

Epitum

USER MANUAL

EPITUM JL



INTRODUCTION

Dear Customer

We are happy to welcome you among the owners of Epitum JL. Your 3D printer has a user-friendly interface and up-to-date printing control functions. Therefore, it can be used both by experienced engineers and those who are just discovering the world of additive technologies.

3D printing is a sophisticated process that involves many factors. We have prepared this detailed User Manual to make your interaction with the printer as easy, intuitive, and safe as possible. It describes all the main components, 3D printer functions, and menu settings; plus, the principles and fundamentals of working with various materials, as well as recommendations for using the device. Key information is highlighted with frames:



This frame highlights important warnings about working with Epitum JL.



This frame highlights notes and useful references.

This Manual uses [hyperlinks](#) for quick and easy access to sections.

Please read the entire User Manual before using Epitum JL. For any technical issues, please contact us by e-mail at support@epitum3d.com.

**We wish you success in the implementation
of your ideas and projects!**

Epitum

The pictures used herein are part of the product's graphical image and may differ from the actual appearance of the device.

The description of the menu contents, the list of errors, and the device's features may vary depending on the 3D printer firmware version used.

The manufacturer is not responsible for any actions deviating from those described in this Manual.

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SAFETY AND PRECAUTIONS



Do not use Epitum JL to store foreign objects. Foreign objects in the printer's working area can damage Epitum JL's components.



Do not use Epitum JL to heat up food or other items



Do not expose Epitum JL to external temperature effects and/or liquids, gases, electric and/or magnetic fields, which can damage the device's electronic and/or mechanical components.



Do not use the 3D printer in a humid or dusty environment. Follow the requirements for the workplace.



During operation, the device may produce a specific smell of molten filament. This is a feature of the printing process. We recommend using the 3D printer in a well-ventilated area. Do not leave the working printer unattended.



Epitum JL is not intended for use by the disabled, unless they are supervised by a person who is responsible for their safety.



It is forbidden to use Epitum JL by persons under the influence of alcohol, drugs and/or other intoxicants.



Handle the 3D printer carefully — it includes electronic components and mechanical parts that can be damaged if hit or dropped.



Some 3D printer parts operate at a high temperature. To avoid burns, be careful not to touch heated surfaces while printing and servicing the device. Wait at least 10-15 minutes for the unit's heating elements to cool down before opening the lid.



Some 3D printer parts are moving. To avoid personal injury and device malfunction, do not interfere with the movement of the 3D printer units during operation.

SAFETY AND PRECAUTIONS



Do not use non-original spare parts and do not attempt to repair it on your own — this can lead to device failure.



Do not seek third-party advice on the operation of the 3D printer.
Our official contact details are:

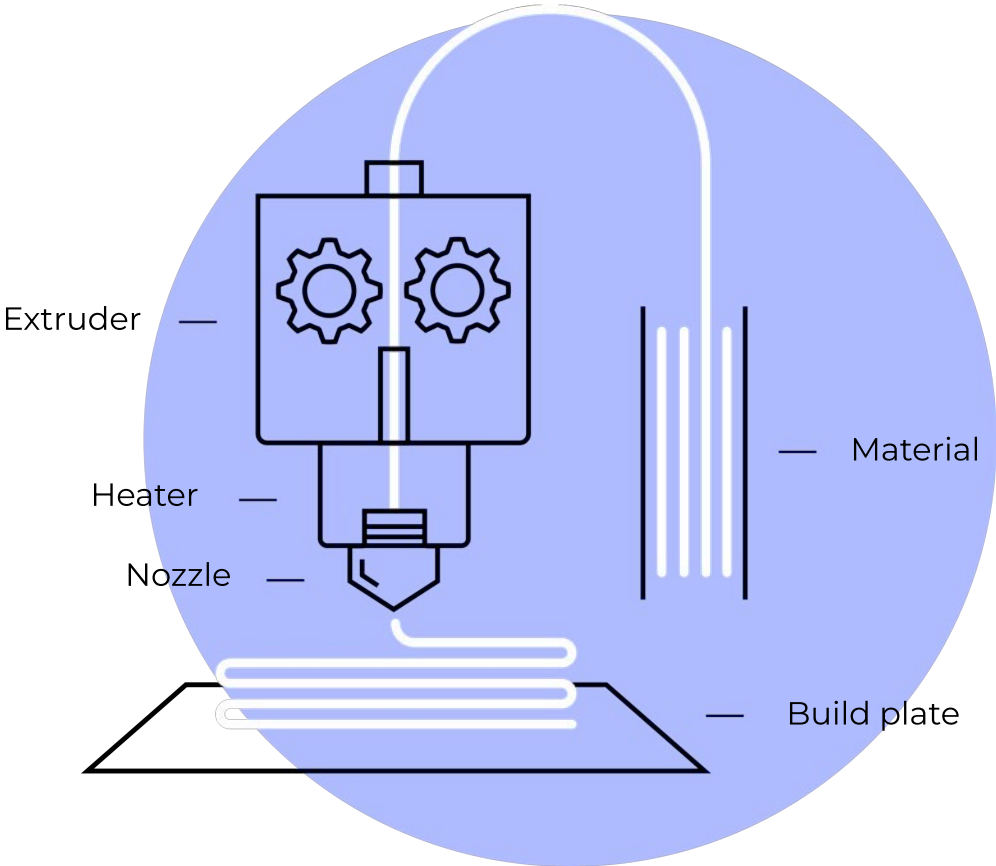
support@epitum3d.com — technical support

sales@epitum3d.com — sales department

info@epitum3d.com — for general enquiries

HOW EPITUM JL WORKS

Epitum JL operates using fused filament fabrication (FFF) technology. The principle of the technology is to melt a thermoplastic polymer filament and to build a layer-by-layer model based on a previously prepared task.

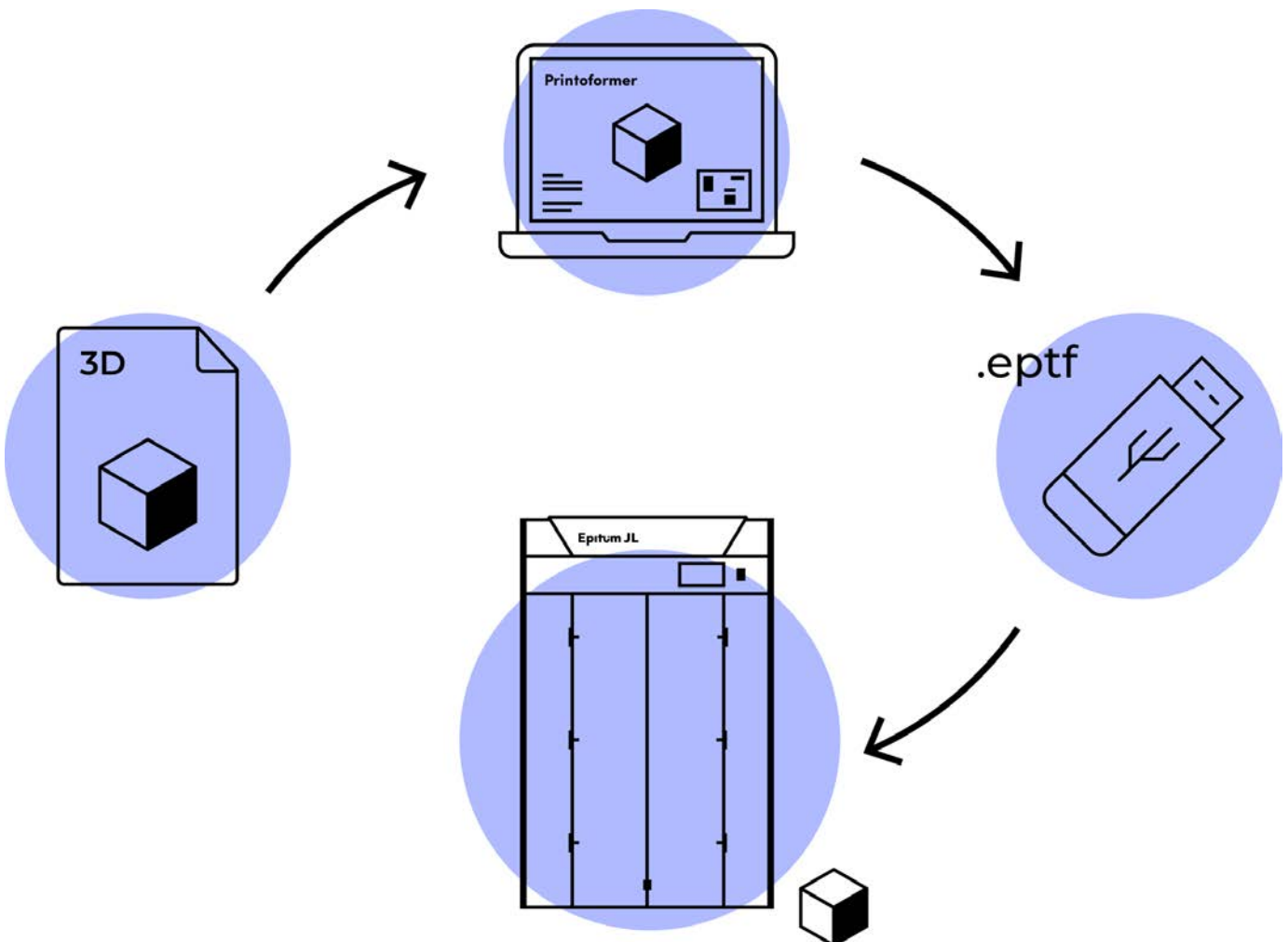


HOW EPITUM JL WORKS

Epitum JL is a 3D printer which is in the Epitum Platform-based product line. When you master it, you will be able to work with any devices based on the Epitum Platform.

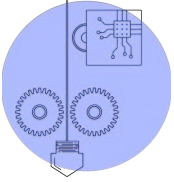
To get started, you need a 3D model in one of the following formats: **.stl**, **.obj**, **.3ds** or **.amf**. The model should be uploaded on a personal computer (PC) via Printoformer software (supplied free of charge), which converts it to a printing task file in **.eptf** format with a set of control commands to operate Epitum printers.

To start printing on Epitum JL, you should save the .eptf file to a USB stick (supplied in the starter kit). File saving can be done remotely using Printoformer via Ethernet or Wi-Fi connection.



EPITUM PLATFORM

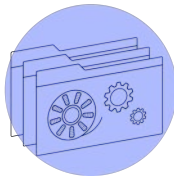
Epitum Platform is a collection of software and hardware solutions for 3D devices by Epitum designed for additive manufacturing purposes.



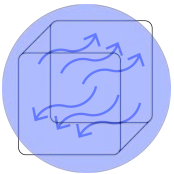
End-of-Filament and **Filament Flow Control** systems with built-in sensors detect the filament availability and the flow. Based on the data obtained, Epitum JL carries out **self-testing** and, in case of an abnormal situation due to the filament absence or uneven flow, automatically starts the troubleshooting procedure. If the abnormal situation persists, the printing process is suspended and the printer waits for user's actions.

Example: The filament runs out on the spool or breaks off during printing: Epitum JL pauses operation, reports lack of material, waits for the filament to be reloaded, and continues printing.

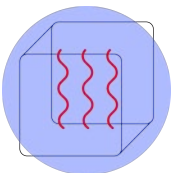
If the nozzle is completely or partially clogged during printing, the material flow is stopped or impeded: Epitum JL will detect a change in the uniform flow, pause printing, and start the automatic high-temperature nozzle cleaning procedure. If the nozzle cleaning is successful, the printer continues printing; otherwise, printing is paused, and Epitum JL informs the user about the problem.



The Profile System stores parameters for working with materials in the printer memory. The profile settings are used **to control the layer time**, which enables maintaining high-quality surfaces when printing small models; as well as **to control the temperature** of radiators, which avoids overheating of the filament above the thermal barrier and protects the material in the feed channel from degradation. To start printing, the user selects a material profile based on the filament loaded. There is no need to prepare different printing tasks for different filaments, as the profile system allows you to use the same task in .eptf format for any thermoplastic filament.



The adaptive **air circulation system** uses data from material profiles to create optimal conditions for printing and to avoid a temperature gradient inside the 3D printer chamber and to prevent temperature fluctuation inside.



Active chamber heating provides the necessary conditions for working with most materials, improves interlayer adhesion and reduces shrinkage of the material.

EPITUM PLATFORM



The printing surface control system in most cases makes it possible to detect in a timely manner if the printed model is not securely attached to the platform or if a foreign object is present when printing the current layer. If an item comes unstuck or the printed layer has the wrong shape, the printer will pause printing until the user intervenes.

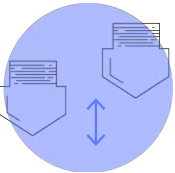


Integrated **speed modes**. Before the printing starts, the user selects a speed mode in accordance with the expected result. It makes it possible for the same task in .eptf format to be printed at different speeds without preparing a new printing task.



Hot swap mode. Epitum JL automatically switches the nozzle to the second one and continues printing in case of blockage or if the material runs out in the first one.²

Nozzle swap mode allows you to print the same task by swapping nozzle destinations. The trajectories assigned to nozzle 1 in the task file will be printed by nozzle 2, and vice versa.



The nozzle height control system automatically allows for a difference in the height of nozzles relative to each other in case of dual-material printing and makes the appropriate adjustment to the platform height. This system allows for high quality of dual-material printing.



Printer status can be monitored both from the printer display and through the **local network** via Ethernet or Wi-Fi network connection. There is one piece of software that is used to control all Epitum Platform devices — **Printoformer**. When connecting several printers via a LAN router, you can monitor all connected printers and control the printing process on one window tab of Printoformer.



The notification system allows you to define the device status remotely, even on a PC screen when working via network.

² Only when printing a task prepared for one nozzle and if the same material profile is selected for the second nozzle.

EQUIPMENT SPECIFICATIONS

PRINTING

Printing technology

Fused Filament Fabrication (FFF)

Nozzle-switching technology

JetSmart™

Number of extruders

1

Number of nozzles

2

Build Volume

360 x 360 x 610 mm

Print speed (performance)

up to 130 cm³/h

Minimum layer thickness

10 microns (0.01 mm)

Filament diameter

1.75 ± 0.1 mm

Nozzle diameter

0.2 – 0.8 mm (0.5 mm in toolkit)

Extruder maximum printing temperature

430 °C (806 °F)

Heated bed maximum temperature

150 °C (302 °F)

Positioning resolution

11 x 11 x 1.25 microns

MANAGEMENT

On the 3D printer

5" touchscreen

Remote

From Printoformer on network connection

SOFTWARE

Printoformer

File types

*.stl, *.obj, *.3ds, *.amf, *.eptf, *.ppf, *.ppl, *.plgs

PRINTING MATERIALS

PLA, ABS, ABS CF, ABS GF, PC, ABS PC, HIPS, HIPS GF, PET, PETG, TPU, TPU CF, PVA, PPX, PA (NYLON), PA6, PA6-CF, PA12, PA12-CF, PA66, PA66-GF, PP, PSU, PEI ULTEM 9085, PEEK, ASA, PMMA, SAN, WAX, SBS and other materials, including those filled with glass and carbon fiber

PHYSICAL CHARACTERISTICS

With / without box

Printer dimensions (HxDxW)

76 x 68 x 118 cm / 65 x 65.5 x 100 cm

Weight

92 kg / 75 kg

MECHANICS

Casing

Aluminium composite

Frame

Steel (3 mm)

Heated bed construction

Aluminium, glass

Guides

XY cylindrical (steel)

Z cylindrical (steel)

ELECTRICITY

Networking

220V ± 15% 50 Hz (optional 110V ± 15% 60 Hz)

Maximum power consumption

2200 W

Interfaces

Ethernet, Wi-Fi, USB (flash drive in toolkit)

FEATURES

Primary systems

Filament Flow Control
End-of-Filament Sensor
Print Surface Control
Fast-Switch Mode
Built-In Profile System
Nozzle Swap Mode
Hot Swap Mode
Network Printing
Leveling before print mode

Additional features

Filament drying mode
Printer status notification system
Auto-control operation of all systems

Build plate Leveling

Automatic leveling

EPITUM 3L

UNPACKING

WORKPLACE

The workplace for the 3D printer must meet the following requirements:

- Ambient temperature: 15 to 30 °C (59 to 86 °F).
- Relative humidity: 30 to 65%.
- Atmospheric pressure: 720 to 790 mm Hg.
- Ventilation availability.
- Solid horizontal surface to withstand at least 100 kg load.
- Lack of direct sunlight on the 3D printer.
- Power supply 220 V ± 15% (50 Hz) with grounding.

Unpack and set up your 3D printer on a prepared workplace. Unpacking instructions are in the box with the device.



Please remember to remove nylon ties and styrofoam from Epitum JL before first use.

Leave the 3D printer unpacked at the prepared workplace for at least 24 hours — do not plug it into the power supply prematurely.



We recommend keeping the original box and transportation parts for further possible transportation of the printer.

STARTER KIT³

Examine the starter kit. It must comprise:

Available in the Epitum JL by default:

- 0.5 mm steel nozzle (x2)
- Heating unit 400 (x2)
- 8 mm glass

Spare parts:

- 0.5 mm steel nozzle (x2)
- Heating unit 250
- PTFE tube for unit 250
- Silicon cleaner (x2)
- 8 mm glass
- Thermal paste

Toolkit:

- Screwdriver Torx TX-TR
- Slotted screwdriver
- Nippers
- Box cutter
- Pliers
- Nozzle change key
- Hex key 1.5
- Hex key 2
- Hex key 2.5
- USB drive

Power cable

Filament spool (x2)

Adhesion glue spray

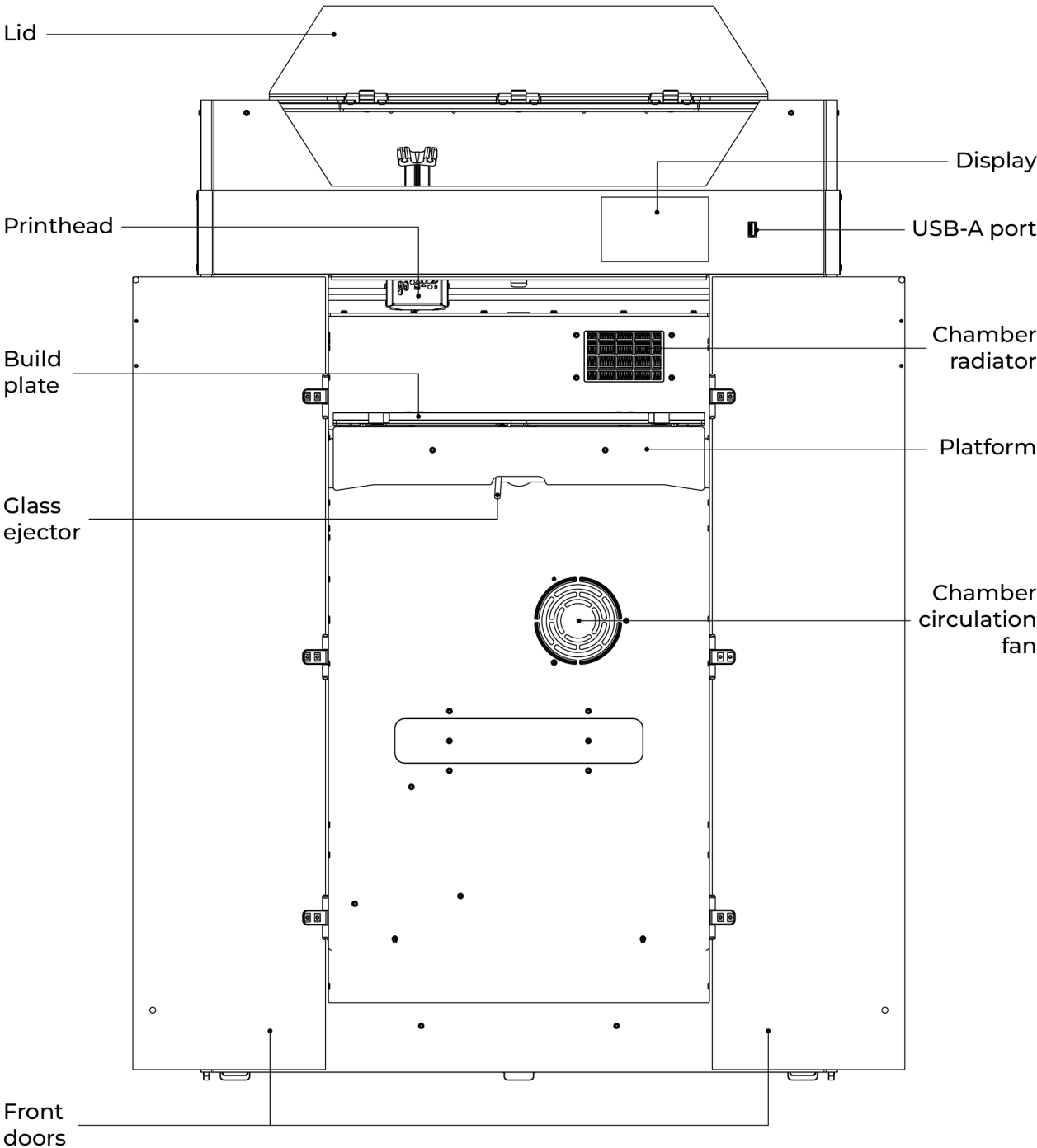
Adhesion glue stick

Gloves (pair)

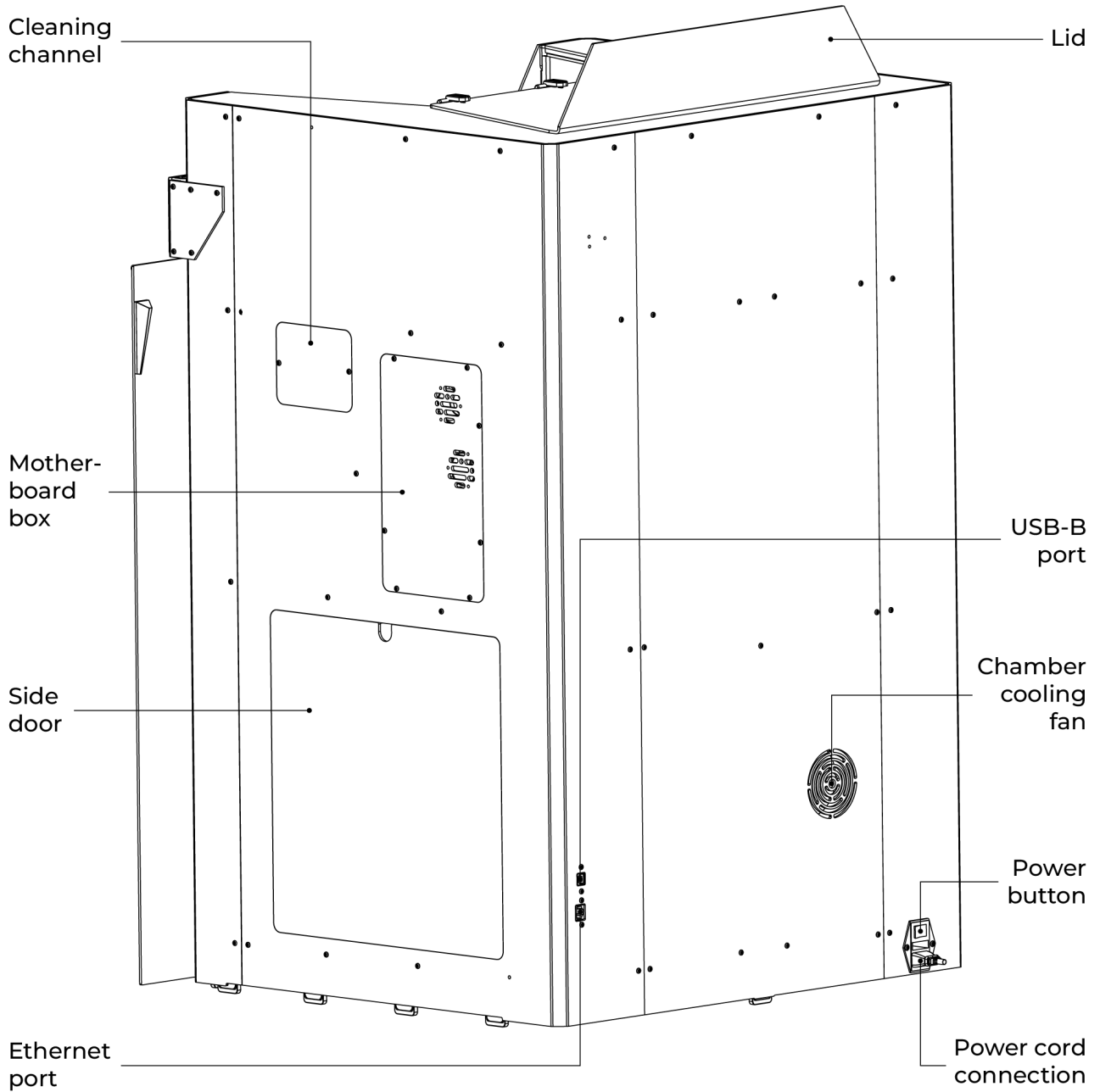
If there are any discrepancies or lack of a transportation part and ties, please take a photo and send it to us by e-mail at support@epitum3d.com. Please do not forget to include the serial number of your 3D printer.

³ *The type and configuration may be changed by the manufacturer without the user's consent, which shall not affect the declared device specifications.*

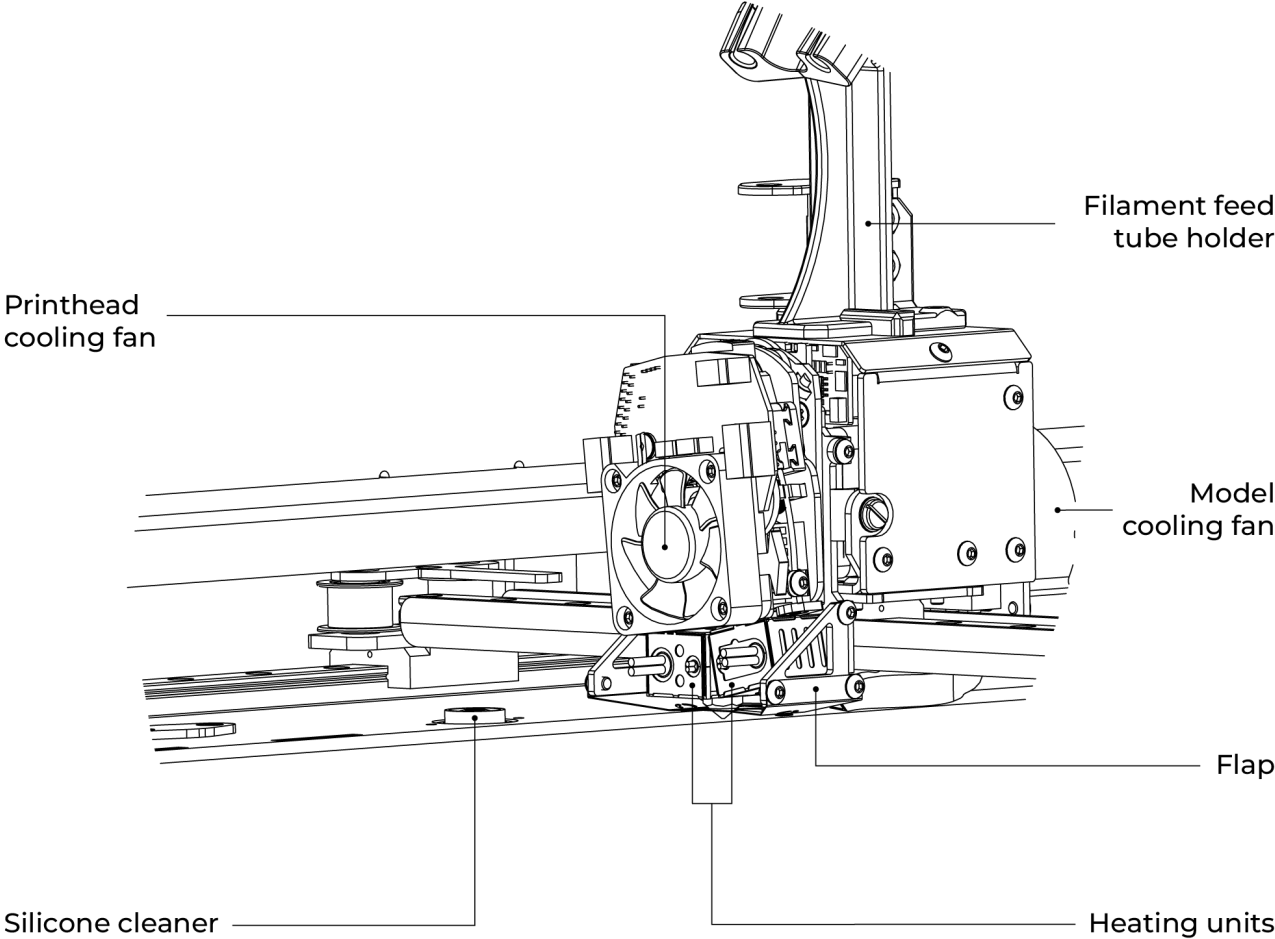
MAIN COMPONENTS OF EPITUM JL



MAIN COMPONENTS OF EPITUM JL



MAIN COMPONENTS OF EPITUM JL



LAUNCH AND ACTIVATION

Make sure all plastic locking clip parts, styrofoam and ties are removed. Hold the print head with your hand and make sure that it moves freely.

Plug the power cable into the power adapter connector at the back of the device, then plug it into a power socket 220 V \pm 15%, 50 Hz or 110 \pm 15%, 60 Hz (in compliance with your electricity network standard).

Turn the power button to position 1 — the display and the interior lighting will turn on.



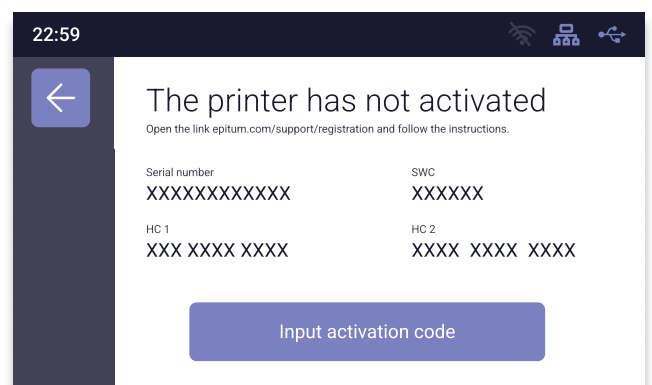
Never plug the Epitum JL into a power socket without grounding. It may cause a malfunction of the device.⁴

When you first launch the Epitum JL, you will be prompted to select an interface language. After that, the language can be changed from the printer menu. After selecting a language, the welcome window will appear on the printer screen with information about activating the device. Activation must be completed once at first launch.

To activate your new printer, go to <https://epitum3d.com/support/registration/> and sign in to your account.

Enter the displayed data from the printer screen (**serial number, SWC, HC1, HC2**) into the activation form and click "Activate".

Press "Enter activation code" on the printer screen, enter the received code and click "Activate".



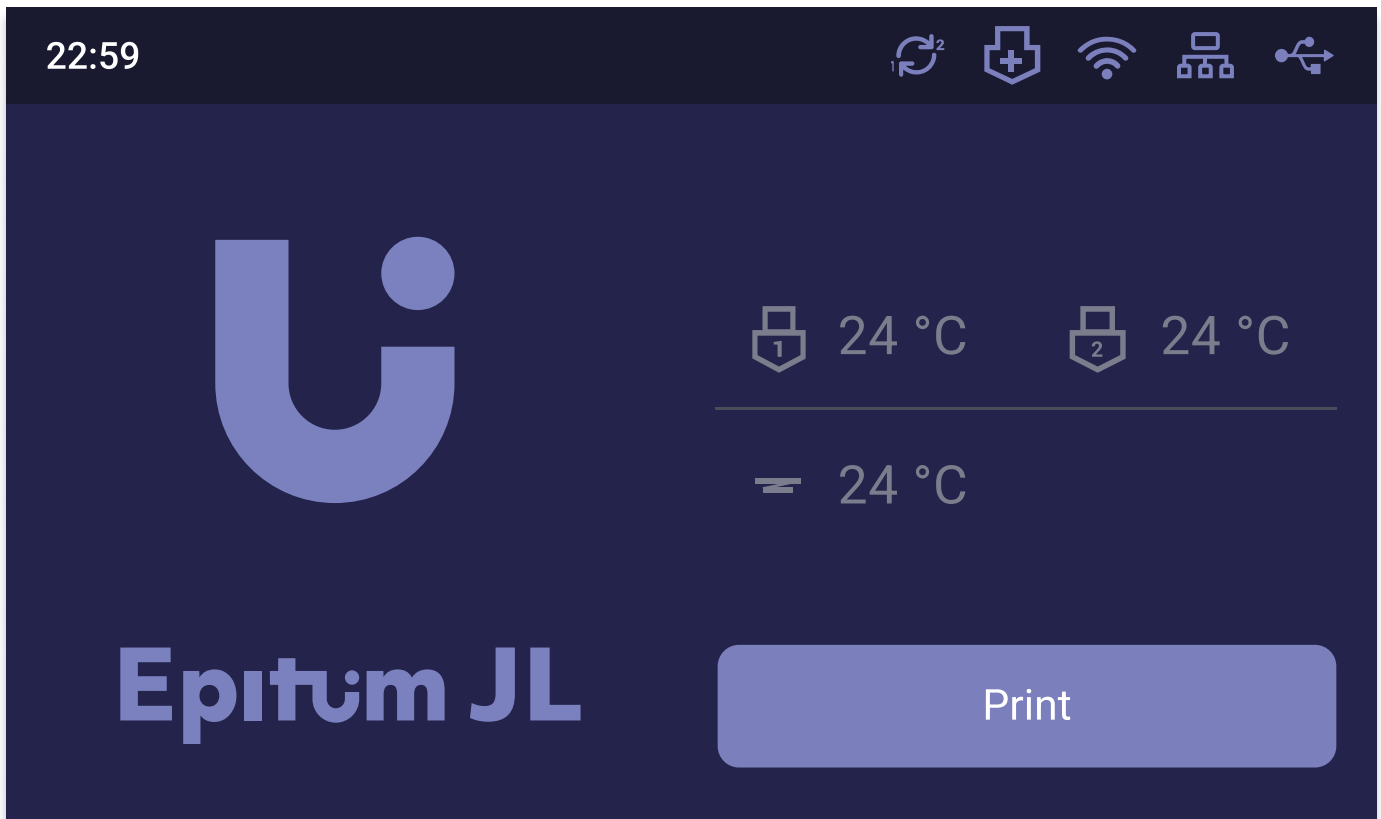
⁴ Epitum JL has heating components with a 220 V supply. Also, it is equipped with a residual-current device (RCD), which ensures the safety only if the socket is grounded.

EPITUM JL

PRINTER MANAGEMENT

EPITUM JL MENU

Epitum JL is controlled through the menu on the screen.⁵ At the top of the screen is the status bar, which displays the active systems on the device. To start printing, press "Print" on the start screen. To go to the main menu, drag the top panel by swiping from top to bottom.



Nozzle swap mode — Mode in which the trajectories that are assigned to nozzle 1 in the task file will be printed by nozzle 2, and vice versa.



Hot swap mode — When active, if the filament is clogged or runs out, the task for one nozzle will continue printing with the second if the same material profile is selected for it.



Wi-Fi connection — Shows the status of Wi-Fi connection to the network.



LAN connection — Shows the status of LAN connection to the network.



USB flash drive — Shows if a USB drive is connected to the USB port.

*(!) These last **3 icons** always appear on top of the screen and they turn into blue color if the indicated function is active.*

⁵ The Menu Interface may vary depending on the firmware in use on the 3D printer.

EPITUM JL MENU

Print

Task selection

Displays folders and files in .eptf and .gcode formats on the USB stick inserted into the printer. Allows you to select a file to start printing.

[Printlists](#)

Displays a list of tasks in the active printlist⁶ with the ability to browse all printlists uploaded to the USB drive, or to start printing (tasks in the printlists folder).



Settings

About

Displays the main printer data.

[Update software](#)

Starts the printer firmware update procedure.

System and modes

Filament flow control

ON (by default): Activates the filament flow control system.

Tolerance

Sets limits of permissible deviation of the actual consumption of material from the calculated one in percent. By default this value is 20%.

Calibrate

Calibrated by default. Starts the encoder calibration procedure for the filament flow control system by heating the nozzle up to the operating temperature in compliance with the settings of the selected profile. For the procedure to work correctly, load a filament with a stable diameter of 1.75 ± 0.1 mm.

End-of-filament sensor

ON (by default): Activates end-of-filament control system.

⁶ A printlist is a list of tasks for alternate printing. It is prepared by the Printoformer software in .ppl format when a network connection is available.

EPITUM JL MENU

- **Fast-Switch Mode**

ON (by default): When active, nozzle switching is carried out without additional cleaning.
 - **Nozzle swap mode**

OFF (by default): Activates the mode in which the trajectories that are assigned to nozzle 1 in the task file will be printed by nozzle 2, and vice versa.
 - **Hot swap mode**

OFF (by default): Activates the mode in which the nozzle automatically switches to the second one and carries on printing in case of blockage or if the material runs out in the first one.
 - **Leveling before print**

OFF (by default): Activates a mode in which, at the start of each print, the automatic platform leveling procedure will be performed first.
 - **Print surface control**

ON (by default): Activates the print surface control system. If any obstacles on the print surface are detected, the task is suspended and the message “Check the model” is displayed.
 - **nozzle switching check**

OFF (by default): When active, the 3D printer will pause printing if it detects an issue with the switching system.
 - **Chamber heating**

ON (by default): Activates chamber heating during printing. The chamber temperature is set in the material profile.
 - **Network settings**
 - **LAN settings**

Allows you to enter network connection settings manually or get them automatically via DHCP.
 - **Wi-Fi settings**

Allows you to select a network and enable Wi-Fi connection.
 - **[Device log](#)**

Displays a list of reported events, including code, description, and time of the event.
-

EPITUM JL MENU

- **Device log**
Displays a list of reported events, including code, description, and time of the event.
- **Nozzle diameters**
Opens the menu for selecting the diameter of the nozzle.
- **Language**
Allows you to change the printer interface language.
- **Backup options**
 - **Save device settings to a file**
Saves printer settings to a separate file on a USB flash drive.
 - **Restore device settings from a file**
Allows you to restore printer settings from a file on a USB flash drive.
 - **Reset device settings**
Restores all printer settings by default.⁷
- **Timezone**
Allows you to select the timezone to correctly display the time in the status bar.
- **Internal storage**
Shows how much of the printer's internal memory is occupied by printlists and material profiles.
- **Activation**
Displays printer activation status.
 - **Reset activation**
Sets the printer to the "Not activated" state.

⁷ After restoring the default settings, you should set up the printer systems:

- Assign the material profile for each nozzle from the menu "Material profiles";
 - Select the size of the nozzles from the menu "Settings > Nozzle diameters";
 - Set the Z offset from the menu "Service > Z offset adjustment";
 - Adjust the cleaning system from the menu "Service > Cleaning settings";
 - Calibrate the encoders from the menu "Settings > Systems and modes > Filament flow control > Calibrate";
 - Set the XY offset from the menu "Service > XY offset adjustment".
-

EPITUM JL MENU



Displays a list of all [material profiles](#) in the printer's memory. At the top of the list, the currently selected profile is marked with a special label. Click on the profile name to change its settings, save it to a separate file on a USB flash drive, or delete it from the printer's memory.

Import

Download from a USB drive

Allows you to select a profile in .ppf format from a USB flash drive and load it into your 3D printer.

Download from the Epitum profile database

Allows you to download material profiles from the official profile database. Active only if there is an Ethernet connection and communication from the printer is enabled.



[Build plate leveling](#)

Runs the procedure for leveling the surface of the printing platform by heating the nozzle and platform to the operating temperature of the selected profile.

[Z offset adjustment](#)

Allows you to adjust the initial position of the nozzle relative to the platform in height.

Filament services

Filament replacement

Sequentially runs filament unloading and loading procedures.

[Filament loading](#)

Starts the procedure for filament loading in the PH using the extruder gears along with heating up the nozzle to the operating temperature in compliance with the settings of the selected profile.

[Filament unloading](#)

Starts the procedure for filament unloading from the PH using the extruder gears at the unloading temperature in compliance with the settings of the selected profile.

EPITUM JL MENU

• **Hot unloading**

Starts the procedure for unloading the filament from the PH using the extruder gears by heating the nozzle up to the operating temperature in compliance with the settings of the selected profile.

• **Low-temperature cleaning**

Starts the procedure for unloading the filament from the PH without using the extruder gears at the unloading temperature in compliance with the settings of the selected profile. In some cases this function allows the feed channel to be cleared from residues of previously loaded materials. It is suitable for PLA, PVA, and PA filaments.

• **Nozzle service**

Starts the nozzle service procedure by heating up the nozzle to the operating temperature in compliance with the settings of the selected profile and moving the PH to the nozzle replacement position.

• **Cleaning settings**

• **Cleaner point adjustment**

Allows you to check and adjust the position of the nozzle relative to the nozzle cleaner.

• **Cleaner test with feeding**

Allows you to check the adjustment result (nozzle position relative to the hole in the cleaner) by feeding material through the cleaner.

• **Cleaner test without feeding**

Allows you to check the adjustment result (nozzle position relative to the template) without feeding the material.

• **XY offset adjustment**

• **Adjustment by template**

Allows you to manually adjust the position of nozzle 2 relative to nozzle 1 in the XY plane, using the printed adjustment template as a guide.

• **Auto-adjustment**

Starts the automatic XY offset adjustment procedure by printing the calibration template. Both nozzles must be loaded with the same materials before starting.

• **Manual input**

Allows you to adjust XY offset by entering total values.

EPITUM JL MENU

- **Diagnostics**
 - **Nozzle switching test**

Allows you to check the operation of the nozzle switching mechanism.
 - **Printhead service**

Sets the printhead to the middle position.
 - **Fan check**

Allows you to check the operation of the fans: model cooling, printhead cooling, chamber circulation, and chamber cooling.
 - **LED check**

Allows you to define the primary colors for lighting.
- **Build plate movement**

Allows you to move the print platform to one of three positions: upper (10 mm from the nozzle), middle (305 mm), transporting (405 mm) and lower (600 mm).
- **Filament drying**

Starts the filament drying procedure by displaying temperature and timing. Once drying parameters are selected, the platform is moved to the middle position.

Load a filament

Starts the procedure for filament loading with the help of the extruder gears into the printhead by heating the nozzle to the operating temperature of the selected profile.

Preheat switch on

Starts heating the nozzle to standby temperature and the print platform to the operating temperature of the selected profile. This feature saves warm-up time before starting printing.



Ready for printing — Switches Epitum JL to standby mode to start printing remotely from the Printoformer window.



Printer monitor — Shows info about sensors and systems.



Night mode — Turns off the printer lighting.

CONTROL DURING PRINTING



Pause / Continue — Pauses printing with the possibility of later resuming from the same place.

During printing, the menu does not change the structural view, leaving only the necessary items available. To access the menu while printing, swipe down from the top of the screen.



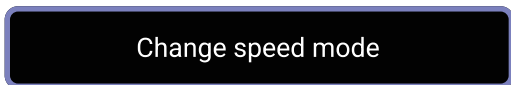
- About
- Systems and modes
- Network settings
- Printer log
- Language



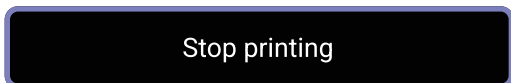
- Z offset adjustment**
(Only when printing first layer)
- Material services
- Nozzle service



Allows you to change the parameters of the currently used material profile and import the profile from the USB flash drive during printing. To change the settings of the profile in use, printing will be paused.



Allows you to change the print [speed mode](#) *(only available when printing .eptf files)*.



Stops printing without the possibility of further resumption.



Info
Opens a window with information about the current print.



Z offset adjustment⁸
Allows you to change Z offset.



Monitor
Shows data from sensors and printer systems.



Night mode
Turns off the printer lighting.

⁸ The operation is only available when not printing and during first-layer printing of .eptf tasks.

BASICS OF WORKING WITH EPITUM JL

EPITUM JL

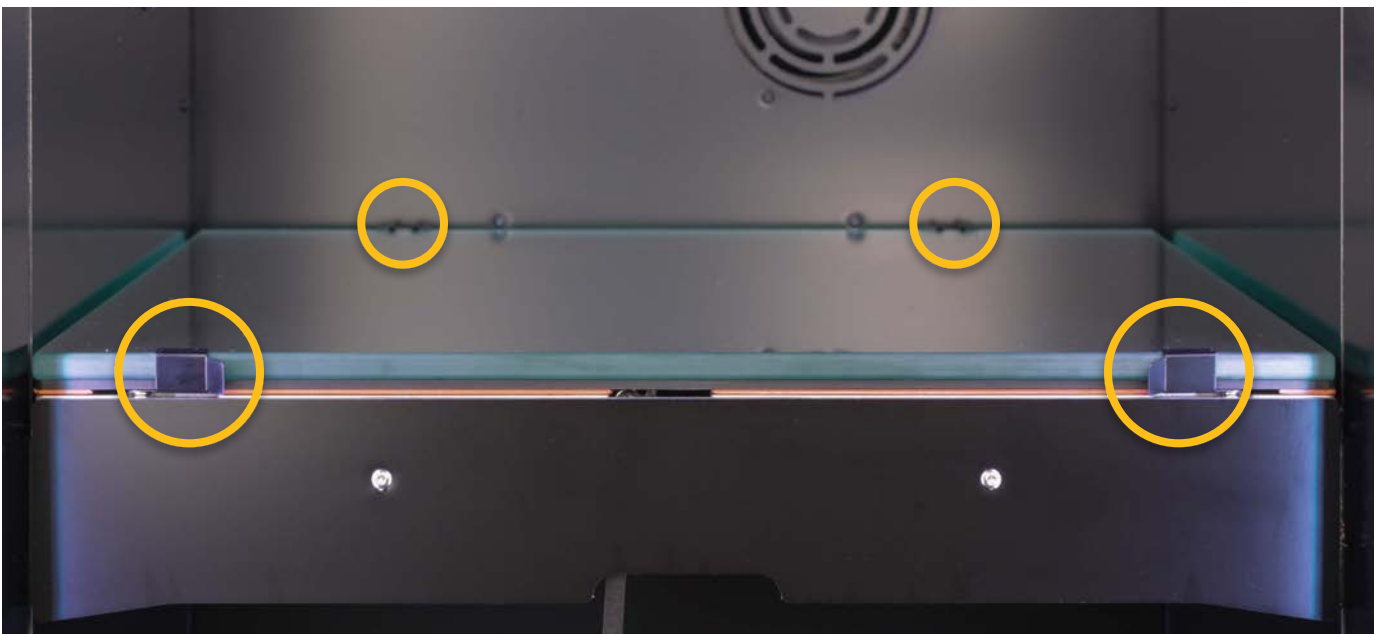
BUILD PLATE LEVELING

Epitum JL has a build plate auto-leveling function that allows you to set the horizontal position of the print platform. Leveling is carried out at 4 points.



Level the build plate every time the printer is moved or transported.

Make sure the glass is fixed rigidly on the platform: both the far grooves are clipped in, there is no air gap or foreign objects between glass and platform, and the clamps are pressed against the glass.



BUILD PLATE LEVELING



If the clamps do not press against the glass due to an air gap between the glass and the platform, run the leveling with the clamps open first. After Epitum JL completes the leveling, press the clamps against the glass and restart the leveling.

To start leveling, select "Service > Build plate leveling" from the printer menu.

The printer will start heating the nozzle to the operating temperature of the last used profile in order to eliminate the influence of material residues from the outside of the nozzle on the process of leveling the platform. After reaching the operating temperature, the printhead will start the platform level measurement procedure using four points in the corners of the working area.



Do not interfere with the PH or platform movements during operation. The operation is fully automatic, and no additional steps are required.

If the difference in height of any pair of measured points exceeds 80 microns, Epitum JL adjusts the level of the build plate and starts the measurements again. After leveling, the corresponding message will be displayed on the screen.

The build plate leveling process is completed. Press "Finish" to return to the main menu.

FILAMENT LOADING

Epitum JL is designed to operate with thermoplastic polymeric materials in the form of filament with a diameter of 1.75 ± 0.1 mm at a printing temperature of up to 430 °C.



Do not use low-quality filaments from non-certified manufacturers: this can cause the 3D printer to become unstable, requiring additional maintenance and repair costs.

To load the filament into Epitum JL, follow these step-by-step instructions:

1. Select "Load a filament" from the printer menu. Choose nozzle 1 to load the filament.
2. Select the [material profile](#) based on the filament to be loaded and press "To loading".

The printer starts the procedure for heating the nozzle up to the operating temperature in compliance with the settings of the selected profile. After reaching the operating temperature, the printhead moves to the filament load position. A ready message is displayed.



Do not interfere with the movements of the 3D printer mechanisms during operation: this can result in personal injury or damage to the device.



Do not touch the nozzle or platform during operation: they heat up to high temperatures. Touching them can cause burns.

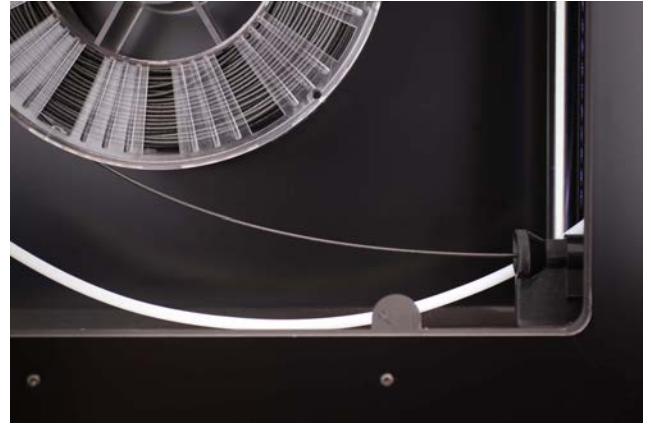
3. Unpack the filament spool. The filament end is under the sticker.



Please make sure the filament end is not deformed; otherwise, cut part of the filament with the pliers.

FILAMENT LOADING

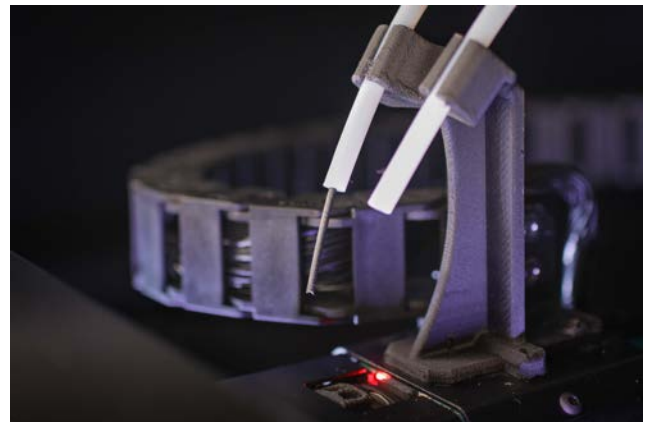
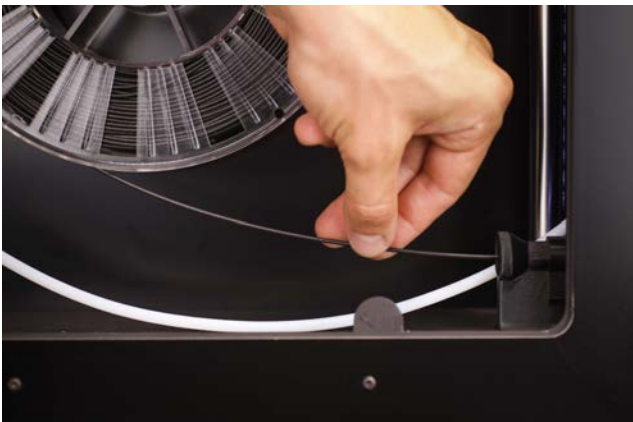
4. Remove the left side door of the printer and place the filament spool in the center hole on the holder so that the filament goes from the bottom of the spool. Peel off the sticker and insert the filament into the feed tube.



! Do not use spools wider than 100 mm.

! Always secure the filament end when installing and removing the spool into/out of the printer. Prevent filament tangling in the spool: this can cause an abnormal stop during printing and damage the printer.

5. Make sure the spool and the side door are installed correctly: the center hole of the spool is on the holder, and the spool itself is pressed against the printer wall. Push the filament through the tube until it appears at the side of the printhead. Replace the printer side door.

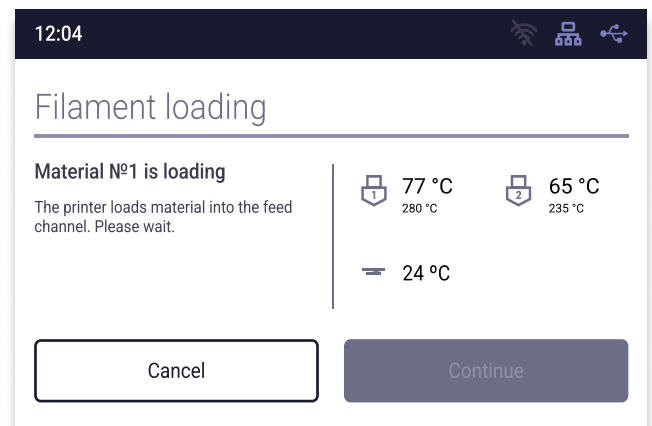
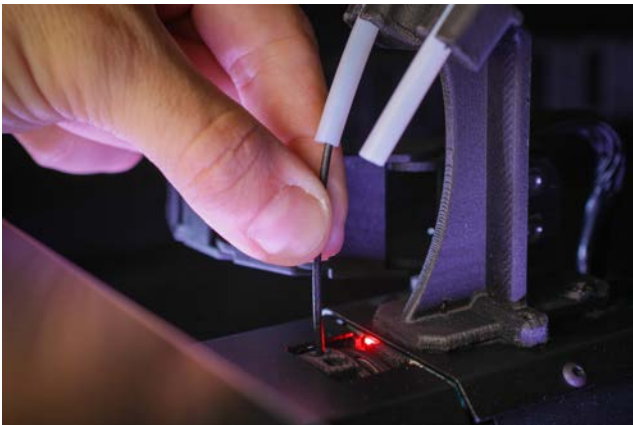


FILAMENT LOADING

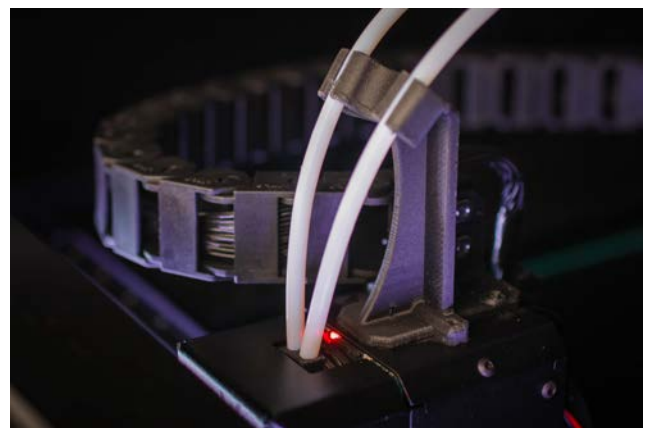
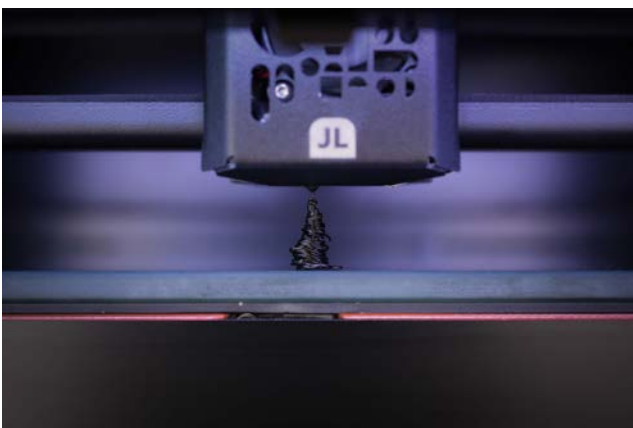
6. Insert the filament end into the extruder hole until it stops. Hold the filament until you feel it is loaded inside. The loading status is displayed on the screen. This procedure takes approximately one minute.



When the filament is detected by the end-of-filament sensor, the load procedure starts.



7. When loading is completed, a small amount of filament comes out of the nozzle. Remove it carefully from the build plate. Pull the filament feed tube through the guide hole and insert it into the PH until it stops. Make sure that the tube is completely inside the printer and press "Finish".



If the material is loaded into both nozzles, the printhead moves to the position for loading it into the second (right) nozzle. To load the second material, repeat all the steps from 3 to 7.

The printhead moves to the parking position: the far left corner. The filament loading is completed.

PRINTING

In order to enhance adhesion, apply the special glue which you can find in the starter kit before each printing. It is required in order for the model not to detach from the build plate during printing.



Epitum brand glue is thermosetting: it features the necessary adhesive properties at temperatures from 45 °C (113 °F). When cooled to 30 °C (86 °F), the adhesion decreases.

Put some glue on a paper or cloth napkin and wipe the cooled glass. There is no need to apply glue in a thick layer.



Do not spray glue inside the printer. This will result in premature wear and damage to the mechanical components of the printer.

To start printing, do as follows:

1. Insert the supplied USB stick into the USB-A port.
2. Press "Print" on the start screen and choose the task "TEST.eptf"⁹ from the list on the USB stick.



The TEST.eptf task comprises a nozzle wrench holder model. About 1 meter of material is required for test printing. This is approximately 1/360 of a standard spool.

⁹ This is a test printing task. When starting subsequent tasks, select the file with the name you have assigned from the printer menu.

PRINTING

3. Select a [material profile](#) based on the filament loaded and [printing speed mode](#). For the first start, "Standard" mode is suitable. Press "Print".

The 3D printer starts preparing for printing, calibrating the work area coordinates, and warming up the chamber, nozzle, and platform. The preparation process will take approximately 20 minutes.¹⁰ Once prepared, Epitum JL will begin printing the model. The current status and estimated print time will be displayed on the screen.



Pay special attention to how the first layer is printed. The optimal [Z offset](#) and sufficient adhesion are the keys to high-quality printing.

When printing is completed, the printhead moves to the parking position; the build plate lowers.



Turn on or off the heated chamber print mode according to the material you are using. Printing in a heated chamber reduces the effect of shrinkage and increases model strength on most materials. For others, chamber heating is not necessary or may impair printing. Check with the material manufacturer to see if you need to use chamber heating.

4. Without opening the printer door, wait for the chamber and glass with the printed model to cool down gradually for at least 30 minutes after printing is completed. Put on the gloves (supplied), then open the glass clamps, lift the extractor and remove the glass from the printer along with the model. Carefully remove the model from the glass. If the model cannot be removed by hand, pry it off with the box cutter from the toolkit.



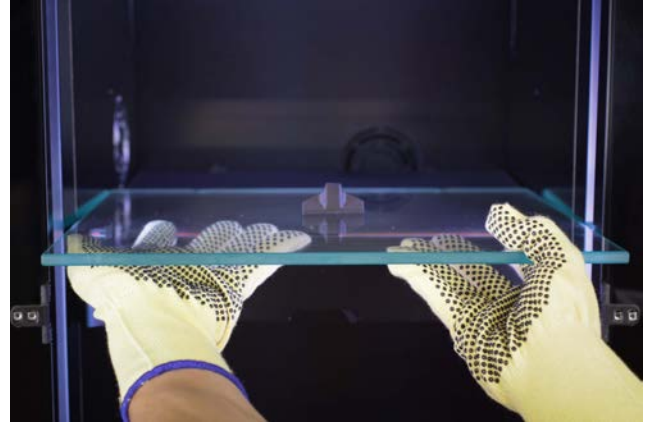
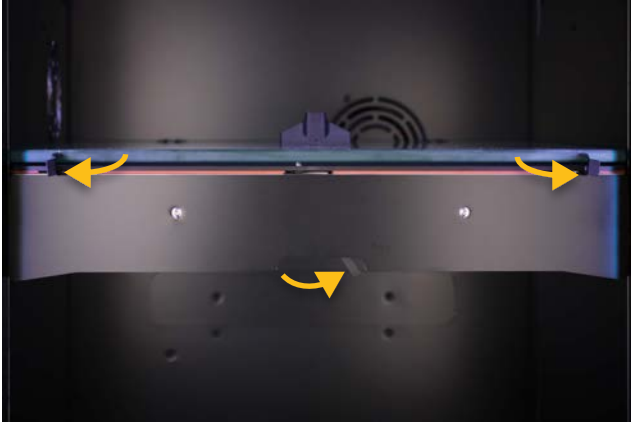
Hold the glass while removing it with the printed model.



Do not take off the model from the hot glass. Do not use strong tools to take off the model. This may cause damage to the glass.

¹⁰ Chamber heating is enabled by default in Epitum JL. You can switch the mode off and on from the menu "Settings > Systems and modes > Chamber heating". Turning off the heating will reduce the time it takes to prepare for printing and cool down the model inside the printer.

PRINTING



5. When the model is taken off, install the glass back into Epitum JL. Make sure the glass is firmly fixed on the platform: both the far grooves are clipped in, there is no air gap or foreign objects between glass and platform, and the clamps are pressed against the glass.

6. Insert the nozzle change key into the printed holder.

Use [Printoformer](#) software to prepare new print tasks. The current version of the software is available on the official [website](#).



Some Epitum Platform features are unavailable for tasks with a .gcode extension, as such tasks were created by third-party software.

FILAMENT UNLOADING

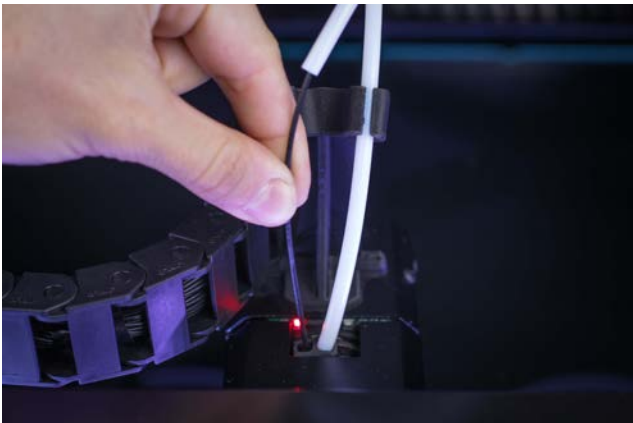
To prepare Epitum JL for printing with other materials or for a long period of disuse, unload the filament. There is no need to unload the filament after each printing.

To unload the filament from the 3D printer, follow these step-by-step instructions and the menu prompts on the printer display:

1. Select "Service > Filament services > Filament unloading" from the printer menu. The printer starts the procedure for unloading the material out of the PH along with heating up to the unload temperature in compliance with the settings of the selected profile.
2. Remove the filament feed tube and filament out of the extruder. Cut the filament end with the pliers supplied. This is necessary to prepare for loading the filament next time.



Do not try to force the threaded filament out of the PH. The mechanism pushes the filament itself; just pull it up gently when appropriate notification appears on the screen.



3. Remove the side door and roll up the filament by rotating the spool on the holder. While doing it, hold the filament end and then secure it in the spool holes or under the sticker.



Always secure the filament end while installing and removing the spool into/out of the printer. Prevent filament tangling in the spool. This can cause an abnormal stop during printing and damage to the printer.

FILAMENT UNLOADING



4. Open the side door and remove the filament spool. Close the side door and press "Finish".



For quick material change, select "**Service > Filament services > Filament replacement**" from the menu — the material is alternately unloaded and loaded consecutively.


Store unused filament spools separately. For more details on storage conditions, see "[Questions and Answers](#)".

PREPARING A TASK IN PRINTOFORMER

Printoformer is a print task preparation software, designed specifically for Epitum printers. In addition to setting up tasks, you can monitor the status of connected printers, create new material profiles, or set a pause on a specific printing layer. All functionality of Epitum JL is available only with **.eptf** task files prepared in Printoformer.¹¹

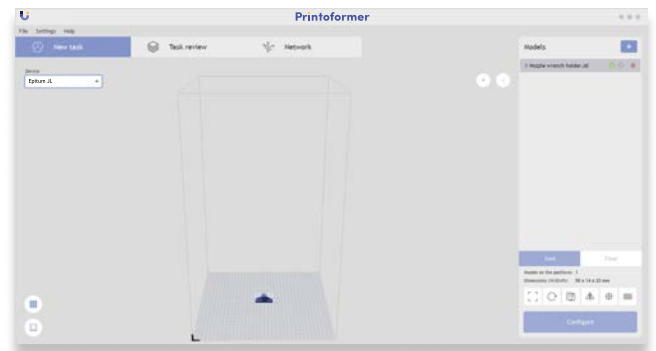
To get started, download the latest version of Printoformer from the official [website](#), install and activate it on your PC following the prompts of the program.

Upload a 3D model in one of the following formats: **.stl**, **.obj**, **.3ds** or **.amf** using any of the following methods:

- Select "File > Open..." from the menu bar.
- Click  in the upper right corner of the program window.
- Drag the model file from its directory to the Printoformer window.
- Use the shortcut key combination Ctrl + O.

After the model is loaded, it is displayed in the XYZ coordinate system. The area borders correspond to the Epitum JL printable area.

To view the model from different angles, hold down the left mouse button. You can use the mouse wheel to zoom in and out. You can also change the orientation relative to the print area by holding Shift + left mouse button. By holding the right mouse button, you can move the model in the XY plane.



The actions of the left and right mouse buttons can be swapped by selecting from the menu bar "**Settings > Configuration and Network > Application > Interface configuration > Camera rotation by the left mouse button**".

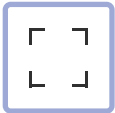
Before starting a task, you can adjust the size of the model, set the number of copies, rotate the model, or center it on the platform.

¹¹ The program interface may differ depending on the Printoformer version.

PREPARING A TASK IN PRINTFORMER

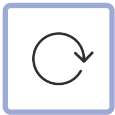


If several models are loaded, select the one you need from the list on the right. All changes will apply only to the selected model.



Change the model dimensions

Allows you to change the size of the model both proportionally and on each axis separately. You can enter the desired dimensions of the model in mm or use a multiplier with an accuracy of 0.0001 to correct material shrinkage.



Rotate the model

Allows you to rotate the model on any of the axes. Rotate the model depending on its geometry — try to position the model with the largest plane towards the platform if the model has a flat surface.



Create copies (Ctrl + D copies once)

Creates copies of the selected model. The maximum number of copies at a time is 999. The Ctrl+D key combination will create one copy of the model and automatically place it on the platform.



Mirror the model along the selected axis

Allows you to mirror the model along the selected axis.



Move to the center

Moves the selected model to the center of the platform.



Auto-placement (Ctrl + R)

Automatically places all added models. Applies to all models, regardless of the selected ones.

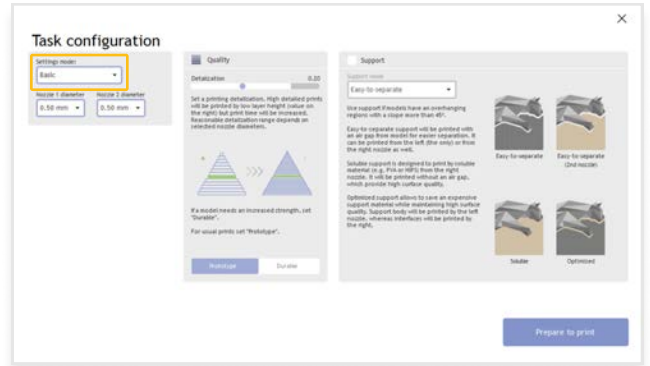


Using the nozzle switch next to the name of the loaded model, you can choose which nozzle will print the model or part of the model, if it is a composite one. Models selected for printing with the first nozzle are displayed in blue, and with the second nozzle in yellow.

After the models are loaded, you can start preparing the print task. To do this, click "**Configure**" in the lower right corner of the screen.

PREPARING A TASK IN PRINTOFORMER

The **basic** settings mode is suitable for most tasks. It is necessary to configure only the key parameters in it; the rest are calculated by the program automatically.



Nozzle 1 diameter

Nozzle 2 diameter

Make sure the nozzle diameters match those installed in your 3D printer. By default, Epitum JL has nozzles with a hole diameter of 0.5 mm.

Detailization

Set the detailization according to your preference. By moving the detailization slider, you change the height value of each print layer.

The higher the detailization, the lower the height of each layer and the longer it takes to print the model, and vice versa — low detailization means a greater layer height and less print time. The allowable detailization range depends on the selected nozzle diameter.



Detailization 0.25



Detailization 0.05

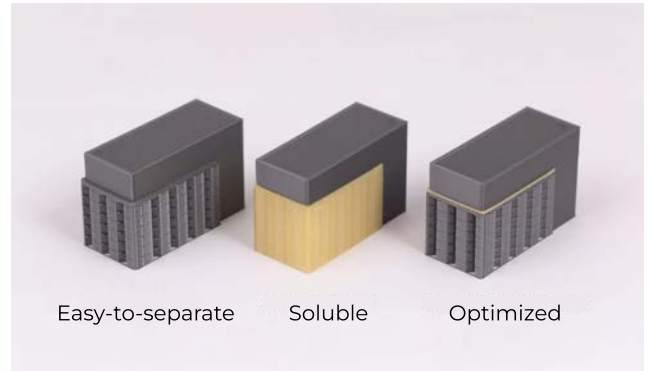
Prototype Durable

Choose between two auto-fit options: "Durable" or "Prototype". If the product will be subjected to physical stress, use the "Durable" mode. For all other cases, the "Prototype" mode is suitable. In addition to the durability of the product, the setting also affects the printing time — printing a durable model takes longer than printing a prototype.

PREPARING A TASK IN PRINTFORMER

Support

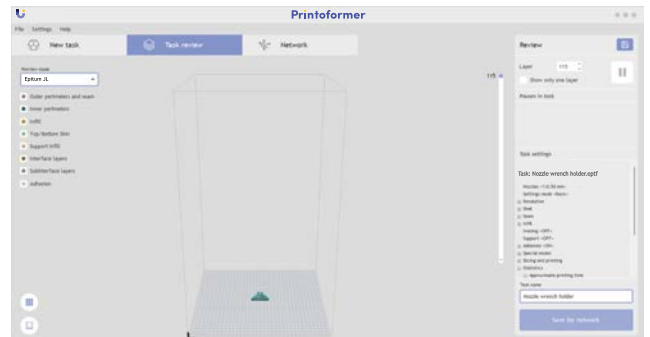
Enable support building if needed and select the appropriate support type. We recommend enabling support if your model has overhanging areas more than 45° from vertical.



Click the "**Prepare to print**" button. This will start the task generation process.

Based on the generation result, the model will be displayed in the form of lines — the trajectories of nozzle movements during printing. Trajectory types can be viewed separately by switching them in preview mode.

Preview mode



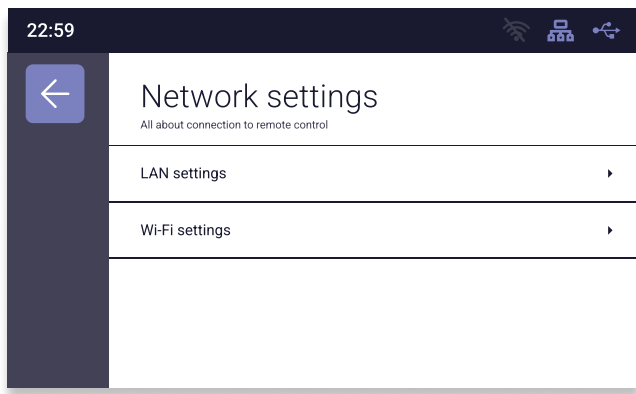
In the **Task review** mode, you can also view it in layers, set a pause on a specific layer, and save or add your task to the database for remote printing.



Click "**Save as...**" at the top right corner of the program window and save your task file to a USB flash drive for printing.

CONNECTING TO A PC

Epitum JL can be connected to a PC over a network using a wired or wireless connection. The connected printer is displayed in the Printoformer software with the ability to monitor and start printing remotely.



To connect Epitum JL to a PC, select one of the connection methods from the printer's menu "**Settings > Network Settings**".

To connect to a **local wireless network**, press "ON" and then "Select Network". Select the network to connect to from the list provided and enter the Wi-Fi network password if required. On the status bar, the Wi-Fi icon will indicate the connection.

To connect Epitum JL to a **wired LAN**, plug an Ethernet cable into the Ethernet connector on the back of the 3D printer and the corresponding port on the PC or router.



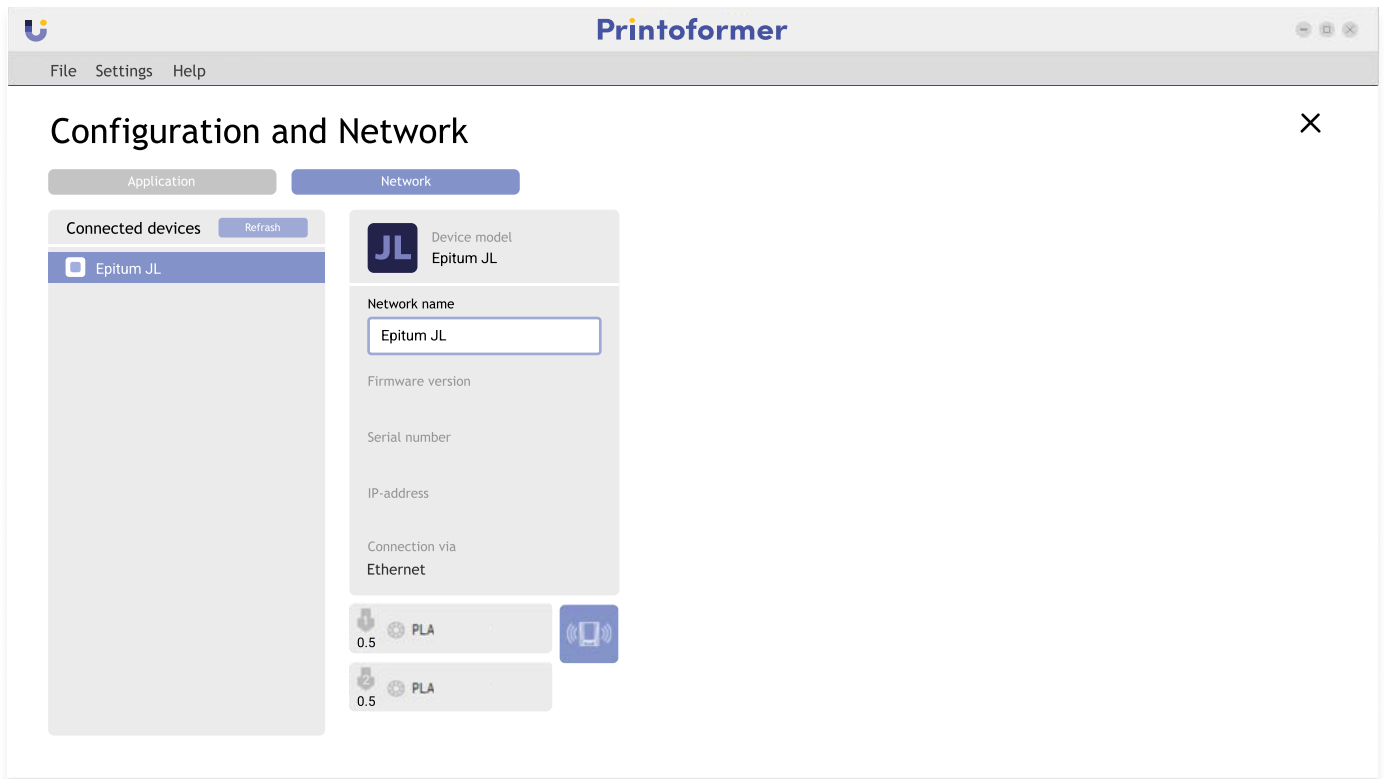
Epitum JL and the PC must be connected to the same LAN.

Next, follow these step-by-step instructions:

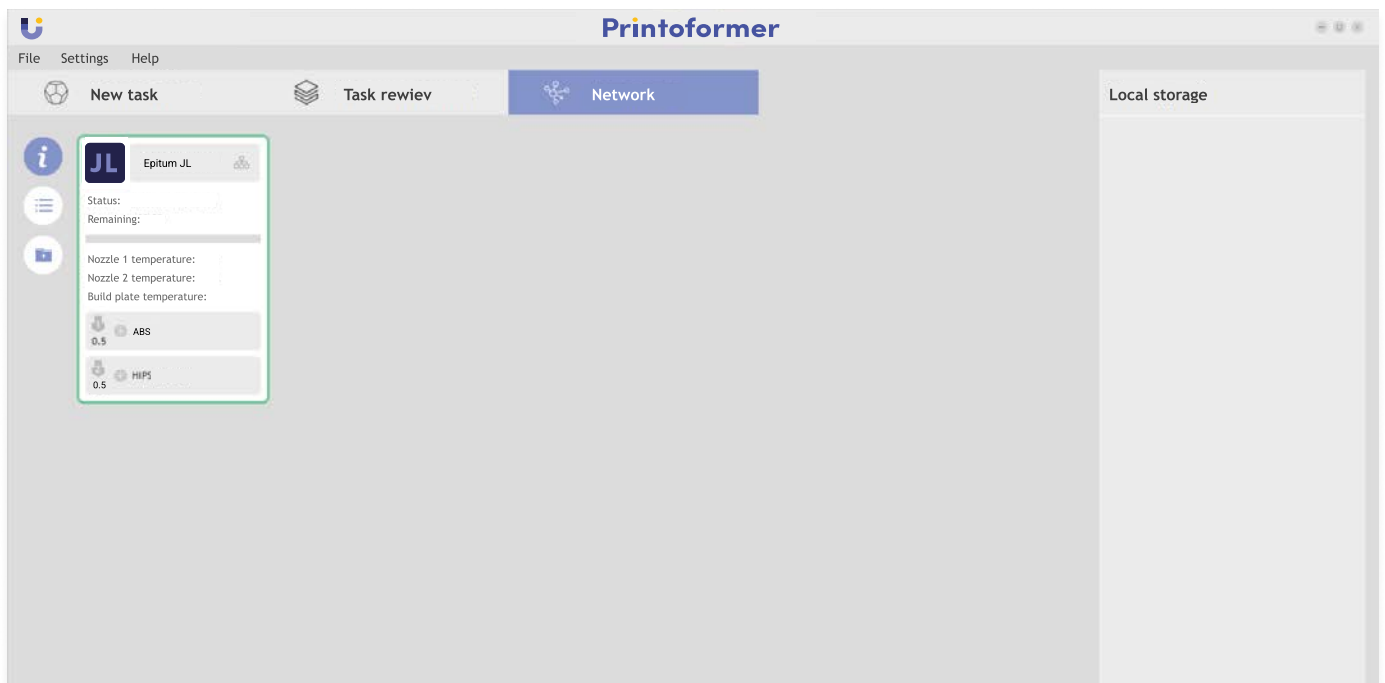
1. Enable "DHCP" by pressing "ON" from the menu "**Settings > Network settings > LAN settings**" to automatically assign IP addresses or set the IP address manually. If DHCP is active, the IP address is obtained within 2-5 minutes.
2. Select the "**Network**" tab on the "**Settings > Configuration and Network**" menu in Printoformer. Click "Refresh". Printoformer shows a list of all 3D printers connected to this subnet.

¹² The connection procedure is in compliance with Printoformer software version 2.4.0 and with the printer firmware version 6.0.0

CONNECTING TO A PC



3. Mark the checkbox next to the 3D printers you're using. Click "Close".
4. Open the Printoformer "Network" tab to track the status of connected 3D printers. In this window you can change speed mode, pause printing and start new printing tasks.



EPITUM JL

SERVICE FUNCTIONS

NOZZLE REPLACEMENT

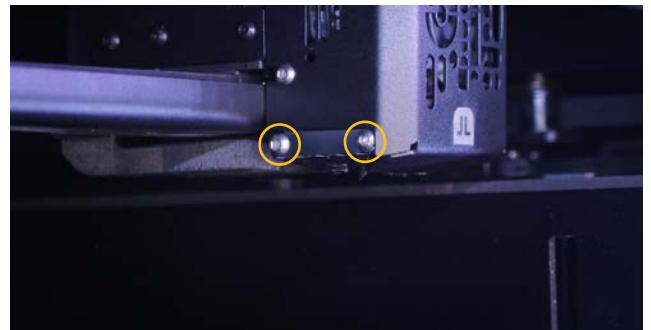
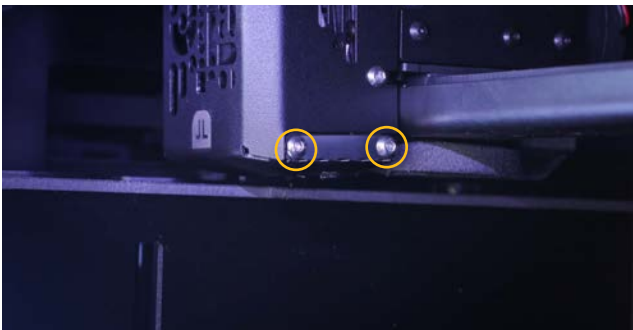
By default, Epitum JL is equipped with steel nozzles with a diameter of 0.5 mm. These nozzles are used for printing with standard types of filament. There is no need to change the nozzle before each printing.

Replace the nozzle in the following cases:

- Lack of or insufficient filament flow during printing, subject to optimal material profile settings.
- Visible damage to the nozzle hole which distorts the filament flow.
- If you require a nozzle of a different diameter or made of a different material.¹³

To replace the nozzle, follow these step-by-step instructions:

1. Select "**Service > Nozzle service**" from the menu. The printer starts the procedure to heat the nozzle up to the operating temperature in compliance with the settings of the selected profile.
2. Put on the heat-resistant gloves (supplied). Follow the menu prompts on the screen to loosen the 2 screws on each of the side walls of the PH and remove the flap.

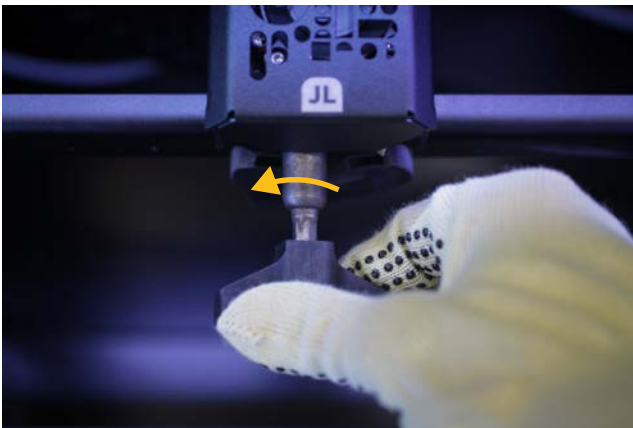


¹³ Epitum JL can be equipped with steel and brass nozzles with a diameter of 0.2 to 0.8 mm.

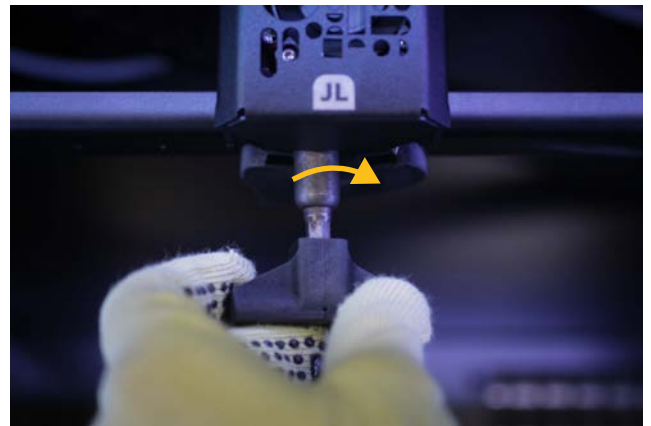
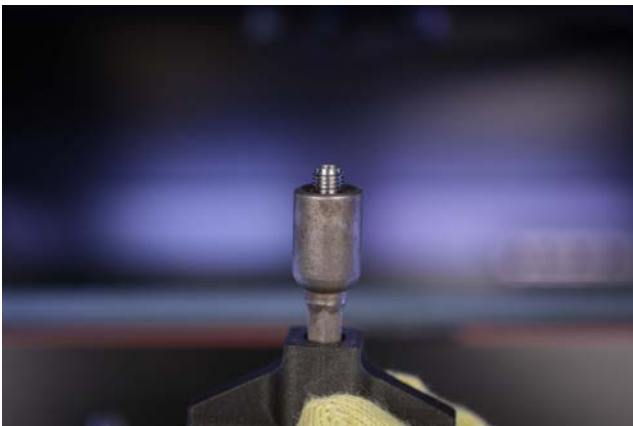
NOZZLE REPLACEMENT

3. Use the key from the starter kit to unscrew the nozzle from the heating unit as shown in the photo.

 The removed nozzle is hot. Be careful!



4. Install a new nozzle in the key and screw it into the heating unit until it stops as shown in the photo.



 Do not unscrew the cooled nozzle. This can damage the heating unit.

NOZZLE REPLACEMENT

5. To replace the second nozzle, press "**Switch nozzles**": the PH switches to the corresponding position for service.



Do not perform replacement procedures beyond the PH service position for the corresponding nozzle. During replacement, the nozzle wrench must be installed vertically from the bottom.



Tighten the nozzle until it stops, but without using additional tools. An insufficiently tightened nozzle causes filament to get into the mechanism of the heating unit.

6. Press "**Continue**". Epitum JL checks the height difference of the installed nozzles; the result is displayed on the screen. In case of a big difference, you need to correct it, following the tips on the screen. If the height difference is acceptable, press "**Continue**".
7. Follow the tips on the screen, install the flap and tighten the 2 screws on each of the PH side walls.
8. Select the diameter of the installed nozzle from the list on the screen. Press "**Save and quit**".

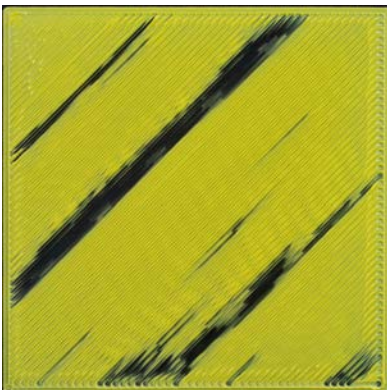
Z OFFSET ADJUSTMENT

The nozzle Z offset is an additional distance to the layer height between the nozzle and the build plate while printing the first layer, which allows you to print the first layer most accurately. There is no need to configure the Z offset on a new 3D printer or before each printing.

Adjust the Z offset in the following cases:

- After restoring default printer settings.
- In case of too weak or too strong adhesion of the first printed layer.
- If there is no flow on the first printed layer.

The optimal value is set individually for each 3D printer. Improper Z offset settings affect the printing quality, and printing using materials with high shrinkage can damage the glass of the platform.



Too low

Strong adhesion: the first layer is translucent with too wide printing lines.

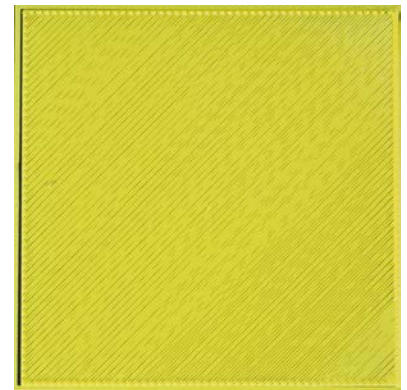
Causes nozzle clogging, glass damage, and poor print quality.



Optimal

Printing lines are without visible defects and have steady contact with each other.

Provides for the correct adhesion of the first layer to ensure high printing quality.



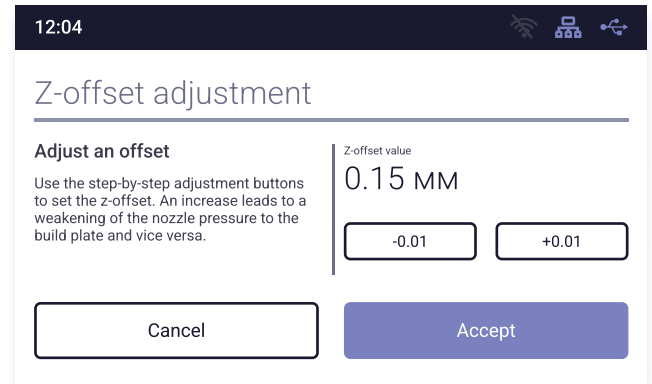
Too high

Weak adhesion: lack of contact between printing lines.

Causes the model to detach from the platform and poor printing quality.

Z OFFSET ADJUSTMENT

To adjust Z offset, go to "**Service > Z offset adjustment**" and adjust the gap between the platform and the nozzle using the adjustment buttons in 0.01 mm increments.



The numerical value weakens the Z offset, and vice versa: the lower the value, the stronger the pressure.



Z offset can be adjusted both when not printing and during first-layer printing. To change Z offset during printing, press the corresponding button in the menu. Changes will take effect immediately after pressing the adjustment buttons.

CLEANING SYSTEM ADJUSTMENT

Epitum JL is equipped with a nozzle cleaning system that prevents outer shell defects during printing. When adjusting the cleaning system, the 3D printer remembers the position above the cleaner, relative to which the work area is located. There is no need to set up the cleaning system on a new 3D printer or before each printing.



Built-in containers are used to collect plastic residues from under the cleaner. To empty the contents of the containers, remove the side door of the printer, place a waste container under the container and open the shutter. Clean containers at least once every 2 prints.

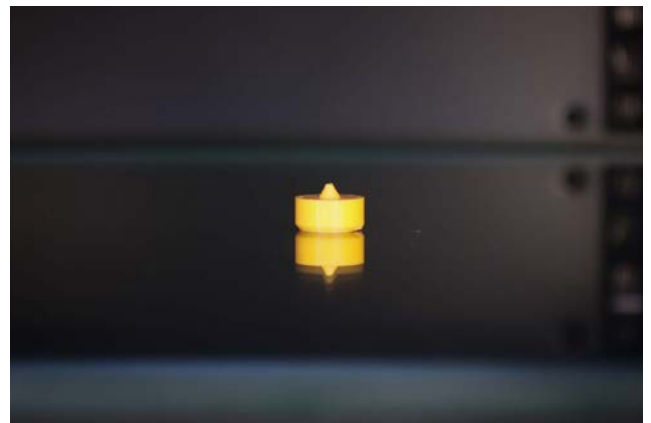


Adjust the cleaning system in the following cases:

- If the cleaning system does not work properly: if the filament does not enter the hole of the silicone cleaner and accumulates on the nozzle, which leads to defects in printed models.
- After restoring the default printer settings.

To adjust the cleaning system, you need to print the "Cleaner calibration template.eptf" file from the supplied USB drive.

Before adjustment, wait until the nozzle cools down to a temperature of no more than 50 °C: that's approximately 10 or 15 minutes after the latest heating.



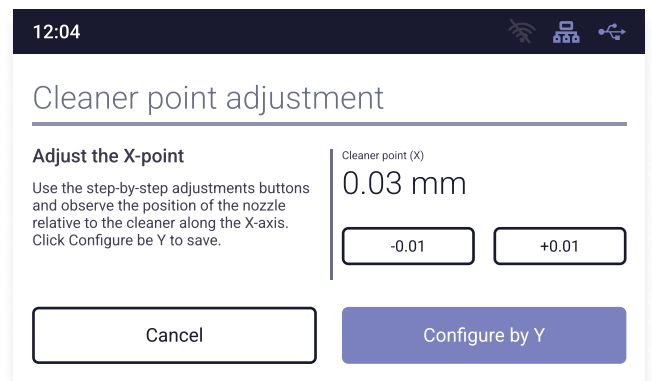
CLEANING SYSTEM ADJUSTMENT

Follow these step-by-step instructions to complete the adjustment:

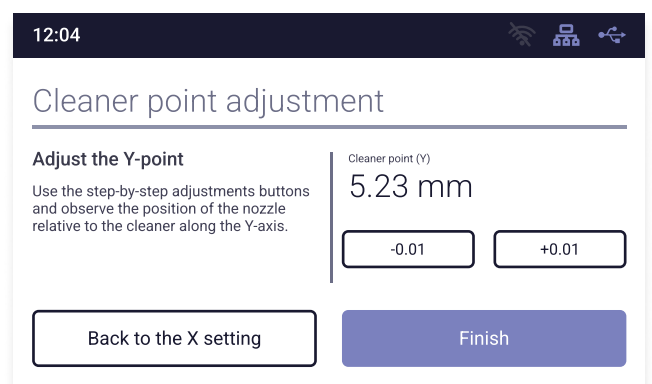
1. Replace the silicone cleaner for the printed cleaner calibration template.
2. Select "**Service > Cleaning system adjustment**" from the menu. The printhead moves to the adjustment position and stops above the template.



3. Using the incremental adjustment buttons, adjust the X axis nozzle position so that the tip of the nozzle is exactly above the template pointer. Press "**Adjust Y axis**" to proceed to Y axis adjustment.



4. Adjust the position of the nozzle above the Y axis template pointer in the same way. Press "**Finish**".



CLEANING SYSTEM ADJUSTMENT

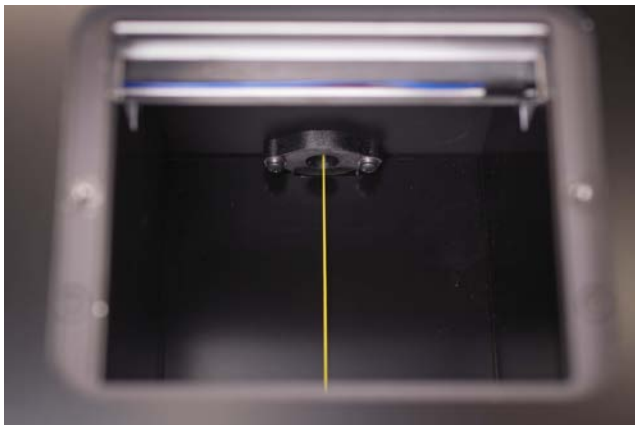
5. Verify that the adjustment is correct by selecting "**Service > Cleaning settings > Cleaner test without feeding**" from the printer menu — the printhead will move into position above the template. Check the nozzle tip position relative to the template pointer. If the positions do not match, repeat the adjustment. If they match, replace the template with the silicone cleaner and continue using Epitum JL.



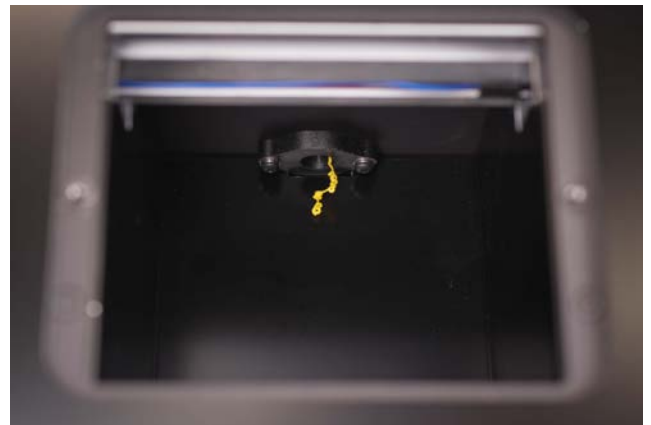
Additionally, you can perform a test by heating and feeding the filament; in this case, Epitum JL starts the filament loading procedure at the point of being above the cleaner. If the system is adjusted correctly, thin and even filament comes out from under the cleaner.



Before performing a cleaning test with feeding, be sure to replace the template with the silicone cleaner.



Cleaning system is adjusted



Cleaning adjustment is needed

XY OFFSET ADJUSTMENT

To ensure correct operation when printing with two materials, an XY offset adjustment feature is available on Epitum JL. It allows you to align both grid layouts on the XY plane. There is no need for such adjustment on a brand-new 3D printer or before each printing.

Adjust the XY offset in the following cases:

- To align the nozzles if there are offsets when printing with two materials: the filament from the second nozzle is overlapping or is overlapped by the filament from the first one, which can result in defects on the model's outer surface.
- After restoring the default printer settings.
- To align grid outlets after replacing the nozzle. The hole of the new nozzle can be slightly offset relative to the previous one.

There are two ways to adjust XY offset in Epitum JL: **adjustment by template** (manual) and **auto-adjustment**. In both cases, the printer will print the template.

Based on the printed auto-adjustment template, the printer determines the position of the nozzle using internal procedures. Such a setting does not require user intervention, but the result of the setting may not always be accurate. For more precise XY offset adjustment, we recommend the manual adjustment option.

Before XY offset adjustment is started, make sure that the installed nozzles are of the same diameter, the platform is leveled and clean, and the Z offset is adjusted optimally. Load two identical materials.



To adjust the XY offset according to the template, it is better to load materials of different colors, so it will be easier to analyze the template.

Select the XY offset adjustment method and follow these step-by-step instructions:

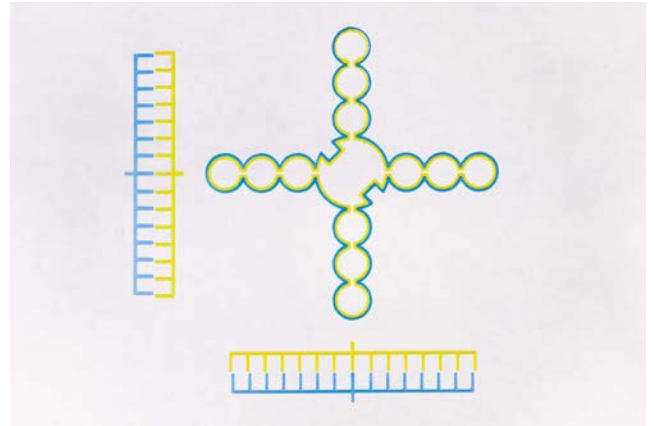
Auto-adjustment

1. Select "**Service > XY offset adjustment > Auto-adjustment**" from the menu. The nozzle and platform will start heating up to the temperatures set in the profile of the selected material. Then template printing will be started.
 2. Wait for the printing to finish. The printer screen will display the values to be corrected. Press "**Yes**" to save the changes. XY offset auto-adjustment is complete.
-

XY OFFSET ADJUSTMENT

Adjustment by template

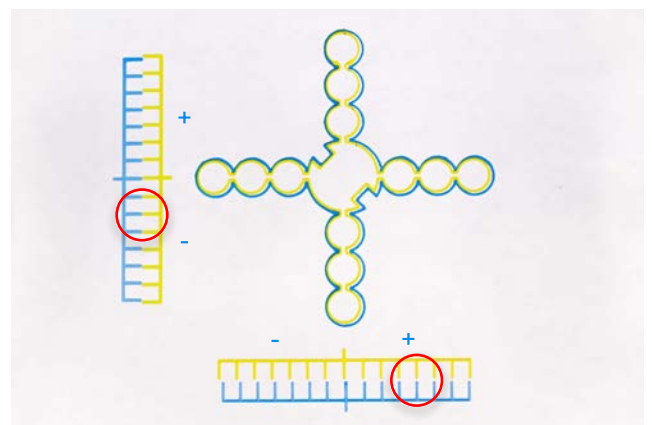
1. Start printing the "XY offset.eptf" file from the supplied USB flash drive. It takes about 5 minutes.
2. When printing is complete, remove the glass out of the printer and examine the printed template in bright light.



The template has "X" and "Y" ranks for rough adjustment (step 0.1 mm) and circles for precise adjustment (step 0.025 mm).

3. Determine the alignment of the lines on the "X" and "Y" ranks.
 - If the lines are aligned at any coordinate except zero, enter the values of the coinciding divisions into the menu section "**Service > XY offset adjustment**" and re-print the template.

For example, on the printed template the lines along the "X" rank aligned at coordinate 4, and along the "Y" rank, at coordinate -2. Enter $X = 4.000$ and $Y = -2.00$ into the menu section "Service > XY offset adjustment". The printer stores these coordinates as zero values. Therefore, when you open the menu next time, the values $X = 0.000$ and $Y = 0.000$ will be displayed.



- If the lines are aligned at the zero coordinates, turn your attention to the printed circles.

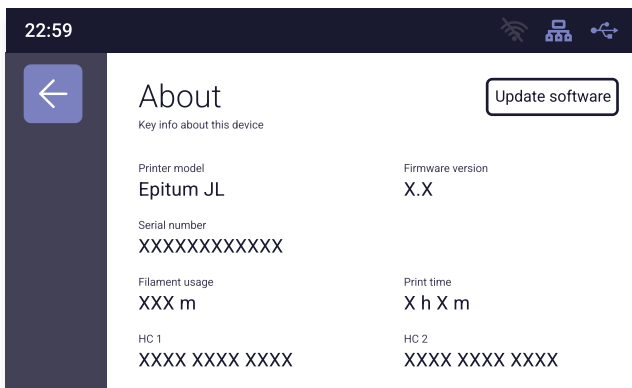
XY OFFSET ADJUSTMENT

4. Look for the pair where the distance between the outer and inner circles is most even.
 - If the big central circles have an offset, enter the values of the "coinciding" circles into the menu "**Service > XY offset adjustment**" and re-print the template.
 - If the distance between the outer and inner big central circles is even, adjustment is complete.

PRINTER FIRMWARE UPDATE

To update the 3D printer firmware, follow these instructions:

1. Download the latest firmware version from the official [website](#).
2. Format the USB stick (FAT32 file system, USB interface 2.0, the recommended size is up to 16 GB).
3. Save the update file **xplatform.bin** to the USB stick in the root folder.
4. Insert the USB stick into the USB-A port.
5. Select "**Settings > About > Update software**" from the printer menu.



Epitum JL will start the update process and then restart. When the software update is completed, the printer's home screen opens.

DEVICE LOG

Epitum JL records events into the log during operation. Depending on the type of event, the printer may run a self-diagnostic procedure, pause, or abort printing. The most important events will be displayed on the 3D printer screen during or at the end of printing.¹⁴

Each event has a unique code. The letter designations at the beginning of each code indicate the level of the event. There are 5 levels:

- M** 1. Regular operation. Does not require user intervention.

- W** 2. Does not require user intervention during printing. Upon completion of printing, the corresponding recommendations are displayed on the screen.

- E** 3. Pauses printing until user intervention. During a pause, the screen displays a description and recommendations for resuming printing.

- CE** 4. Turns off heating, aborts printing without the possibility of resuming it. A description and related recommendations are displayed on the screen.

- FE** 5. Turns off heating, aborts printing without the possibility of resuming it. Restricts the use of the printer until it is restarted. A description and related recommendations are displayed on the screen.



The device log can display up to 2,000 events in reverse order from newest to oldest. Events in the log are not reset when the 3D printer is restarted.

Code	Name	Description	Recommendation
W14R	Cold zone overheating	Printing is paused and the heatsink cools down to the temperature allowed in the material profile, which protects material from degradation and promotes stable feeding.	If you often encounter overheating, pay attention to the temperature in the room where the printer operates.
E20N1/ E20N2	End-of-filament control system triggered (nozzle 1/2)	End-of-filament control system detected the absence of material in nozzle 1/2 and paused printing.	Check if the material is loaded in nozzle 1/2. Make sure that the diameter of the filament is within the range of 1.75±0.1mm.
E25N1/ E25N2	Filament flow control system defective (nozzle 1/2)	Filament flow control system did not detect filament movement during the pre-print check.	Make sure the filament is loaded in nozzle 1/2. Calibrate the flow control system and restart printing.

¹⁴ Device log may differ depending on the installed software version.

DEVICE LOG

Code	Name	Description	Recommendation
E26N1/ E26N2	Feed stop (nozzle 1/2)	The filament flow control system has detected a feed stop at nozzle 1/2. Attempts to continue printing do not guarantee a good result, so printing has been paused.	Check the cleanliness of the nozzle and feed channel, the uniformity of the filament diameter, the profile settings, and the cleaner position.
E28N1/ E28N2	Uneven flow (nozzle 1/2)	The filament flow control system has detected feed unevenness through nozzle 1/2 twice in a short period of time. Continuing printing does not guarantee a quality result — printing has been paused.	Check the cleanliness of the nozzle and feed channel, the uniformity of the filament diameter, the profile settings, and the cleaner position.
E52	Print surface control triggered	The print surface control system has determined that the printed layer is not horizontal.	Make sure that the part is not detached from the platform and that there are no areas of excess material on it.
E61X/ E61Y/ E61Z/ E61E	Motor driver overheating (X/Y/Z/E)	Overheating of an element on the control board (driver) responsible for the operation of one of the stepper motors: PH movement (X/Y), platform movement (Z), material feed (E).	Make sure the room temperature is within acceptable limits and that the electronics compartment fan is running. For technical advice on this issue, contact technical support.
CE15Z	Obstacle to PH movement detected	When calibrating the axes, the Z sensor was triggered. This is usually due to the presence of foreign objects in the working area of the printer or an unlevelled platform.	Inspect the print area, level the platform, and restart the print or service operation.
CE16Z	Z sensor in end position	The load cell voltage is outside the limits before searching for zeros of the XY coordinates.	Make sure that the platform is not in the highest position and that there are no obstacles to move the printhead. Start printing or service operation again. For technical advice on this issue, contact technical support.
CE16TZ	Cleaner absences	When checking the operation of the load cell, no change in voltage was registered. This is possible in the absence of a cleaner.	Make sure the cleaner is installed or contact technical support.
CE51	Nozzles at different heights	The nozzle height difference exceeds the value that can be compensated automatically.	Make sure that the nozzles are installed as far as they will go, and the heating units are secured and not deformed. For technical advice on this issue, contact technical support.

DEVICE LOG

Code	Name	Description	Recomendation
CE70	USB read error	The task file cannot be read from the USB stick.	Download the task file again or use a different flash drive.
CE75T	Failed to level platform	The allowable height spread of the measurement points has been exceeded.	Make sure the glass is fixed on the platform and repeat the auto-levelling. For technical advice on this issue, contact technical support.



If the following events occur, do not take any action on your own. Contact technical support by mail support@epitum3d.com.

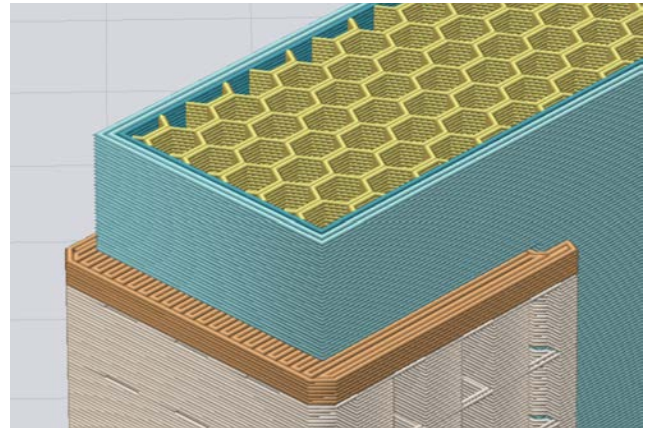
Code	Name	Code	Name
FE10N1/ FE10N2	Nozzle temperature sensor malfunction (nozzle 1/2)	FE13N1/ FE13N2	Critical nozzle overheating (nozzle 1/2)
FE10R	Heatsink temperature sensor malfunction	FE13R	Critical heatsink overheating
FE40T	Platform heater circuit malfunction	FE13T	Critical platform overheating
FE40N1/ FE40N2	Nozzle 1/2 heater circuit malfunction	FE60X/ FE60Y/ FE60Z/ FE60E	Driver failure (X/Y/Z/E)
FE62X/ FE62Y/ FE62Z/ FE62E	Driver overheating (X/Y/Z/E)	FE63X/ FE63Y/ FE63Z/ FE63E	Driver short circuit (X/Y/Z/E)
FE66N1/ FE66N2	Failed to stabilize nozzle temperature (nozzle 1/2)	FE66T	Failed to stabilize platform temperature

PRINT SPEED MODES

When printing starts, besides [material profile](#) selection, Epitum JL provides for speed mode selection. There are 3 speed modes by default: "**Slow**", "**Standard**" and "**Draft**". Speed mode is selected in accordance with the desired result, task features, and print material properties.

The task file divides the model into 4 areas:

- Outer surface** — Contours that form the shell of the model.
- Inner surface** — All contours of the model shell, except for the outer ones.
- Infill** — The interior area of the model.
- Support** — Support struts for overhanging parts of the model.



In the preset modes, the speed is adjusted as follows:¹⁵

Area\ Mode	Outer surface	Inner surface	Infill	Support	Recommendation
Slow	20	20	20	20	Printing small objects or objects with complex geometry. High-quality outer surface.
Standard	25	60	60	60	Printing objects with complex geometry. High-quality outer surface.
Draft	80	80	80	80	Printing products with medium details. The best combination for printing models with 100% filling.

All values are in mm per sec.

Epitum JL allows you to set speeds yourself by selecting the "**Manual 1**" or "**Manual 2**" mode when starting a print task. Use manual settings only if absolutely necessary. For recommended print speeds, contact your filament manufacturer.

¹⁵ The settings for the preliminarily set speed modes may differ depending on the installed 3D printer firmware version.

REMOVING AND REPLACING THE HEATING UNIT

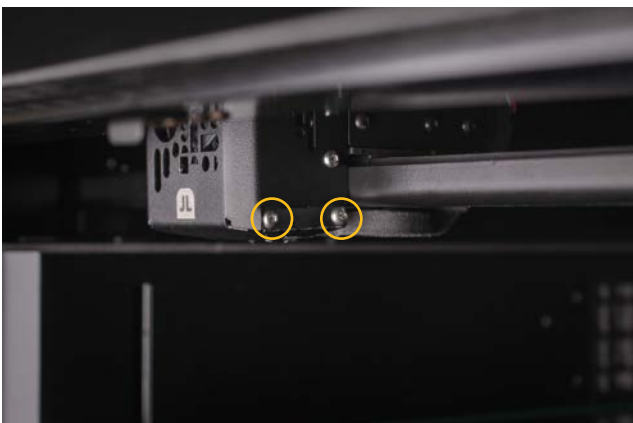
By default, Epitum JL is equipped with a heating unit. It is designed to print using most materials at operating temperatures of up to 430 °C. There is no need to remove the heating unit after each printing.

Remove it in the following cases:

- Before printing using PLA, PETG, and flexible materials from certain manufacturers, or when you need to replace "unit 400" for "unit 250".
- If there is any visible or hidden damage to the heater, which impedes the filament flow or results in improper operation of the heater. In this case, you need to replace the heater with a new one.
- When the feed channel is so clogged that nozzle replacement does not help, remove the heating unit and clean the channel manually.

To remove, install or replace the heating unit, follow these step-by-step instructions:

1. Unload the filament if it is loaded by selecting "**Service > Filament services > Filament unloading**" from the menu.
2. Switch the printhead (PH) to the middle (service) position by selecting "**Service > Diagnostics > Printhead service**".
3. Set the printer power button to 0. The printer turns off.
4. Put on the gloves (supplied) and manually move the printhead towards you.
5. Unscrew the 2 screws on each of the side walls of the PH; remove the flap.



REMOVING AND REPLACING THE HEATING UNIT

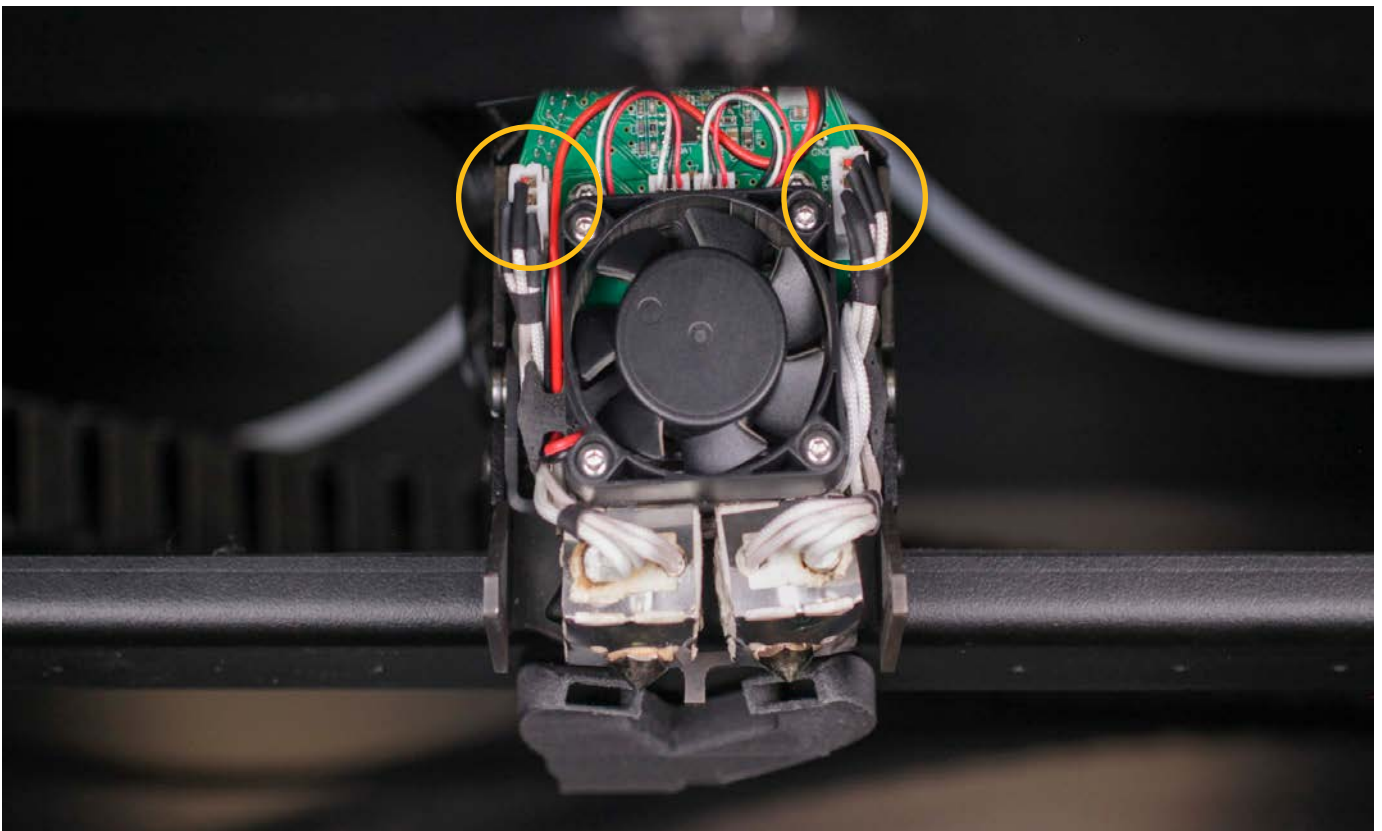
6. Unscrew the 4 screws on the PH left and right walls and move the cover towards yourself.



7. Disconnect the contacts to remove the heating unit from the connector on the PH board.



When disconnecting the contacts, pull on the plug, not on the wires. Be careful!



REMOVING AND REPLACING THE HEATING UNIT

8. Loosen the recessed screw in the radiator by 3 or 4 turns of the screwdriver supplied (the image shows the screw holding the left heating block).



9. Remove the heating unit from the pinhead by pulling it down.



Remove the heating unit unit with gloves or make sure it is not hot. Be careful!

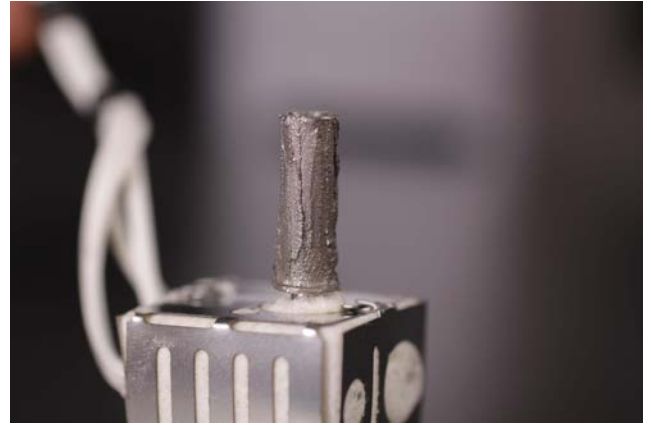


10. Perform the desired operation: clean the flow channel or replace the heating unit.
-

REMOVING AND REPLACING THE HEATING UNIT

11. Check for thermal paste on the outside of the thermal barrier (tube). If it is absent, apply it again (supplied). Assemble in the reverse order — from step 9 to 5.

12. Set the printer power button to 1. The printer turns on.



If you face any problems or have any questions, contact us by e-mail at support@epitum3d.com.

EPITUM JL

Q&A

QUESTIONS AND ANSWERS

How does the Epitum JL notification system work?

During operation, the printer can be in various operation states or waiting for the user's action. Each state turns on the corresponding color and lighting mode:

Color and lighting mode

Status

Constant light	Printing or waiting to print
Pulsation	Ready to print
Pulsation	Successful completion of printing
Constant light	Service operation
Pulsation	Printing is completed with notifications of non-critical events
Pulsation	Pause without auto-continue (requires user participation)
Pulsation	Printing aborted due to a critical event

What is the printer monitor?



This is one of the menu screens that displays data from various Epitum JL systems and sensors. You can open it by pressing the "Monitor" button from the printer menu.

How do I find the printer serial number?

Through the menu "Settings > About". The number is printed on the back of the printer, next to the power button.

What is the material profile?

The material profile is a set of parameters for working with material. It includes printing temperature, chamber temperature, load and unload temperatures, and flow ratio, as well as the operation level of the Epitum JL blower and cooling fans during operation. A complete list of profile parameters is available from the Printoformer menu "Settings > Material profiles".

A print task prepared in Printoformer describes only the geometric parameters of the future model, excluding the material used and the print speed. Therefore, the same task can be printed with various filaments using different [speed modes](#).

QUESTIONS AND ANSWERS

The basic set of profiles is stored in the Eptum JL and Printoformer memory by default. Each profile has been pre-tested by our print engineers. When upgrading the Printoformer software or the Eptum JL firmware, the list of standard profiles can be changed.

In addition to the basic set, there is a cloud database of profiles from which you can download the profile you need to the printer. The database can be accessed from the printer if it is connected to a PC, or from the Printoformer program in the "Eptum Cloud Base" tab of the "Material profiles" menu.

If the profile database does not contain the desired profile, it can be created in the Printoformer program. When creating a new profile, the parameters are selected by testing, and based on the data provided by the material manufacturer.



Identical materials from different manufacturers may require different profiles. Create a new profile for each filament you use. For detailed profile parameters, contact your filament manufacturer.

How do I create a new profile?

To create and upload a new profile into Eptum JL, follow these step-by-step instructions:¹⁶

1. Select "Settings > Material profiles" on the Printoformer menu bar.
2. Right-click in the "Profiles" field and select "Create new profile". Give the new profile a name and press the Enter key.
3. Change profile settings according to the material manufacturer's recommendations. Click "Save changes".
4. Now right-click on the new profile in the profile list and select "Save As...". Save the profile in .ppl format to a USB flash drive.
5. Insert a USB flash drive into your 3D printer and select "Material profiles > Import" from the printer menu.
6. Select the new profile from the list and press "OK".

Material profile uploaded successfully. Now it can be used for printing.

¹⁶ The procedure for creating a profile in Printoformer may differ depending on the version of the program.

QUESTIONS AND ANSWERS

How do I store and dry the filament?

Between use, we recommend you to store spools with filament in sealed packages with silica gel.

Some filaments are hygroscopic and absorb moisture from the atmosphere. Wet filament can clog the feed channel during printing, which affects the quality of the printed models and the 3D printer's functionality. If necessary, filament can be dried in a special dryer or through the menu function "Service > Filament drying". For example, Epitum JL allows you to dry PVA filament.

To do this:

1. Select "Service > Filament drying" from the menu.
2. Set the parameters. Temperature: 90 °C, time: 180 minutes.
3. The platform moves to the middle position. Place the PVA spool on the print platform.
4. Close the front door and wait for drying to finish.



The filament drying function, which is integrated into the 3D printer, does not guarantee reaching the required moisture level for some materials.



The spool material is generally not intended for use at high temperatures. For drying at above 100 °C, use a special oven. Contact the filament manufacturer for more detailed drying conditions.

What materials are compatible with each other?

The compatibility of two different materials is determined by a combination of their physical and chemical properties in terms of adhesion and shrinkage. Among the popular pairs of materials are PLA+PVA, ABS+HIPS, UltraX+PVA, and FormaX+HIPS.

For more information on the compatibility of various materials, contact your filament manufacturers.



The platform temperature is constant during printing. When printing with two materials, the lower of the two temperatures shall be set from the selected profiles.

For example, if you start printing with an **incompatible** pair of ABS+PVA, the build plate temperature will be taken from the PVA profile (45 °C) as the lowest one; this will not be enough for the ABS to adhere to the platform.

QUESTIONS AND ANSWERS

What is a printlist?

A printlist is a list of several print tasks. It can include up to 20 different tasks; the number of repetitions of each task is arbitrary.

After creating a task in Printoformer, you can add it to the "Local folder": this is a local task base on your PC. To create a printlist, go to the "Network" tab, right-click in the section area "Local storage" and select "Create a printlist".¹⁷



In terms of operation, a printlist is similar to a standard file folder.

The difference is that it is a separate file with the extension .ppl, which can be run only on Epitum printers.

To save a single task or a whole printlist to the 3D printer, drag it from the Printoformer task database to the card of the connected printer in the "Network" section.

What should I do if there is no filament flow and/or I hear clicks in the printhead?

If you hear clicks when printing the first layer, loosen the nozzle [Z offset](#) by 0.05. If this happens when printing other model layers, check the [profile](#) settings, [replace the nozzle](#), and [load the filament](#) twice.

The filament flow control system monitors the main possible problems in the filament flow. However, not all of them can be fixed by automatic procedures. When the filament flow control system is frequently activated, or when the flow control is turned off, pay attention to the following:

- The print profile should match the threaded filament. The same material produced under the brand of different manufacturers has different characteristics; each of them requires an individual printing profile.
- The filament should have a uniform diameter of 1.75 ± 0.1 mm along the entire length of the spool. An uneven filament diameter is a sign of poor-quality material; this can cause printing problems.
- The filament flow channel should be clean. During printing, filament residues can accumulate on the inner walls of the nozzle, which results in clogging. In addition, the printing process may wear out the nozzle over time. You should have some spare nozzles.



For printing with abrasive materials (such as FormaX or UltraX), use a steel nozzle. For working with PLA or ABS, a brass nozzle can be used. For detailed printing conditions, contact the filament manufacturer.

¹⁷ Procedures for creating a printlist and starting printing in Printoformer may vary depending on software version.

QUESTIONS AND ANSWERS

What should I do if the filament runs out, and how do I replace it during printing?

The filament control system detects when the filament runs out and pauses printing. After that, open the side door on the side of the finished material and remove the empty spool. Replace the spool and perform the load operation. From the menu, select "Service > Load filament", and Epitum JL will squeeze a small amount of filament at the front of the build plate. Remove the squeezed filament from the nozzle and select "Continue" from the menu. Printing resumes at the stop point.



When replacing filament for another material, check compatibility data from the filament manufacturers.

If the spool did not end, but it requires replacement, follow these step-by-step instructions:

1. Pause printing.
2. Select "Service > Replace filament" from the menu; Epitum JL sequentially starts filament unload and load procedures. Remove and install the spool through the side door.
3. Press "Continue". Printing resumes at the stop point which it had stopped before.

What printer parts are consumable?

Nozzles, flap, silicone cleaners, glass, and filament feed tube.

What types of USB drives can I use?

Flash drives with a FAT32 file system and USB interface 2.0. Recommended size: up to 16 GB.

Why do I need to calibrate the cleaning system?

While calibrating the [cleaning system](#), Epitum JL remembers the position above the cleaner, relative to which the working area of the 3D printer is located. Before printing a model, brief cleaning is performed to maintain the layer surface quality and the outer shell of the model.

Why does Epitum JL often pause for a short time?

This usually happens when printing small models. The print status bar displays "Pause" with a countdown to the completion of the operation to maintain surface quality, as the material needs some time to cool. This procedure is associated with the material profile parameter "Minimum layer time". If you reduce this parameter, there is a risk of surface defects on the model due to overheating.

QUESTIONS AND ANSWERS



To avoid such pauses, several models can be printed at once to increase the total layer time.

The operation of the filament flow control system is similar. If the system detects deviation from a stable flow, Epitum JL starts the flow channel cleaning procedure: the printhead is moved into position above the cleaner, and the extruder feeds some filament for cleaning. If the feed does not return to normal during cleaning, or if the feed deviation reoccurs within the allotted time after cleaning, Epitum JL will pause printing until user intervention.¹⁸

If the filament flow control system often detects errors in the filament flow, pay attention to the [profile](#) settings and the quality of the filament used.

What do I do if the print chamber does not warm up?

Check if chamber heating is enabled from "Settings > Systems and Modes > Chamber Heating". If it is switched on and the chamber is still not warming up, make sure all printer doors and covers are closed. It takes at least 20 minutes to prepare a print with the chamber warming up. If the temperature in the chamber does not rise for a long time, inform technical support by mail: support@epitum3d.com.

What kind of service is required for the printer?

Guides, circuit boards in the control unit, fans in the printer casing, and the thermal barrier of the heating element need inspection and maintenance. All lubricant cleaning and oil change operations must be performed while the Epitum JL is off.

Do not allow lubricant to change color to red-brown; prevent stains and traces from adhesion agents, as well as corrosion on the guide surfaces. For replacement, use filament lubricant as per DIN 51825, class KP00K.

Use a special brush and a portable vacuum cleaner (not supplied with the printer) to clean the control unit and the casing fans from dust and fine dirt.

The maintenance frequency depends on operating conditions. Check the condition of the printer units and perform appropriate maintenance as necessary, at least once a year.

¹⁸ The self-diagnosis procedure may differ depending on the firmware version.