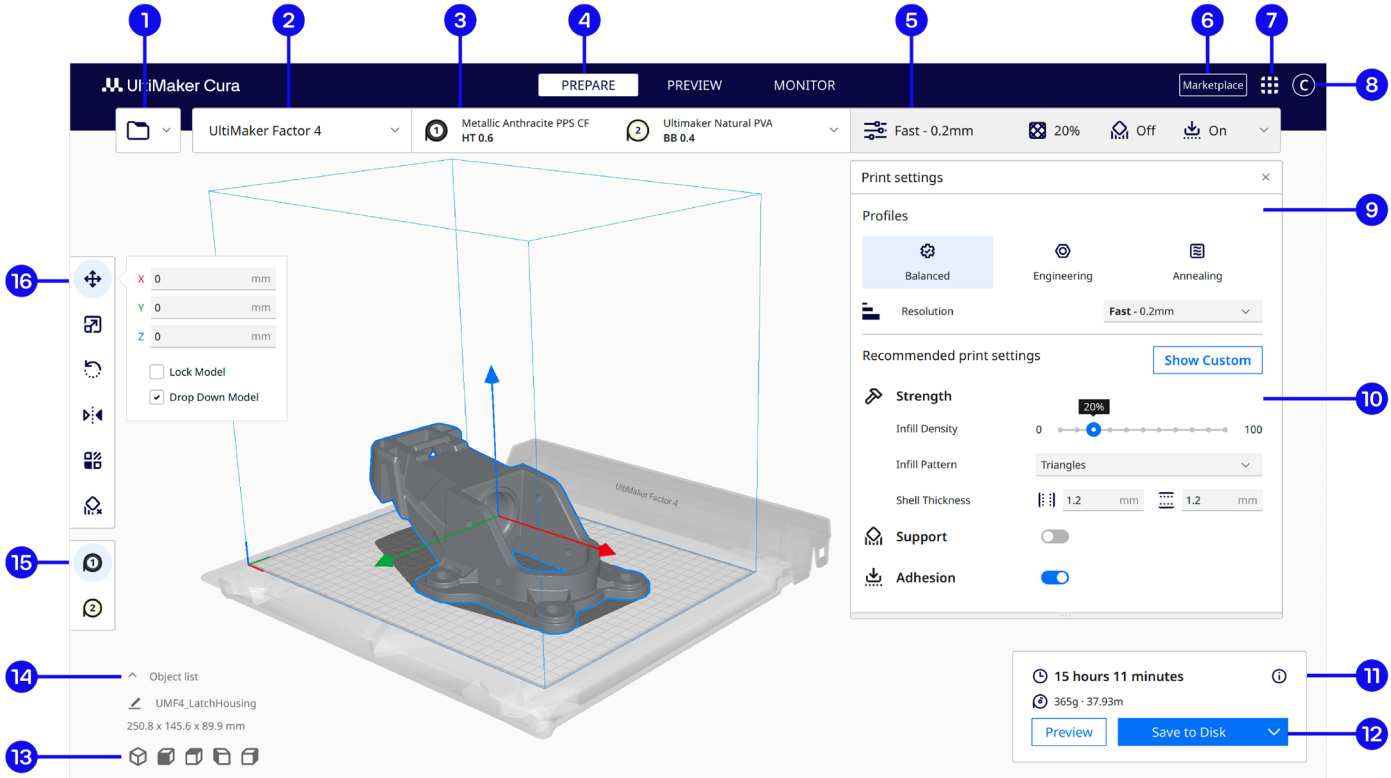
4.3 Preparing a print

Use UltiMaker Cura to prepare your prints. If you have not already done so, add your UltiMaker Factor 4 to Cura via Digital Factory for an optimal workflow. Alternatively, select the UltiMaker Factor 4 manually from the list of non-networked printers.

Interface

See the overview of the different UltiMaker Cura interface elements below.

Tip: Due to the fast development cycles of UltiMaker Cura software, interface elements may be subject to change. Always check the Cura support pages for the latest information.



1. Open file
2. Printer selection
3. Configuration panel
4. Stages
5. Print settings panel
6. Marketplace
7. App switcher
8. UltiMaker account
9. Profiles
10. Print settings
11. Action panel
12. Print / save
13. Camera position tool
14. Model information
15. Extruder selection
16. Adjustment tools

UltiMaker Cura workflow

The UltiMaker Cura workflow is arranged in three stages, seen at the top of the interface. These are the prepare, preview, and monitor stages.

Prepare

1. Load the 3D model(s) by clicking the 'open file' folder icon.
2. In the configuration panel, select your print cores and materials.
3. Use the adjustment tools to position, scale, and rotate the model as desired.
4. Select your intent profile, resolution, and desired settings in the print settings panel.
5. Press the *Slice* button in the action panel.
6. When slicing is complete, the action panel will direct you to the preview stage.

Preview

The preview stage allows you to see exactly how your model will be printed. Use the different color schemes to get various information about your model. You can view the different line types, differentiate infill from skin, or use the X-Ray view to detect gaps within your model.

Note: Previewing the model can be skipped, but is highly recommended to validate your print strategy and prevent problems before starting the print.

When slicing is complete, you can start the print via the action panel. Send your print job via cloud if the printer is connected to the Digital Factory, via network if the printer is connected via LAN, or save the file to a USB drive for printing with offline printers.

Monitor

When a print job is sent via cloud, monitor the status and progress via Digital Factory. You can easily navigate to Digital Factory via the monitor tab, or via the quick links menu. If your UltiMaker Factor 4 is not connected to the Digital Factory, but via local network, the monitor tab shows the printer's camera view.

Tip: The latest information about the UltiMaker Cura workflow, including information about all available settings in the Custom mode, can be found on support.ultimaker.com.

4.4 Printing process

This section describes the various steps taken by the printer and/or the operator during all staging of the printing process.

Pre-print

When a print job is selected, either remotely or via USB, the UltiMaker Factor 4 will automatically prepare for printing. This can take several minutes and includes the following processes:

- **Configuration check.** The printer will check if the printer has the right configuration for the selected print job (print cores and materials). If so, the print preparation will proceed. If not, the printer will show a configuration change request.
- **Preheating.** The print cores and build plate will heat up according to the material settings.
- **Loading and priming.** All materials are in a pre-loaded state. When a print job is started, the required materials are automatically forwarded to the print head. The UltiMaker Factor 4 will prime the print cores by purging some material into the purge buckets.
- **Active leveling.** The print cores will probe the build plate in several locations to create a detailed height map. This information will be used to ensure optimal adhesion of the print.

Printing

After preparation, the print will start. Normally, no interaction is required during the printing process.

Note: Always keep the door closed during printing and never reach into the printer while it is in operation. The print will automatically pause if the door is opened during printing.

If the material on the active spool runs out, the printer will automatically change to a new spool if a second spool of the same material is loaded. If there is no other spool available, the print will pause until a new spool is placed in a material bay.

Note: If something goes wrong during the printing process, pause or abort the print job via the display or Digital Factory, or press the red stop button to stop all movement and heating. Ensure all components have stopped moving and have cooled down before reaching into the printer.

Post-print

When the print is done, the build plate is lowered and the print cores are deprimed into the purge buckets. The materials will remain parked above the print head for a certain time. If another print job is started with the same material, this speeds up the print preparation process.

The build plate and print cores will cool down. Keep the door closed until the cooldown process has finished for optimal air filtering. Then, open the door to remove the print. See **section 4.5** for best practices.

Hot surface warning: Always wait until the build plate has cooled down to a safe temperature (the display will indicate a hot build plate with an orange warning bar).

Once the build plate has been cleared and placed back in the printer, select *Confirm removal* on the display. This will allow the next print job to start.

4.5 Remove the print

Once your 3D print is finished, it must be removed from the build plate. The UltiMaker Factor 4 has a convenient flexible build plate, which makes removing prints quick and simple.

1. Wait for the build plate to cool down. The display will indicate when it is safe to remove the build plate.

Hot surface warning: Never remove the build plate when it is still hot to prevent burning your hands. The build plate can reach temperatures of over 100 °C.

2. Open the glass door.
3. Hold the flexible build plate at the tabs at the front, lift it up, and slide it out of the printer.
4. Carefully bend the plate underneath the printed object until it detaches from the build plate.

Tip: Take measures to prevent the printed object from falling and getting damaged when removing it from the flexible build plate.

If the object does not detach by bending the plate, you can use a spatula or scraper. Carefully insert the spatula or scraper under the print, parallel to the build plate, and apply some force to remove the print.

Warning: Only use plastic tools with round edges. Metal tools may damage the surface of the flexible build plate. The edges of the model or brim can be sharp. Wear protective gloves to prevent injury.

When the print is off the build plate, remove any brims using a deburring tool and/or remove support structures (see **section 4.6**).

Once the print has been removed and the build plate is placed back in the printer, select *Confirm removal* on the display of the UltiMaker Factor 4. This will allow the next print job to start.

4.6 Remove support material

If your object was printed using support materials, these need to be removed. How to remove support structures depends on the material used.

PVA support

PVA support structures can be removed easily by dissolving the PVA in water and leave no trace afterward. Dissolving PVA can take up to several hours.

Tip: Experience quicker and easier post-processing when using PVA support material with the UltiMaker PVA Removal Station. The PVA Removal Station removes PVA up to 4x faster compared to motionless water. Learn more here.

1. Submerge the print in water to let the PVA dissolve.
2. Rinse the print with clean water to remove any excess PVA.
3. Let the print dry completely.
4. Dispose of the wastewater.

Note: PVA is a biodegradable material. However, please check local regulations for more comprehensive guidance on wastewater disposal or visit this support page for additional information.

It is possible to use the water for more than one print, but this might extend the dissolving time. Through repeated use, water becomes saturated by previously dissolved PVA. For the quickest result, fresh water is recommended.

Breakaway support

UltiMaker Breakaway support material is optimized to snap off easily from the object. Follow the steps below:

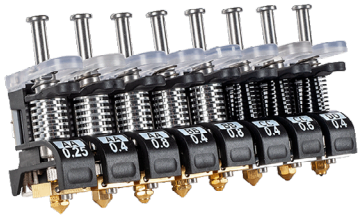
Warning: The support structures can be sharp. Wear protective gloves to prevent injury, especially when working with larger models.

1. Tear away most of the inner support structure using pliers.
2. Use cutting pliers to grip the Breakaway support interface and pull it away from the model.
3. Remove the last traces of the Breakaway support using cutting pliers or tweezers.

Tip: Similar steps can be used to remove support structures printed with build materials. However, these structures can be more difficult to remove and leave more scarring on the model.

4.7 Change configuration

Change print cores



The UltiMaker Factor 4 uses two print cores in the print head, which can easily be changed. There are different types of print cores:

- **Type AA:** for printing build materials and UltiMaker Breakaway material
- **Type BB:** for printing water-soluble support material
- **Type CC:** for printing composite materials
- **Type DD:*** for printing Ultrafuse® Support Layer material (in combination with the Metal Expansion Kit)
- **Type HT:** for printing high-temperature materials such as UltiMaker PPS CF

***Note:** The DD print core and Ultrafuse® Support Layer material are only available in selected regions.

The print cores contain information on a small chip so that the printer always knows which print cores are installed and which materials can be used with these cores.

Tip: Learn more about print cores and their compatibility on support.ultimaker.com.

Print cores can be easily changed on the UltiMaker Factor 4 by using the procedure from the menu. You can also choose to only load or unload a print core. The printer will guide you through the steps.

1. In the *Configuration* menu, select the print core you want to change and select *Change*.
2. Wait for the print head to stop moving before opening the glass door of the build chamber.
3. Gently open the print head bracket. Select *Confirm* when completed.
4. Squeeze the print core lever upward and slide the print core out of the print head.

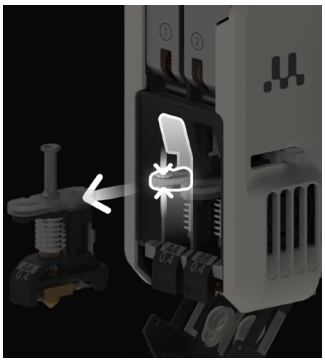
Note: Do not touch the contact points on the back side of the print core with your fingers. Always only hold the print core at the levers.

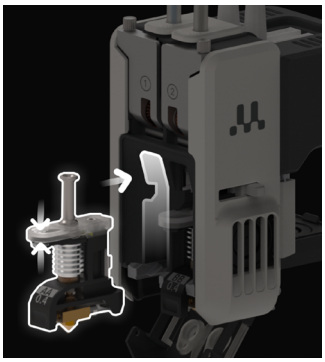
5. Insert a different print core by squeezing the lever upward and sliding it into the print head slot until you hear a click.
6. Close the bracket and select *Confirm* when completed.

Note: Keep hands out of the build chamber after selecting *Confirm* as the print head will move back to its home position.

7. Close the build chamber door again.

Tip: The printer will automatically detect the type of print core that was installed.





Change materials

Changing materials in the UltiMaker Factor 4 is easy and intuitive. This is possible for pre-loaded materials during printing as well as in an idle state.

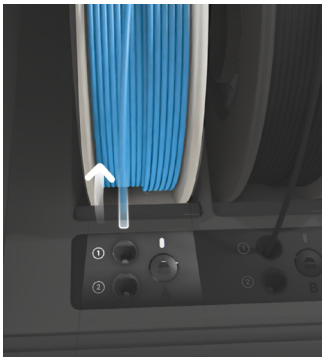
1. In the *Configuration* menu, select the material you want to change and select *Change*.
2. Open the glass door of the Material Station.
3. Press the eject button of the corresponding material bay to eject the pre-loaded filament.
4. Remove the material spool from the material bay. Put the end of the filament through one of the holes in the spool to prevent unwinding.
5. Take a new spool and use the wire cutters to ensure the filament has a short, sharp tip before loading the filament.
6. Place the spool of filament into the material bay with the NFC tag on the left side.
7. Insert the tip of the material into filament entry port 1 or 2 until the prefeeder grabs the material.
8. Wait for the Material Station to detect the material and select *Confirm* to continue.

Tip: When using a third-party material, you can select the material type manually.

9. Close the Material Station door again.

The materials will remain pre-loaded in the Material Station and will be automatically forwarded to the print head when a print is started.






Tip: You can pre-load any material, even if no compatible print core is currently installed in the print head. You can change the print core type later. The printer will show a configuration change prompt when a print job is started.

4.8 Calibrations

The UltiMaker Factor 4 is a dual-extrusion printer with a unique nozzle lifting system. For accurate positioning and dual-extrusion prints, the XY offset, gantry, and the position of the switch bay must be calibrated.

Tip: No manual calibration of the build plate is required; the active leveling process is performed automatically at the start of every print.

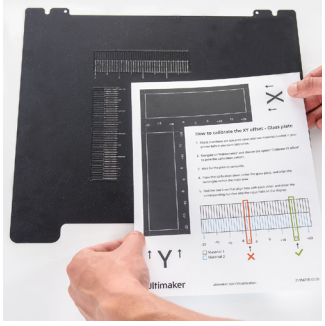
Caution: When performing any of these calibration procedures, always keep hands clear of the build volume until all components have stopped moving.

XY calibration

The horizontal distance between the nozzles of the two print cores in the X and Y directions needs to be configured. A correct XY calibration will ensure that the two colors or materials align well.

The print cores that are supplied with the UltiMaker Factor 4 are already calibrated. For any new combination of print cores, an XY offset calibration must be performed. The printer will then store this calibration value internally.

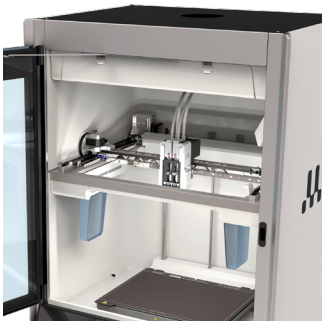
Ensure two print cores are installed before starting the calibration and there is at least one material pre-loaded for each extruder. You will also need the XY calibration guide as a reference.



Start this calibration when prompted, or, in the *Options* menu, go to *Maintenance* → *Print head* → *Calibrate XY offset* and select *Start calibration*. Follow the instructions on the display and on the paper calibration guide to enter the correct offset values.

Tip: Find detailed instructions on how to perform this calibration in this support article.

Gantry calibration



The movements of the print head in the X and Y directions are controlled by the gantry. The UltiMaker Factor 4 can run a gantry calibration procedure to achieve optimal dimensional accuracy.

In the *Options* menu, navigate to *Maintenance* → *Frame & motion* → *Calibrate gantry*. Follow the instructions on the display. This calibration is done automatically and does not require input from the user.

Tip: Find detailed instructions on how to perform this calibration in this support article.

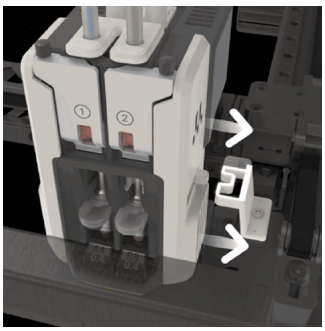
Purge location calibration

Before and after each print, the print cores are primed above the purge buckets. The position of the nozzle should be accurately aligned with the rubber above the purge buckets. For this calibration, both print cores must be installed, the nozzle tips should be clean, and you need a small mirror.

In the *Options* menu, navigate to *Maintenance* → *Frame & motion* → *Calibrate purge location*. Follow the instructions on the display.

Tip: Find detailed instructions on how to perform this calibration in this support article.

Lift switch calibration



The switch bay in the front-right corner of the gantry enables the second print core to be lifted and lowered. It is important that print core switching functions well for active leveling and a correct nozzle alignment in dual-extrusion prints.

The lift switch is already calibrated at the factory, but calibration can also be performed manually if needed.

In the *Options* menu, go to *Maintenance* → *Print head* → *Calibrate lift switch* and select *Start calibration*. Follow the instructions on the display and use the controls to align the position of the print head.

Tip: Find detailed instructions on how to perform this calibration in this support article.

5 Maintenance

The UltiMaker Factor 4 is designed for constant productivity. Learn how to keep your printer up to date and perform regular preventive maintenance to ensure your printer remains in optimal condition.

5.1 Update the firmware

Periodically, a new firmware version is released. To ensure that your UltiMaker Factor 4 is equipped with the latest features, it is recommended to keep the firmware updated.

Update over the network

If the UltiMaker Factor 4 is connected to a network, it automatically checks for available firmware updates. When new firmware is available, the printer will prompt you to download and install it via the touchscreen interface. Alternatively, check for updates manually under *Printer tasks* or in the *Options* menu, under *Maintenance* → *Update firmware*.

Wait for the UltiMaker Factor 4 to finish updating the firmware. The printer will restart.

Note: Do not power off the printer during the firmware installation.

Update using a USB stick

If your UltiMaker Factor 4 is not connected to a network, you can update to the latest firmware via USB. The firmware files are found on the UltiMaker website:

1. Go to the Factor 4 Firmware. support article.
2. Download the firmware file and store it in the root directory of a USB stick.
3. Insert the USB stick into the USB port of the printer.
4. In the *Options* menu, go to *Maintenance* → *Update firmware* and select the new firmware in the menu.

Wait for the UltiMaker Factor 4 to finish updating the firmware. The printer will restart.

Note: Do not power off the printer during the firmware installation.

5.2 Material handling and storage

Opened material spools must be stored properly when not in use. If material is stored incorrectly, it may affect its quality and usability.

The optimal storage temperature for PLA, Tough PLA, PETG, PET CF, CPE, CPE+, PC, Nylon, PP, TPU 95A, and Breakaway is between -20 °C to +30 °C. Store ABS between 15 °C and 25 °C and PVA between 10 °C and 30 °C. Furthermore, a relative humidity of below 50% is recommended for PVA, Nylon, and TPU 95A. If these materials are exposed to a higher humidity, the quality of the material can be affected.

Store all materials cool and dry, out of direct sunlight, and in a re-sealable bag with the silica gel desiccant provided. Store PVA immediately after use to minimize moisture uptake.

The Material Station can be used to store up to six spools of material. While the Material Station receives power and the door is closed, the relative humidity is kept below 15%. This means opened spools can be safely stored in the Material Station.

5.3 Preventive maintenance schedule

Only a few regular maintenance actions are required for optimal performance of the printer. The following preventive maintenance schedule is based on 3000 printing hours per year.

Tip: If the usage frequency is higher, we recommend performing more frequent maintenance on your printer to ensure optimal printing results.

Note: Maintenance actions shall only be performed by an adult. Carefully follow the provided instructions. Ensure the printer is unable to accept new print jobs while performing maintenance.

Every print *(or when necessary)*	Clean the printer	Keep the printer clean for optimal printing results. This includes the flexible build plate, nozzles, glass components, purge buckets, and bottom panel.
Every 3 months *(or 750 printing hours)*	Lubricate the lead screw	Clean the lead screw using a cloth or paper towel, then re-apply a small amount of grease. Move the build plate up and down to equally distribute the grease.
	Check the nozzle cover	The nozzle cover shields the print cores from cold airflow from the fans. Check both sides of the cover for tears or damage from heat. If it is damaged, replace the nozzle cover.
	Clean the feeders	Open the material feeders in the print head and use a small brush to clean the feeder grip wheels for optimal performance and reliability.
	Tension the belts	Loosen each of the four belt tensioner bolts, check that the indicator is within the indicated range, then retighten the bolts.
Every 6 months *(or 1500 printing hours)*	Check the purge rubbers	The nozzles are wiped on the purge rubbers during the prime/deprime process. Check if these parts are worn and replace them if necessary. High-temperature materials like PPS CF can increase wear.
	Lubricate the Z shafts	Clean the Z shafts using a cloth or paper towel, then re-apply a small drop of oil to the Z shafts. Move the build plate to equally distribute the oil.
	Lubricate the linear guide rails	Clean the linear guide rails on the X beam and either side of the gantry with a cloth or paper towel, then apply a small amount of lubrication. Move the print head left and right to equally distribute the lubricant.
Every year *(or 3000 printing hours)*	Check the Bowden tubes	Materials can slightly scratch the inside of the Bowden tubes and the ends of the tubes can get damaged by the tube coupling collets. Check them once a year and replace them when they are damaged.
	Replace the air filter	The Air Manager filter should be replaced after 3000 hours. Open the filter box to take out the used filter and place it in a (resealable) bag. Install the new filter and close the filter box.

Tip: For detailed instructions on how to perform each maintenance action, visit support.ultimaker.com or go to the UltiMaker Digital Factory.

5.4 Flexible build plate maintenance

Keep the surface of the flexible build plate clean for the best results. Clean the surface of the flexible build plate using a (microfiber) cloth and > 95% isopropyl alcohol (IPA). Always let the plate cool down before cleaning.

Caution: IPA (CAS nr. 67-63-0) is a hazardous, highly flammable substance. Keep away from heat, sparks, static discharge, and other potential ignition sources. Ensure good ventilation and avoid inhaling vapor. Read the SDS from your IPA supplier to learn more about the risks and safety precautions.

Important notes for cleaning:

- Do not use other cleaning agents, such as acetone, petrol, or thinner for cleaning. This will permanently damage the surface of the flexible build plate.
- Do not clean the flexible build plate with water. Thoroughly dry the plate with a (microfiber) cloth if it has come into contact with water.
- Do not use scouring pads or other tools that may scratch the surface of the flexible build plate.

Tip: For more information about the flexible build plate, including handling and maintenance, go to ultimaker.com/flexplate.

5.5 Print core maintenance

UltiMaker print cores should be cleaned periodically for optimal print results. Material can sometimes get stuck inside the nozzle and degrade. This can cause extrusion problems, or even completely block the print core. Some materials are more prone to degradation and blocking the nozzle, such as PVA and composite materials.

Tip: The recommended frequency for cleaning the print cores depends on the type of core and the materials used. For an overview per print core type, visit this support page.

The printer contains a guided process for cleaning the print core. You will need a stick of cleaning filament and wire cutters. In the *Options* menu, navigate to *Maintenance* → *Print head* → *Print core cleaning* to get started. Follow the instructions on the display.

Hot surface warning: Do not touch the nozzles during this process as they will become hot.

6 Troubleshooting

If you are experiencing problems with the UltiMaker Factor 4, UltiMaker is ready to assist with comprehensive troubleshooting information and repair guides. If a problem cannot be resolved using our online knowledge content, submit a support case to contact our technical support team.

6.1 UltiMaker support

If you are experiencing difficulties with an UltiMaker product, please visit our knowledgebase at support.ultimaker.com. Here, you find a lot of information about UltiMaker's hardware, software, materials, and more. Navigate to your product to learn more. Alternatively, type a question or subject in the search bar to directly find relevant articles.

If you can't resolve the problem with our support articles, get in contact with our support team. Submit a support case and describe the situation. A support agent will help to quickly resolve the issue. Include as much relevant information about your product and issues as possible, such as:

- **Serial number.** This starts with BPP- and is found on the printer's back panel.
- **Log files.** Go to *Options* → *Maintenance* → *Diagnostics* → *Save log files to USB*.
- **Error message(s).** If applicable, include the ER code or the message on the display.

6.2 Error messages

When the UltiMaker Factor 4 detects that something is wrong, or when it reads values outside of the allowed range, an error will occur. The display will give a short description of the detected issue along with its unique error code.

Scan the QR code or navigate to the specified page to learn more and for troubleshooting tips.

Some errors require immediate attention. All processes will be interrupted and the UltiMaker Factor 4 must be rebooted or, in some cases, repaired before operation can continue. Other messages can be temporarily ignored and will let the print finish. It is always recommended to visit the support article or contact support for more information before starting a new print.

6.3 General recommendations

To ensure optimal performance of the UltiMaker Factor 4 and to prevent problems, note the following:

- **Maintenance.** Perform all preventive maintenance actions timely and correctly, following the provided schedule and instructions.
- **Calibrations.** Ensure the UltiMaker Factor 4 is correctly calibrated. Perform calibrations when prompted by the printer, or as described in the repair or maintenance instructions.
- **Firmware.** New firmware versions will be released periodically. Keep your printer's firmware updated to ensure the UltiMaker Factor 4 is equipped with the latest operation and safety features.
- **Materials.** Store opened material spools well when not in use. Only use high-quality materials that can be printed within the limitations of the printer. Check the Marketplace for compatible profiles.
- **Software.** UltiMaker Cura has preset, tested profiles for all UltiMaker materials, and additional profiles for third-party materials can be downloaded from the Marketplace. Revert back to one of the standard profiles in case of print quality issues.

Tip: For additional help on print quality problems, error messages, or any other problem you might experience with your UltiMaker Factor 4, go to support.ultimaker.com or submit a support case.

7 Limited Warranty

UltiMaker offers a limited warranty on new units of the UltiMaker Factor 4 3D printer. Find all the terms and conditions here.

7.1 General

This limited warranty ("**Limited Warranty**") applies to the UltiMaker Factor 4 3D printer ("**Product**") in the country where the Product was purchased. UltiMaker warrants to the first end user ("**End User**") that the Product conforms to the Product specifications published in the user manual, and is free from defects in material, design, and workmanship for a period of twelve (12) months from the date the Product is delivered to the End User (the "**Warranty Period**"). Only the End User is eligible to submit a warranty claim.

For a warranty claim to be valid: (i) notification must be made during the Warranty Period, (ii) the claim must be substantiated with the original customer's purchase invoice, and (iii) the serial number sticker must still be on the Product(s).

This Limited Warranty does not affect an End User's statutory warranty or guarantee rights; it is granted in addition thereto. The End User may claim the rights to which they are entitled under the Limited Warranty without prejudice to their rights or claims in accordance with the law.

7.2 Conditions

The Limited Warranty applies to a Product under the following conditions:

- The Product was sold, delivered, and assembled by UltiMaker or a recognized UltiMaker reseller (collectively "**Authorized Party**" or "**Authorized Parties**").
  See ultimaker.com/resellers for a list of authorized resellers of UltiMaker products.
- The Product was newly manufactured on the date of purchase and not sold as used, refurbished, or manufacturing seconds.
- UltiMaker's latest software was installed and used in and with the Product.
- UltiMaker installation and maintenance instructions as described in the manual for the Product have been observed.

If a part of the Product is repaired or replaced during the Warranty Period, the remaining Warranty Period for the Product applies. However, repair and/or replacement will not extend the Warranty Period for the part or Product.

7.3 Claim handling

Any notification on the basis of this Limited Warranty must be made to the Authorized Party the Product was originally purchased, even if this is not in the customer's present country of residence.

UltiMaker will assess warranty claims to determine their validity. If the claim is justified, UltiMaker or the reseller shall rectify the defects by repairing or replacing the non-conforming or damaged part(s) of the Product in a commercially reasonable time. If repair is not feasible, the reseller will replace the Product with an identical one, or if unavailable, with a similar Product of equal value, or offer a suitable refund.

Only ship the Product in its original packaging if it must be returned for warranty purposes. It is advised to retain all packaging materials. If the original packaging is not available anymore, replacement packaging can be purchased from a recognized UltiMaker reseller. For returning service modules, such as the gantry or Material Station, packaging will be provided.

Please note that the Limited Warranty may not cover expenses associated with shipping Product(s) for inspection and/or repair, on-site visits for inspection and/or repair, or shipping replacement or repaired Product(s) to the End User.

7.4 Exclusions

This Limited Warranty does not apply to and therefore does not cover:

- Any defect or damage caused by inappropriate, incorrect, or improper use, installation, maintenance, operation, and cleaning, or normal wear and tear. For correct use, reference is made to the manual of the Product.
- Consumables, such as the print cores (when the issue is caused by user error or regular wear) and the Bowden tubes.
- Damage caused by third-party software, materials, or add-ons*.
- Any other event, act, default, or omission outside UltiMaker's control.

This Limited Warranty does not extend to products purchased from unauthorized resellers.

* Users are permitted to use third-party materials and accessories without voiding the Limited Warranty. However, if any damage to the product arises from the use of third-party elements, the affected part(s) will be excluded from Limited Warranty coverage.

7.5 Limitations and disclaimers

THIS LIMITED WARRANTY IS THE END USER'S SOLE AND EXCLUSIVE REMEDY AGAINST ULTIMAKER WHERE PERMITTED BY LAW. EXCEPT FOR THIS LIMITED WARRANTY, ULTIMAKER MAKES NO OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE, WITH REGARD TO THE PERFORMANCE OF ANY PRODUCT. WITHOUT LIMITATION OF THE FOREGOING, ALL IMPLIED WARRANTIES, INCLUDING WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXCLUDED. ULTIMAKER WAIVES ALL LIABILITY FOR ANY INDIRECT, INCIDENTAL, COLLATERAL, EXEMPLARY, PUNITIVE, SPECIAL, OR CONSEQUENTIAL DAMAGES, INCLUDING LOSS OF USE OR LOSS OF PROFITS, EVEN IF ULTIMAKER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH CLAIMS OR DAMAGES. ULTIMAKER'S LIABILITY IS LIMITED TO THE PURCHASE VALUE OF THE PRODUCT.

7.6 Applicable law and competent court

This Limited Warranty is exclusively governed by Dutch law. Any dispute arising out of or in connection with this Limited Warranty will be exclusively submitted to the jurisdiction of the court (Rechtbank) of Midden-Nederland, location Utrecht.

Contact and links

Do you have a question about the UltiMaker Factor 4 or compatible products? Find a list of links below with more information or submit a support case.

Support

support.ultimaker.com

Visit our knowledgebase for information about all UltiMaker products.
You can also contact our support team by submitting a case.

Resellers

ultimaker.com/resellers

Find a reseller near you to buy an UltiMaker product or receive support in your language.

Compliance and regulatory information

ultimaker.com/compliance

Find important compliance and regulatory information about UltiMaker hardware, software, and materials, or download certifications.

UltiMaker.com

ultimaker.com/contact-us

Visit the UltiMaker website for general enquiries or sales information, find our business information, or fill out the contact form.

UltiMaker