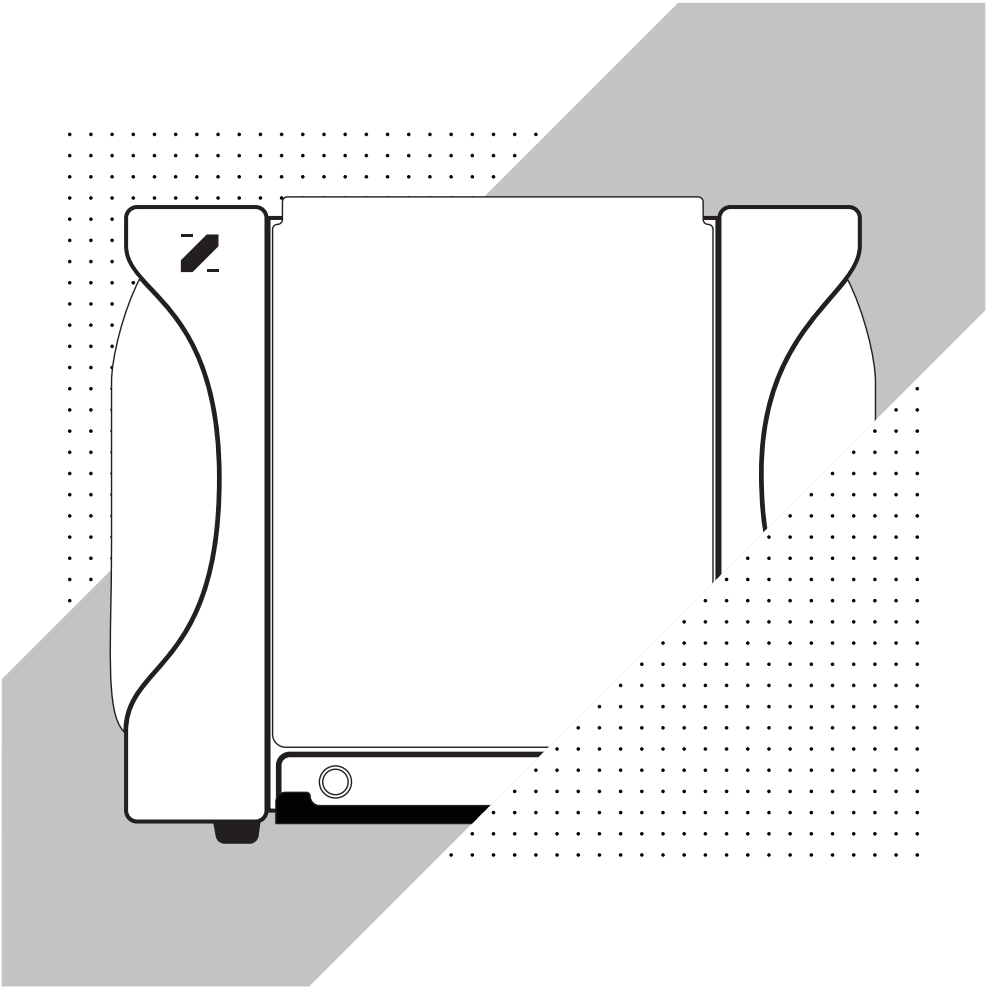
ZMORPH



ZMORPH FAB
QUICK START GUIDE

zmorph3d.com

ZMORPH FAB
set comparison

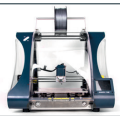
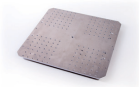
		Zmorph Fab **5-in-1**	Zmorph Fab **2-in-1**
Zmorph Fab Printer		x	x
Single Extruder Toolhead 1.75 + accessories		x	x
Dual Extruder Toolhead + accessories		x	
Heated table		x	x
CNC Milling Toolhead + accessories		x	x
CNC worktable		x	x
Laser Toolhead + accessories		x	
Thick Paste Extruder Toolhead		x	

Table of content

Table of content

1. Before you start

How to make the most of Quick Start Guide

The Zmorph Quick Start Guide outlines the steps for getting Zmorph Fab up and running. The guide is split into sections. Each section contains pictures along with step-by-step instructions. Make sure to follow the steps with the guide to avoid any problems during your first time with Zmorph Fab.

Knowledge Base

Access tutorials, files to download, information about machine maintenance, and technical support from support.zmorph3d.com

Manual

Access the full manual instruction for Zmorph Fab and all toolheads compatible with Zmorph Fab machine. https://bit.ly/ZmorphFab_Manual

Zmorph Academy

Comprehensive online platform for Zmorph Fab users. With almost 100 courses full of videos, pictures, and exercises Zmorph Academy is designed to create and build your skills with 3D printing, CNC milling, and laser engraving. After finishing, the user will be able to make custom working PCBs and other complex projects. Enroll for free at academy.zmorph3d.com

Materials Library

Zmorph Materials Library include mechanical and working parameters for materials allowed to use on Zmorph Fab machine.

Zmorph Applications Catalog

Browse the catalog to check the technical possibilities and applications of the Zmorph Fab machine.

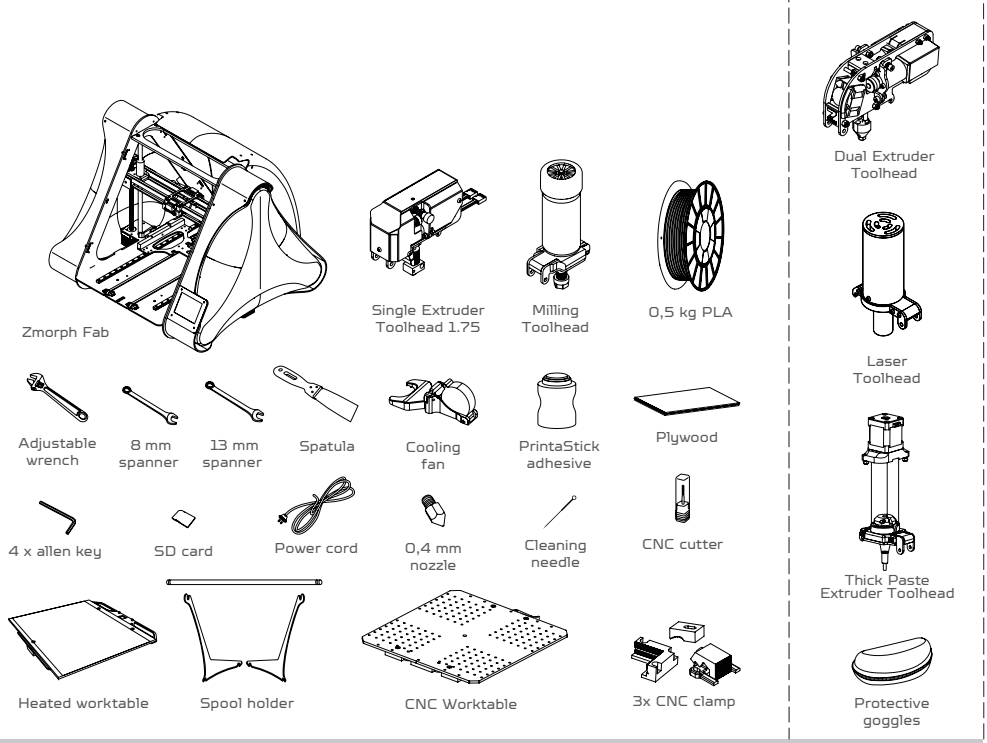
2. Health and safety at work

- Zmorph Fab Multitool 3D Printer generates very high temperatures during operation, and has easily accessible moving parts. Caution is advised.
- When operating the printer, avoid situations that could cause burns or interfere with the proper functioning of the device.
- Due to their size and specificity, Zmorph devices are not intended for use by children under 14 years of age and persons with reduced manual, motor and psychomotor skills. If the device is operated by handicapped or elderly people, the Manufacturer recommends using assistance or supervision of appropriately trained persons.
- Do not leave the device unattended during operation, especially when working with the Laser Toolhead.
- Periodically check the condition and functionality of the 3D printer to avoid potential malfunctions.
- Switch off the device after finishing work.
- Regularly check the wear and tear of parts in the machine. The list of spare parts can be found in the spare parts section.
- For assistance with technical problems and any maintenance work, please contact the Technical support at the following address: https://support.zmorph3d.com
- Keep the unit away from heat sources, flammable materials, equipment emitting radiation, moisture, water and other liquids.
- Before starting work, ensure that the device is out of reach for children and animals.
- Be careful not to drop, hit or shake the device.
- This device is not intended to operate in a potentially explosive atmosphere.
- For detailed information on the safety of devices with different toolheads, please refer to the manual instruction avaliable on Zmorph Knoledge Base https://bit.ly/ZmorphFab_Manual

3. What’s in the box

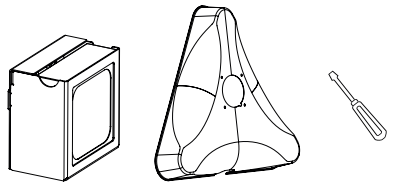
Zmorph Fab 5-in1

Zmorph Fab 2-in1

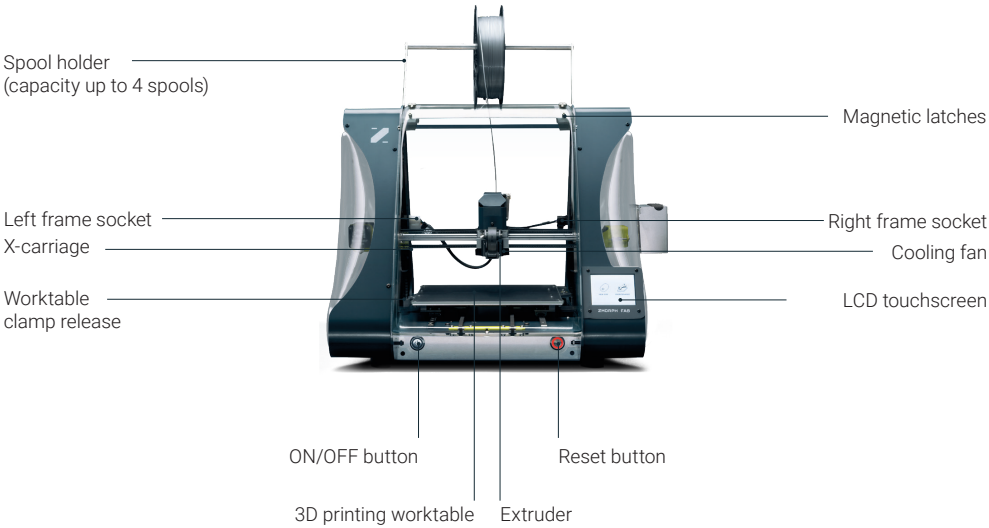


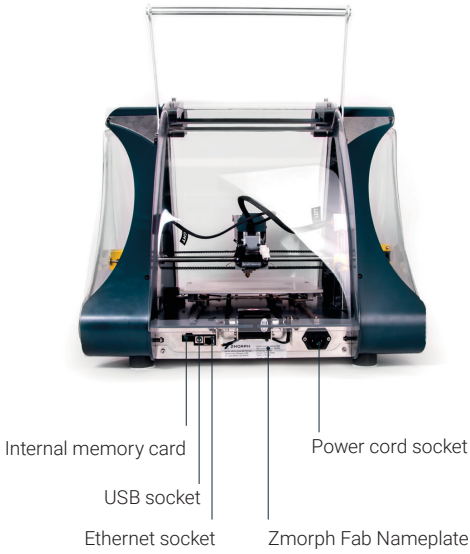
Additional accesories:

Zmorph Fab can be upgraded with HEPA filtration system. Hepa filtration system can be send along with the machine and with already installed right cover or it is possible to order it separately.



4. Overview

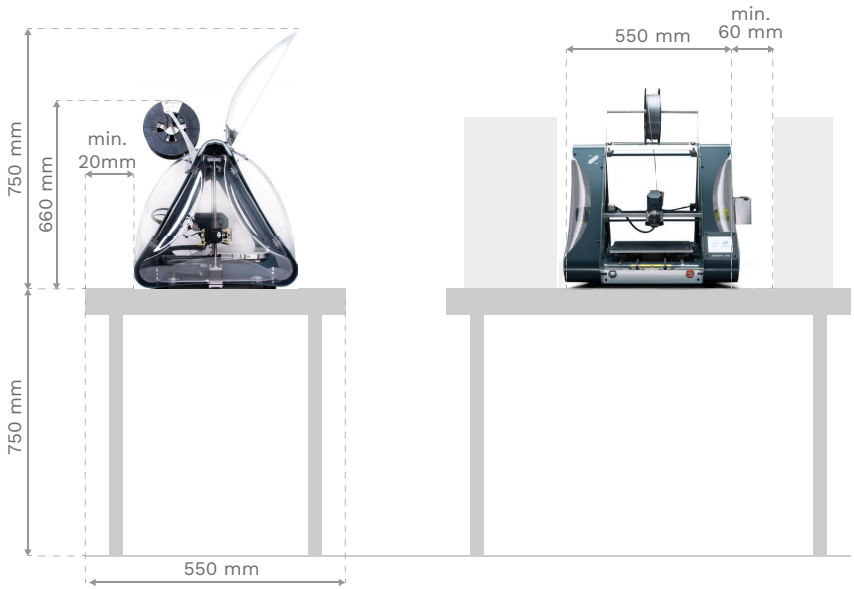

Spool holder
(capacity up to 4 spools)
Magnetic latches
Left frame socket
X-carriage
Right frame socket
Cooling fan
Worktable
clamp release
LCD touchscreen
ON/OFF button
Reset button
3D printing worktable
Extruder


Internal memory card
Power cord socket
USB socket
Ethernet socket
Zmorph Fab Nameplate

5. Location requirements

After unpacking, place the machine in a suitable location.

- The machine should be placed on a stable, flat surface with sufficient space above the machine.
- Do not cover the machine with any materials during operation.
- The machine should not be exposed to moisture.
- The electrical installation of Zmorph Fab requires it to be connected to a grounded wall outlet.
- Do not use extension cords.
- Leave a 20 mm (minimum) space from the wall, for proper ventilation.
- Leave a 40 mm (minimum) space from the right side for better access to the SD card slot (or 60mm for the HEPA Filtration system cover).
- It is recommended that the room in which the machine is located should be well ventilated, as hazardous vapors may escape from the machine during operation.



6. Setting up Zmorph Fab

6.1 Unboxing

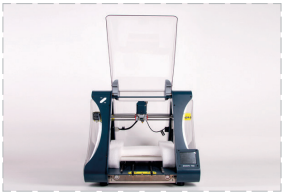
Gently cut the tapes and open Zmorph Fab box.

Take out all containers with accessories from the box.

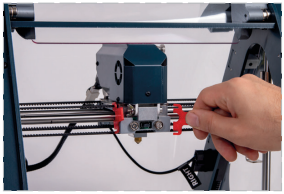
Take out Zmorph Fab from the box. Remove side protective foams and foils.

6.2 Safety features removal

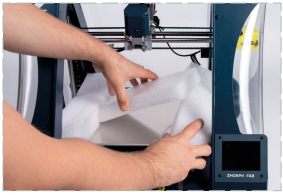
After the machine has been set up at the target workplace, before it is put into operation for the first time, remove the belt clips from the toolhead and the protective foam from the worktable.



Open the front cover of the machine to the point where it touches with the back cover. Magnetic latches will keep the cover open.



Remove the protective tool band.

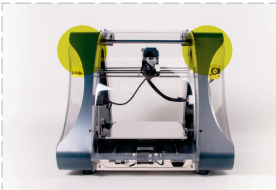


Gently remove the work table protection foams.

6.3 Assembling the spool holder

For a better experience with the Zmorph Fab machine, it is recommended to assemble the dedicated spool holder.

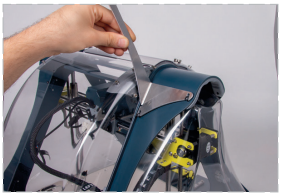
Prepare the spool holder components and a 2.5 mm Allen key.



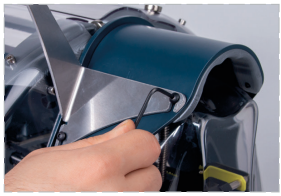
Look at the back of Zmorph Fab. Spool holder attachment screws are placed at the top of the frame and highlighted on the picture.

Loosen the frame screws with a 2.5 mm Allen key.

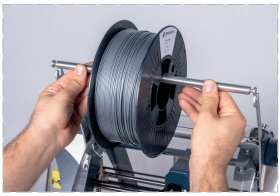
Loosen the screws to the point where you can slide the spool holder.



Slide the spool holder in place.



Tighten the screws.

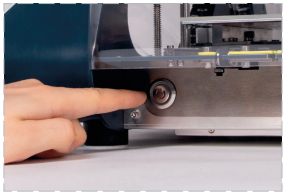


Take out the filament roll from the plastic bag and slide it on the bar. Put the bar with filament on the holders.

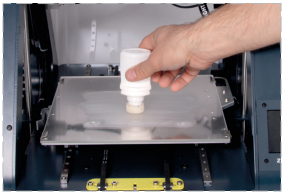
7. First use

When the machine is commissioned for the first time after transport, it is necessary to perform an initial calibration process (for more information, see the chapter on autocalibration). During this process, the machine will heat up and it will be necessary to insert material into the toolhead. After the calibration process, the machine is ready to perform its first print.

Connect the power cable to the socket.

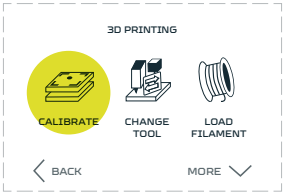


Turn on the machine.



Apply 3D printing adhesive to the center of the worktable. Two layers should be enough.

Choose ‘MAINTENANCE’.



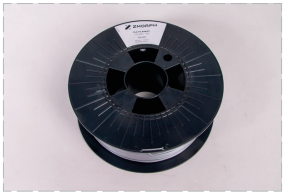
Choose ‘CALIBRATE’.

Choose ‘AUTO 3-POINT’. Wait for the machine to heat up and finish the probing.

To ensure best calibration result print calibration pattern. Choose ‘START’.

8. Single Extruder Toolhead 1.75mm

8.1 Loading the filament



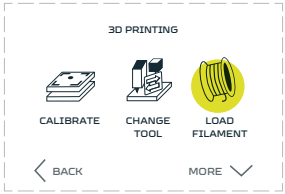
Prepare the material. The 0.5 kg spool is included to the package. Take out the filament roll from the plastic foil, remove moisture absorber.

You can find out what kind of filament you own by looking at the sticker on the filament roll. Zmorph Fab package comes with PLA.

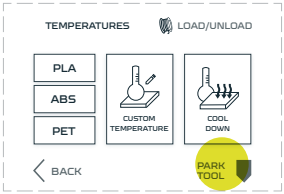
Slide spool on the bar and place it on the machine.

To preheat the extruder, follow these steps:

Choose the 'MAINTENANCE' from the LCD touchscreen menu.



Choose 'LOAD FILAMENT'.

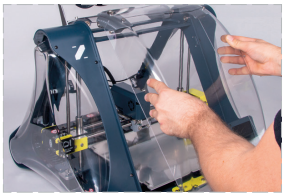


Choose PARK TOOL, wait for the machine to position the toolhead. When done, choose 'PLA' to preheat the material.

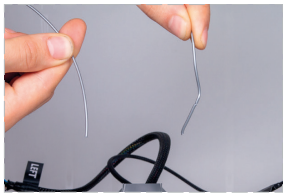
NOTE

The 'PREHEAT PLA' button will heat the nozzle to 210°C the 'PREHEAT ABS' and 'PREHEAT PET' to 240°C.

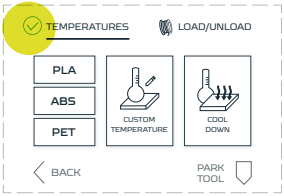
Single Extruder Toolhead 1.75mm



Take off the front cover.

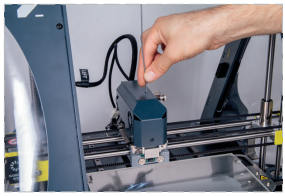


Straighten the tip of filament up or cut its end.

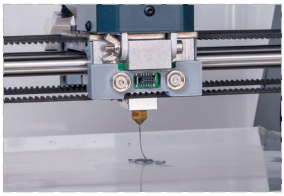


Wait till extruder reaches the proper temperature. The yellow HEATING sign will change colour from yellow to green.

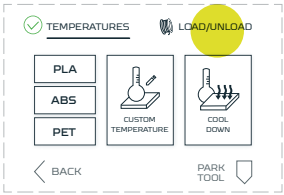
Insert filament into the guide hole on top of the extruder.



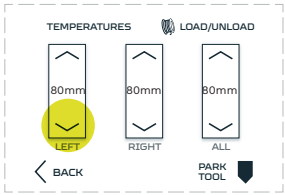
Push the filament down until you feel it has been grabbed by extruder drive gear.



Wait until the material flows out of the nozzle. Tap the feed button again if necessary.



Tap the LOAD/UNLOAD menu.



Tap the bottom arrow on the screen to feed 80 mm of the filament. Choose down arrow with LEFT description to do that.

NOTE

By tapping the button showing '80 mm' you can change the amount of extruded filament to 15 or 5 mm.

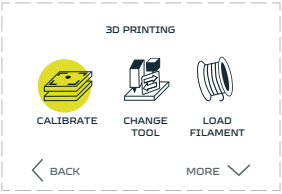
8.2 Autocalibration

NOTE

Before performing the automatic calibration make sure the worktable is clean and prepared.

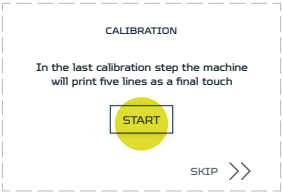
During the automatic calibration process the printer is heating up.

Choose 'MAINTENANCE'.



Choose 'CALIBRATE'.

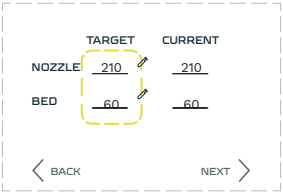
Choose 'AUTO 3-POINT'. Wait for the machine to heat up and finish the probing.



To ensure best calibration result print calibration pattern. Choose 'START'.

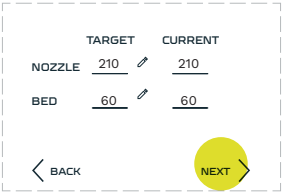
NOTE

By pressing the 'SKIP' button the user is approving the automatic calibration without visual validation. After that the calibration process ends.

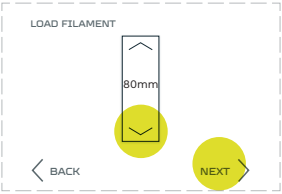


Set the printing temperature to the PLA material., Nozzle 210 °C, bed 60 °C.

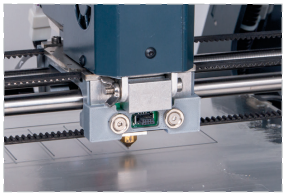
To do that tap the gaps and type the temperature on the keyboard.



Wait for extruder to heat up. When done tap 'NEXT'.



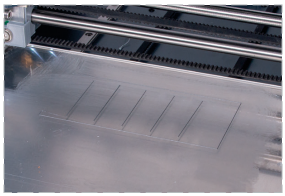
If your filament is not loaded, feed it using 'bottom arrow ' on the screen. If your filament is already loaded choose 'NEXT'.



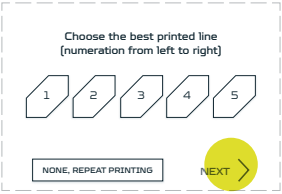
Wait for the machine to finish printing the pattern.

NOTE

Each one of those lines is printed on a slightly different height (+/- 0.05 mm) with the middle line being the result of the automatic calibration process.



Look at the printed lines and select the best one on the screen. A correct line is the one that sticks to the table after gently touching it with the finger, but can be easily ripped off with a fingernail.



Apply your choice by pressing the 'NEXT' button.

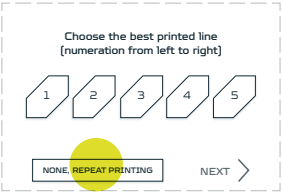
Zmorph Fab calibration is complete.

Clean the bed. Your machine is ready for your first print!

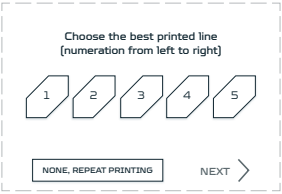
NOTE

If none of the printed lines is proper, please follow these steps

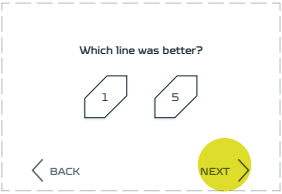
Single Extruder Toolhead 1.75mm



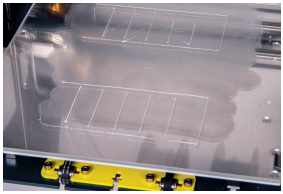
Choose ‘NONE’ option.



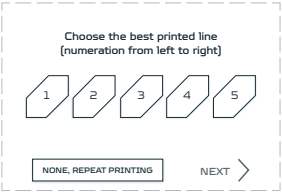
Tap the ‘NEXT’ button.



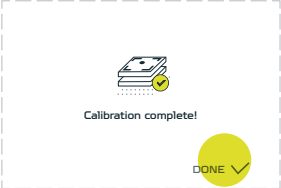
The printer will ask which of the line is closest to the best result 1 or 5. Pick one and tap ‘NEXT’.



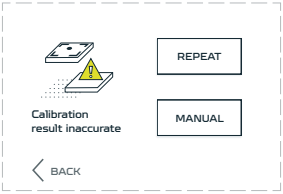
The machine will prepare another 5 lines, depending on the choice - lower (1) or higher (5).



Select the best one by pressing their corresponding numbers visible on the screen and clicking ‘NEXT’.



Zmorph Fab calibration is complete.



NOTE

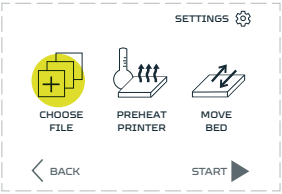
If after the second round of calibration the user still decides that none of the lines are accurate, the machine will show a warning screen and advise to repeat the automatic calibration process or to perform the manual calibration.

If meeting calibration issues or autocalibration doesn’t work, please contact Technical Support.

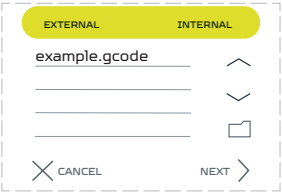
8.3 First Print

After uploading the file to an internal card or inserting an SD card with the file:

Choose 'NEW JOB'.



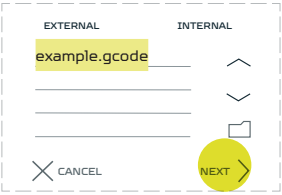
Choose 'CHOOSE FILE'.



Files uploaded to the internal card are located in the 'INTERNAL' tab, files uploaded to the SD card are located in the 'EXTERNAL' tab.

Select the previously prepared G-code file. To open a folder, select its name.

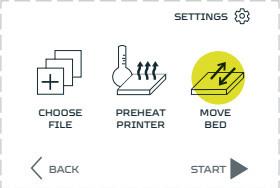
Exiting the folder is done by selecting the folder icon.



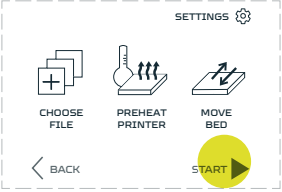
After selecting the file choose 'NEXT'.

NOTE

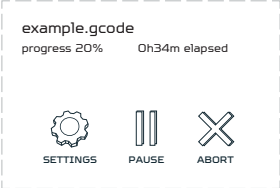
If the selected G-code file has temperature presets after pressing the 'NEXT' button the machine will automatically start preheating.



The table can be prepared by selecting 'MOVE BED'. Apply an adhesive solution to the table surface.



Choose 'START'.

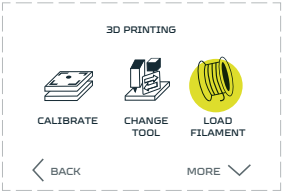


Printing will start automatically when the extruder and the table have reached the right temperature.

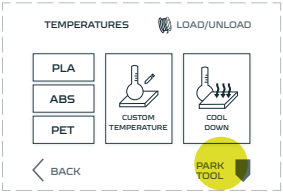
9. Dual Extruder Toolhead

9.1 Loading the filament

Choose the 'MAINTENANCE' from the LCD touchscreen menu.



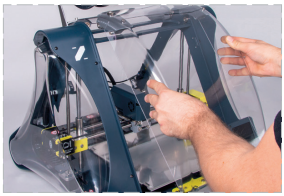
Choose 'LOAD FILAMENT'.



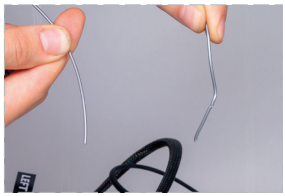
Choose PARK TOOL, wait for the machine to position the toolhead. When done, choose 'PLA' to preheat the material.

NOTE

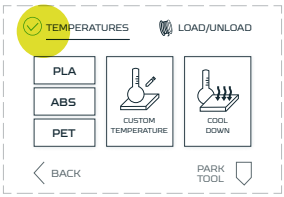
The 'PREHEAT PLA' button will heat the nozzle to 210°C the 'PREHEAT ABS' and 'PREHEAT PET' to 240°C.



Take off the front cover.

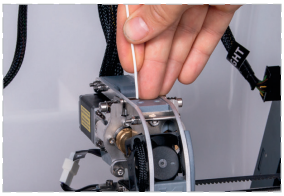


Straighten the tip of filament up or cut its end.

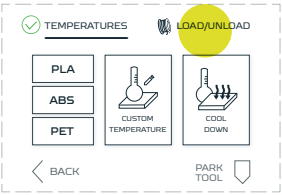


Wait till the extruder reaches the proper temperature. The yellow HEATING sign will change colour from yellow to green.

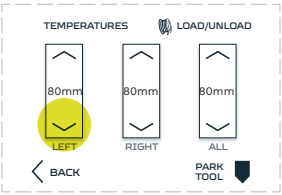
Dual Extruder Toolhead



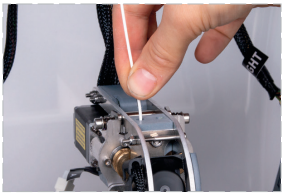
Insert the filament into the left side guide hole on top of the extruder.



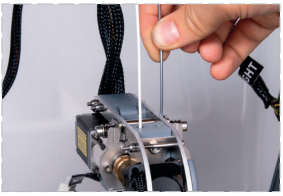
Tap the 'LOAD/UNLOAD' menu.



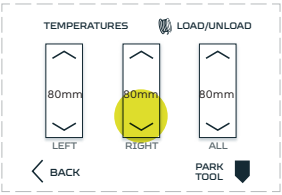
Tap the bottom arrow on the screen to feed 80 mm of the filament. Choose down arrow with 'LEFT' description to do that.



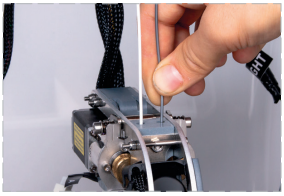
Push the filament down until you feel it has been grabbed by the extruder drive gear.



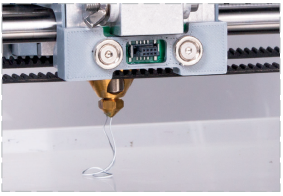
Insert the second filament into the right side guide hole on top of the extruder.



Tap the bottom arrow on the screen to feed 80 mm of the filament. Choose down arrow with 'RIGHT' description to do that.



Push the filament down until you feel it has been grabbed by the extruder drive gear.



Wait until the material flows out of the nozzle. Tap the feed button again if necessary.

NOTE

Third menu named 'ALL' maintaines both filaments at the same time. Tap down arrow with 'ALL' description to feed both filaments.

By tapping the button showing '80 mm' you can change the amount of extruded filament to 15 mm or 5 mm.

9.2 Autocalibration

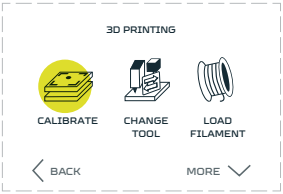
NOTE

Before performing the automatic calibration make sure the worktable is clean and prepared.

See the toolhead changing process before mounting the Dual Extruder Toolhead on the machine.

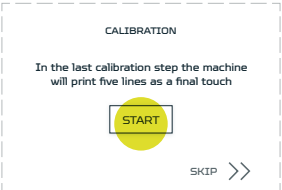
During the automatic calibration process the printer is heating up.

Choose 'MAINTENANCE'.



Choose 'CALIBRATE'.

Choose 'AUTO 3-POINT'. Wait for the machine to heat up and finish the probing.

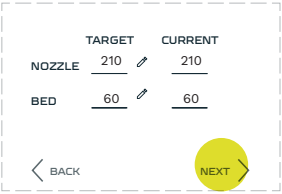


To ensure best calibration result print calibration pattern. Choose 'START'.

NOTE

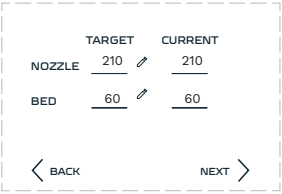
By pressing the 'SKIP' button the user is approving the automatic calibration without visual validation. After that the calibration process ends.

Dual Extruder Toolhead

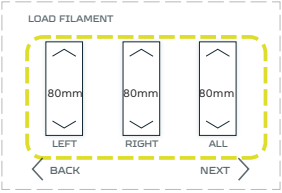


Set the printing temperature to the PLA material. Nozzle 200 °C, bed 60 °C.

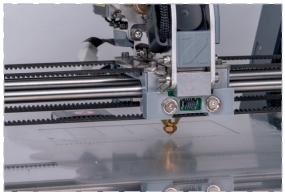
To to that tap the gaps and type the temperature on the keyboard.



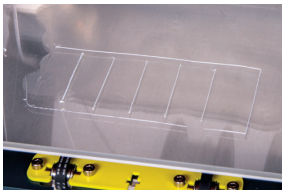
Wait for extruder to heat up. When done tap 'NEXT'.



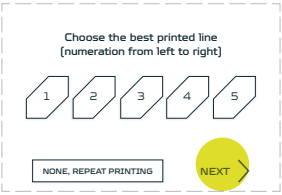
Use the arrow buttons on the screen to feed the material on both sides of the extruder until it start to pour out from the nozzle. (it might take a couple times), after that press the 'NEXT' button.



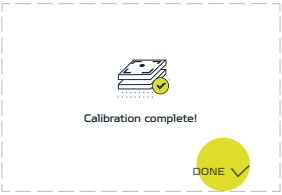
Wait for the machine to finish printing pattern.



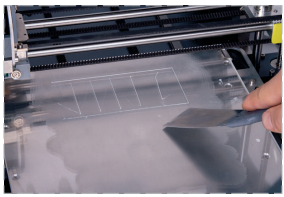
Look at the printed lines and select the best one on the screen. A correct line is the one that sticks to the table after gently touching it with the finger, but can be easily ripped off with a fingernail.



Apply your choice by pressing the 'NEXT' button.



Zmorph Fab calibration is complete.

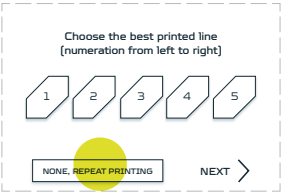


Clean the bed. Your machine is ready for your first print!

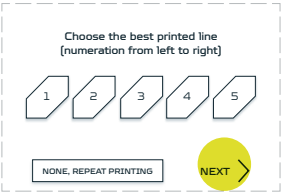
NOTE

Each one of those lines is printed on a slightly different height (+/-0.05 mm) with the middle line being the result of the automatic calibration process.

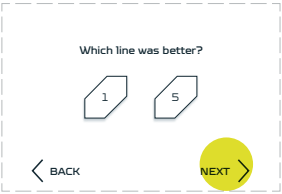
If none of the printed lines is proper, please follow these steps:



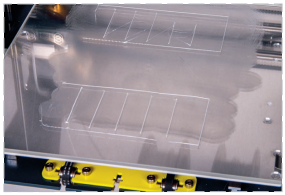
Choose 'NONE' option.



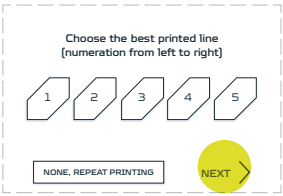
Tap the 'NEXT' button.



Printer will ask which of the line is closest to the best result 1 or 5. Pick one and tap 'NEXT'.

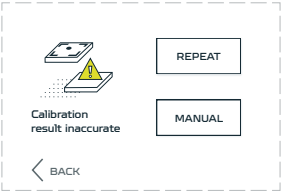


Printer will prepare another 5 lines lower or upper according to your choice. Each line is printed 0.05 mm lower/upper according to user choice.



Pick the best line and nd tap 'NEXT'.

Calibration complete.



NOTE

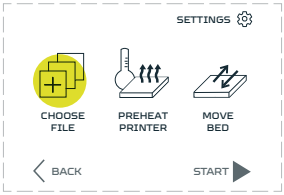
If after the second round of calibration the user still decides that none of the lines are accurate, the machine will show a warning screen and advise to repeat the automatic calibration process or to perform the manual calibration.

If meeting calibration issues or autocalibration doesn't work, please contact Technical Support.

9.3 First Print

After uploading the file to an internal card or inserting an SD card with the file:

Choose 'NEW JOB'.

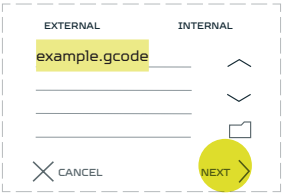


Choose 'CHOOSE FILE'.

Files uploaded to the internal card are located in the 'INTERNAL' tab, files uploaded to the SD card are located in the 'EXTERNAL' tab.

Select the previously prepared G-code file. To open a folder, select its name.

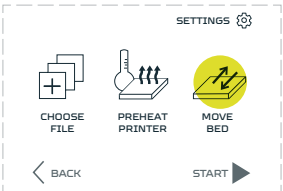
Exiting the folder is done by selecting the folder icon.



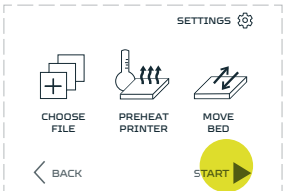
After selecting the file choose 'NEXT'.

NOTE

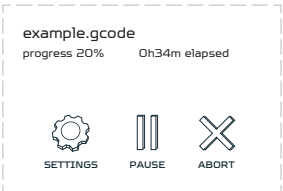
If the selected G-code file has temperature presets after pressing the 'NEXT' button the machine will automatically start preheating.



The table can be prepared by selecting 'MOVE BED'. Apply an adhesive solution to the table surface.



Choose 'START'.



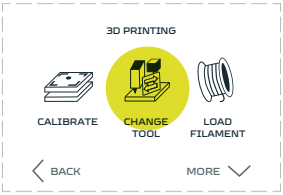
Printing will start automatically when the extruder and the table have reached the right temperature.

10. Toolhead change

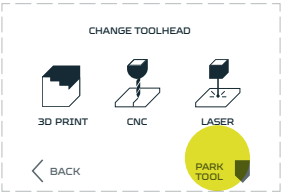
Changing and mounting toolheads require 3 mm Allen key usage. It is included in the foam insert with accessories.

10.1 Dismounting Toolhead

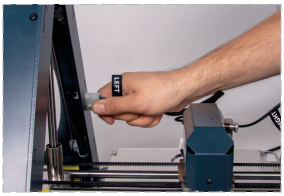
Select 'MAINTENANCE'.



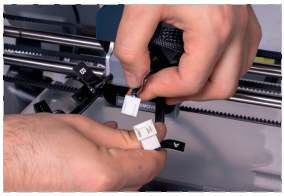
Select 'CHANGE TOOL'.



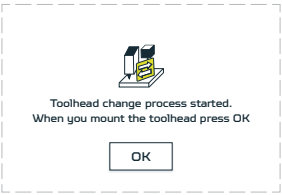
Select 'PARK TOOL', wait for positioning process to be finished.



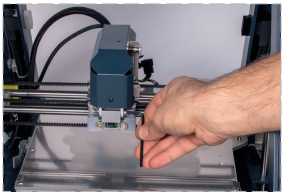
Disconnect the toolhead cable from the machine frame socket.



Disconnect the toolhead from the X carriage.

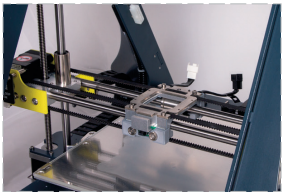


Zmorph Fab will inform about toolhead change process.



Use 3 mm Allen key to loose the screw mounting the toolhead.

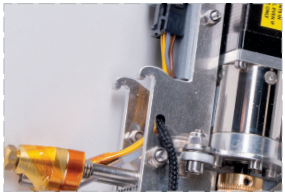
Lift the toolhead from the front to back from the X-carriage.



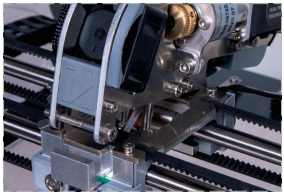
The printer is ready for mounting another toolhead.

10.2 Mounting toolheads

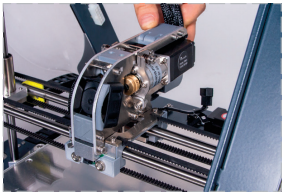
Each toolhead has similar mounting method



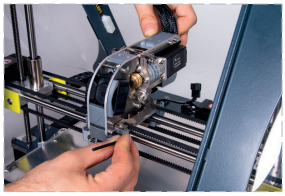
Find the bottom hooks placed on the back of the toolhead.



While placing the toolhead be sure the hooks are in the right place.



Gently mount new toolhead placing it from the back to the front in the X-carriage.



Tighten the mounting screw while gently pushing the toolhead forward.

NOTE

Tightening the mounting screw without pushing the toolhead to the front might cause the connection between the toolhead and X carriage to be loose. This might cause further errors in calibrations and printing processes.

Each time after changing the toolhead it is better to check if the connection is correct. Lift the back of the toolhead and check if the rear hooks are not moving up and down. If yes loose the front mounting screw and once again push and hold the toolhead forward and tighten the mounting screw.

10.3 Smart Toolhead change

Next steps depend on which method and toolhead will be used:

Single Extruder Toolhead 1.75

- Connect the ‘LEFT’ cable to the ‘LEFT’ frame socket.
- Connect the extruder ‘A’ cable to the ‘A’ plug and the ‘B’ cable to the ‘B’ plug on the X carriage.

Laser Toolhead

- Connect the ‘LEFT’ cable to the ‘LEFT’ frame socket and ‘RIGHT’ cable to the ‘RIGHT’ frame socket.

Thick Paste Extruder Toolhead

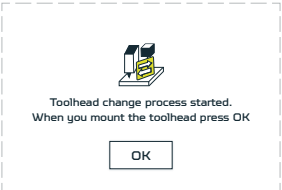
- Connect the ‘LEFT’ cable to the ‘LEFT’ frame socket.
- Connect the extruder ‘A’ cable to X carriage ‘A’ plug.

Dual Extruder Toolhead

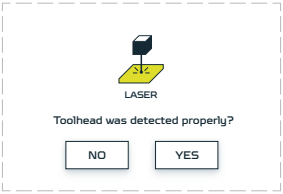
- Connect the ‘LEFT’ cable to the ‘LEFT’ frame socket and ‘RIGHT’ cable to the ‘RIGHT’ frame socket.
- Connect the extruder ‘A’ cable to the ‘A’ plug and the ‘B’ cable to the ‘B’ plug on the X carriage.

CNC Milling Toolhead

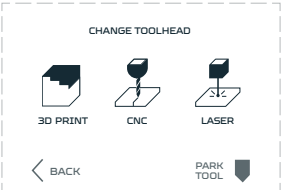
- Connect the ‘LEFT’ cable to the ‘LEFT’ frame socket.
- Connect the extruder ‘A’ cable to X carriage ‘A’ plug.



After connecting all extruder cables choose ‘OK’.



Zmorph Fab will recognize the toolhead automatically. If toolhead is correct choose ‘YES’.



If machine doesn’t recognize the toolhead choose ‘NO’ and it will lead you to change toolhead menu, where you can choose your toolhead manually.

10.4 Manual Toolhead change

Single Extruder Toolhead 1.75

- Connect the 'LEFT' cable to the 'LEFT' frame socket.
- Connect the extruder 'A' cable to the 'A' plug and the 'B' cable to the 'B' plug on the X carriage
- Choose 'MAINTENANCE'.
- Choose 'CHANGE TOOL'.
- Choose '3D PRINTING'.
- Choose 'SINGLE PRINTING'.
- Choose 'SINGLE EXTRUDER TOOLHEAD 1.75'.

Laser Toolhead

- Connect the 'LEFT' cable to the 'LEFT' frame socket and 'RIGHT' cable to the 'RIGHT' frame socket.
- Choose 'MAINTENANCE'.
- Choose 'CHANGE TOOL'.
- Choose 'LASER'.

Thick Paste Extruder Toolhead

- Connect the 'LEFT' cable to the 'LEFT' frame socket.
- Connect the extruder 'A' cable to X carriage 'A' plug.
- Choose 'MAINTENANCE'.
- Choose 'CHANGE TOOL'.
- Choose '3D PRINTING'.
- Choose 'THICK PASTE PRINTIG'.

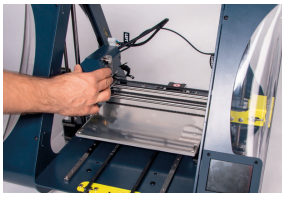
Dual Extruder Toolhead

- Connect the 'LEFT' cable to the 'LEFT' frame socket and 'RIGHT' cable to the 'RIGHT' frame socket.
- Connect the extruder 'A' cable to the 'A' plug and the 'B' cable to the 'B' plug on the X carriage.
- Choose 'MAINTENANCE'.
- Choose 'CHANGE TOOL'.
- Choose '3D PRINTING'.
- Choose 'DUAL PRINTING'.
- Choose 'DUAL EXTRUDER TOOLHEAD'.

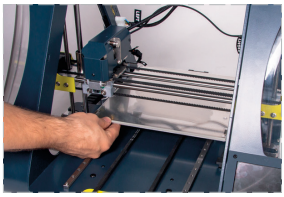
CNC Milling Toolhead

- Connect the 'LEFT' cable to the 'LEFT' frame socket.
- Connect the extruder 'A' cable to X carriage 'A' plug.

11. Changing worktable



Place the toolhead in convenient position for removing worktable.



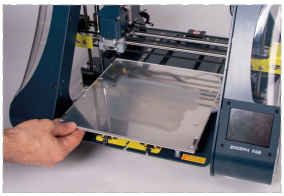
Slide the table backwards.

Disconnect the table plug.

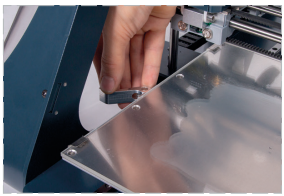
NOTE

The user can move the toolhead manually by disabling the motors by:

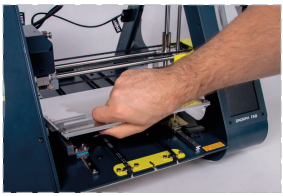
- pressing the reset button,
- powering down the machine,
- parking the toolhead in the 'CHANGE TOOLHEAD' section,
- waiting 1 minute for the standby mode.



Pull the worktable forward.

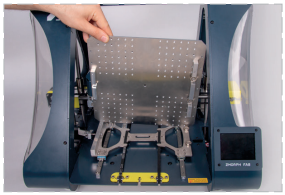


Pull the lever placed on the left to unlock the heated table.

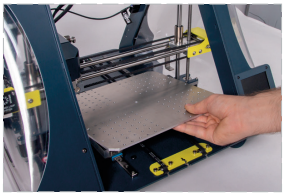


Lift the table with a little bit of strength up to disconnect it from the carriage magnets.

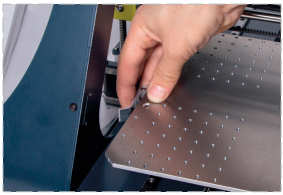
Changing worktable



Take the CNC table. Notice the magnets under the table are on the proper side.



Place the worktable on the carriage, magnets will clip it on.



Pull the lever back to lock the table on the carriage.

Make sure that lever doesn't block the table movement by pulling forward.

12. CNC milling

12.1 Safety

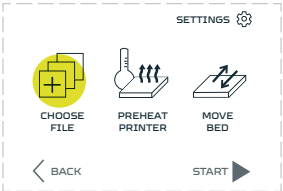
Before first work with CNC refer to the safety instruction available in Manual or Zmorph Knowledge Base

- https://bit.ly/ZmorphFab_Manual
- https://bit.ly/CNC_PRO_Safety

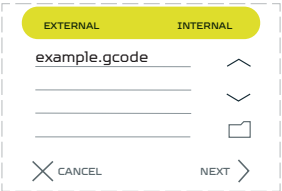
12.2 Calibration and first work

After uploading the file to an internal card or inserting an external SD card with the prepared file:

Enter the 'NEW JOB' menu.



Go to the 'CHOOSE FILE' section.

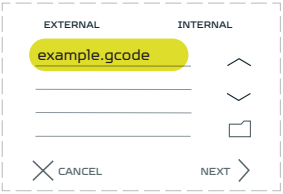


Files uploaded to the internal SD card are located in the 'INTERNAL' tab, files uploaded to the SD card are located in the 'EXTERNAL' tab.

NOTE

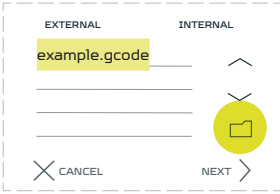
If the user inserted the external SD card the screen should jump forward to the 'CHOOSE FILE' section screen on the 'EXTERNAL' directory.

If there was no previously chosen file, after pressing on the 'NEW JOB' menu the screen will go directly to the 'CHOOSE FILE' section.

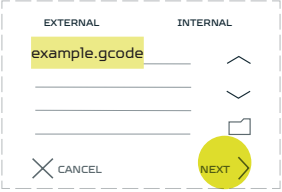


Select the prepared Gcode file.

If the prepared file or folder is not visible on the list press the up/ down arrow buttons to navigate through the file list.



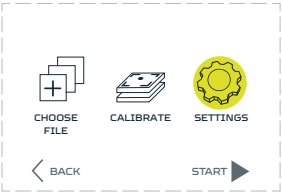
Exiting the folder is done by selecting the folder icon.



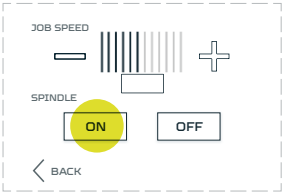
After selecting the file, press 'NEXT'.

NOTE

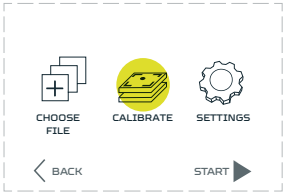
Before starting the CNC milling process the machine must be calibrated to the mounted material on the worktable. Skipping the calibration process may result in damaging the milling cutter, machine or the toolhead and after that hurting the user.



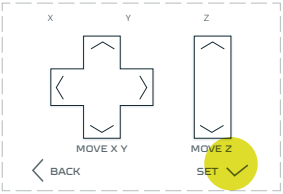
Enter the 'SETTINGS' section.



Turn 'ON' your Spindle.



Go to the 'CALIBRATE' section.



Press 'SET'.

NOTE

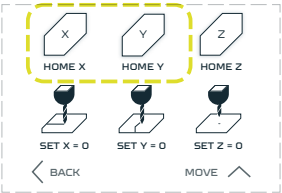
The movement in the X and Y axes will be disabled until they are homed. It is a safety procedure, to protect the machine against damage.

The movement in the Z axis is avaliable all the time. Use it to move the milling cutter above the surface height of the prepared material.

CNC milling

NOTE

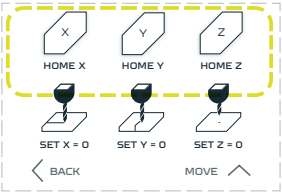
The information on the Z axis height is stored in the motherboard internal memory. That is guided by the fact that this value is not easy to change manually by the user unlike the X and Y axes.



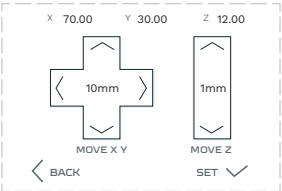
Press the 'HOME X' and 'HOME Y' buttons. Watch out for your cutter not to hit the material on the worktable.

NOTE

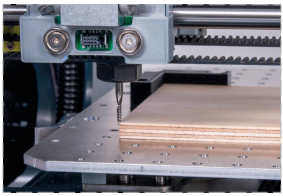
Don't home the Z axis when the milling cutter is in the spindle and when there is material on the CNC worktable. This will damage the milling cutter and might disarrange the Z axis motors.

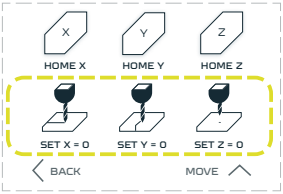


Go back to 'MOVE' menu.

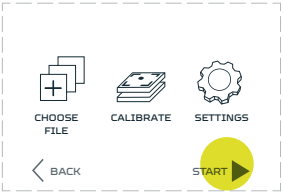


Using provided arrow buttons, move the spindle to the LOCAL starting position.





When the cutter is in its local position, go to the 'SET' menu and set the local 0,0,0 coordinates by pressing the 'SET X = 0', 'SET Y = 0' and 'SET Z = 0' buttons.



Go back to the main menu and choose 'START'. Your machine will start working.

NOTE

In most cases the local starting position will be the material surface left, front corner.

Toggle the distance button for better control over the cutter.

13. Laser cutting and engraving

13.1 Safety

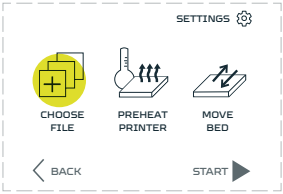
Before first work with Laser Toolhead refer to the safety instruction available in Manual or Zmorph Knowledge Base

- https://bit.ly/ZmorphFab_Manual
- https://bit.ly/Laser_PRO_Safety

13.2 Calibration and first work

After uploading the file to an internal card or inserting an external SD card with the pre-pared file:

Enter the 'NEW JOB' menu.



Go to the 'CHOOSE FILE' section.

Files uploaded to the internal SD card are located in the 'INTERNAL' tab, files uploaded to the SD card are located in the 'EXTERNAL' tab.

NOTE

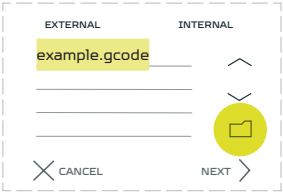
If the user inserted the external SD card the screen should jump forward to the 'CHOOSE FILE' section screen on the 'EXTERNAL' directory.

If there was no previously chosen file, after pressing on the 'New job' menu the screen will go directly to the 'CHOOSE FILE' section.

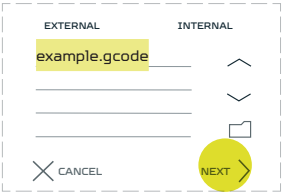
Laser cutting and engraving

Select the prepared G-code file.

If the prepared file or folder is not visible on the list press the up/ down arrow buttons to navigate through the file list.



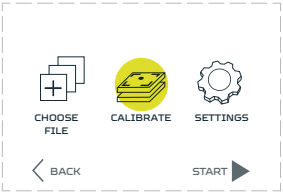
Exiting the folder is done by selecting the folder icon.



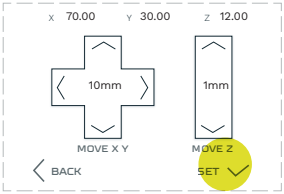
After selecting the file, press 'NEXT'.

NOTE

Before starting the Laser engraving/cutting process the machine must be calibrated to the mounted material on the worktable. Skipping the calibration process may result in damaging the machine or the toolhead.



Go to the 'Calibrate' section.



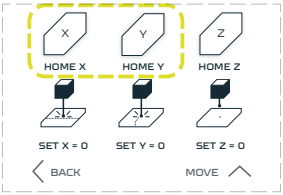
Press 'Set'.

NOTE

The movement in the X and Y axes will be disabled until they are homed. It is a safety procedure, to protect the machine against damage.

The movement in the Z axis is avaliable all the time. Use it to move the milling cutter above the surface height of the prepared material.

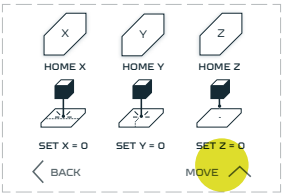
The information on the Z axis height is stored in the motherboard internal memory. That is guided by the fact that this value is not easy to change manually by the user unlike the X and Y axes.



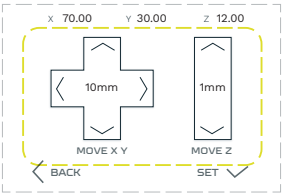
Press the 'HOME X' and 'HOME Y' buttons. Watch out for your cutter not to hit the material on the worktable.

NOTE

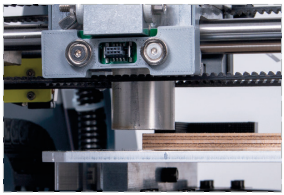
Don't home the Z axis when the milling cutter is in the spindle and when there is material on the CNC worktable. This will damage the milling cutter and might disarrange the Z axis motors.



Go back to 'MOVE' menu.



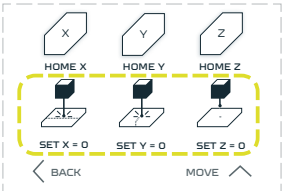
Using provided arrow buttons, move the laser to the LOCAL starting position.



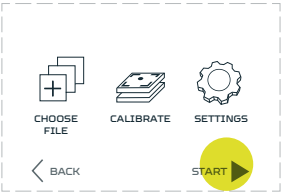
NOTE

In most cases the local starting position will be the material surface left, front corner.

Toggle the distance button for better control over the cutter.



When the laser tube is in its local position, go to the 'SET' menu and set the local 0,0,0 coordinates by pressing the 'SET X = 0', 'SET Y = 0' and 'SET Z = 0' buttons.



Go back to the main menu and choose 'START'. Your machine will start working.

14. Thick Paste Extruder

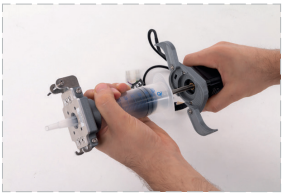
14.1 Safety

Before first work with Thick Paste refer to the safety instruction available in Manual
https://bit.ly/ZmorphFab_Manual

14.2 Material application

Prepare the Thick Paste Extruder.

Unlock the syringe blockade.



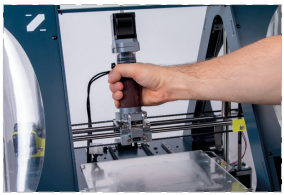
Pull the piston out from the syringe.

Manually move the piston to the starting position.

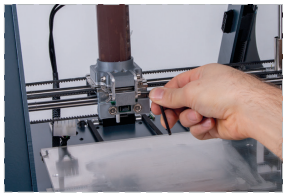
Fill the syringe with the prepared material.

Push the piston inside the syringe and lock the syringe blockade.

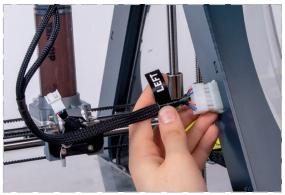
Thick Paste Extruder



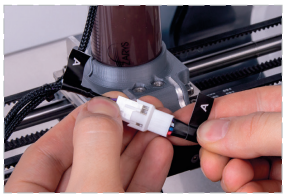
Put the Thick Paste toolhead on the X-cariage mount.



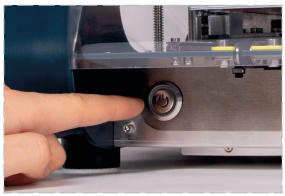
Screw tight the front screw.



Connect the ‘LEFT’ connector to the Left socket on the machine frame.

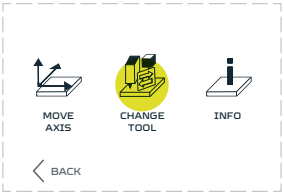


Connect the extruder ‘A’ cable to the ‘A’ plug.

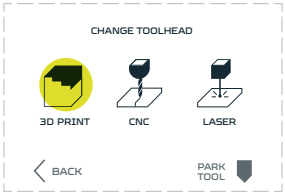


Turn on the machine.

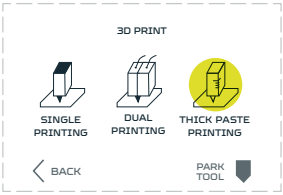
Enter the ‘MAINTENANCE’ menu.



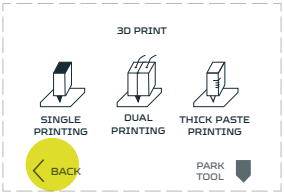
Go to the ‘CHANGE TOOL’ option.



Go to the ‘3D PRINTING’.

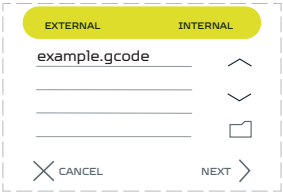


Choose ‘THICK PASTE PRINTING’ option.

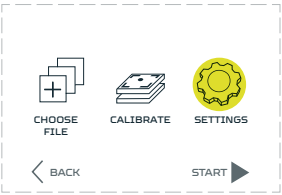


Go back to the main menu screen.

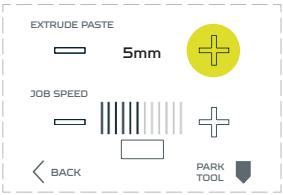
Enter the ‘NEW JOB’.



Press ‘NEXT’ button.



Go to the ‘SETTINGS’ option.

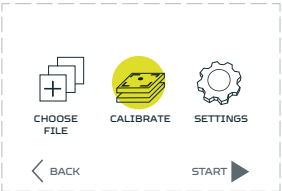


Push the extrude paste ‘+’ button until the paste flow from the syringe.

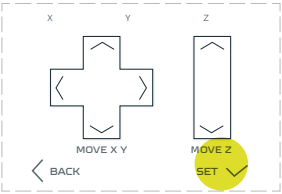
14.2 Calibration and first work

Enter the ‘NEW JOB’.

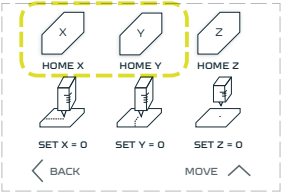
Choose your prepared file and press ‘NEXT’ button.



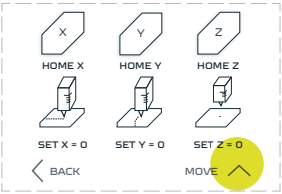
Go to the ‘CALIBRATE’ option.



Press the ‘SET’ button.

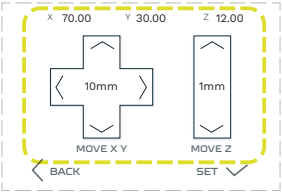


Press the ‘HOME X’ and ‘HOME Y’ buttons. Warning! Do not press the ‘HOME Z’ button.

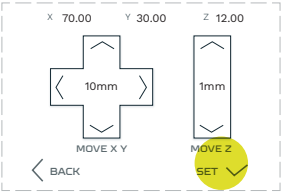


Go back to the ‘MOVE’ page.

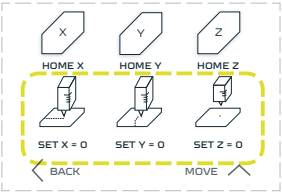
Thick Paste Extruder



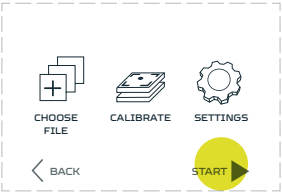
Use the 'MOVE' buttons to maneuver the Thick Paste syringe to be 1mm above the front left corner of the table.



Return to the 'SET' page.



Press all the 'SET' buttons to define the local zero points.



Go back to the main menu and choose 'START'. Your machine will start working.

15. Voxelizer

Installation and system requirements

Voxelizer can be downloaded from the website https://voxelizer.com/download. Once the download is finished, run the installation wizard and follow the instructions provided on the screen.

Minimum system requirements:

- Operating system: Windows 7 or higher, 64-bit or MacOS 10.13 or higher (Mac Mini 6.0 Late 2012 or later, other Apple devices 2014 or later)
- 4GB RAM,
- GPU with OpenGL 3.3 support,
- Internet connection,
- Resolution 1280 x 720 pixels.

16. Help and support

16.1 Support request

In concern for Zmorph Fab customers, our company provides technical support to solve the problems. In case of problems with the machine or toolhead, review the troubleshooting suggestions in this instruction. If the information provided with the instruction is insufficient you should contact your local supplier from which you bought the machine or contact directly Zmorph Technical Support by submitting the request on the website:

https://support.Zmorph3d.com/hc/en-us/requests/new

Before you submit the request please prepare all of the required information:

- Machine serial number.
- Firmware version of the machine.
- Error name if it occur in front LCD screen.
- Video or photo which shows the problem is not required
  but it will help us to solve your problem faster.

If you have a print-quality problem, please provide information like: type of material, material producent, used toolhead, attached .gcode file, slicer you used for preparing the .gcode file.

16.2 Troubleshooting

Symptom	Cause	Solution
Filament is not going through the nozzle.	The material is tangled. The material is defective. The nozzle is clogged. The material is blocked inside the extruder.	■ Check if the material is not tangled and the spool is properly installed. ■ Check if the material is properly inserted inside the tool. ■ Check if the used material is not defective (there are no bubbles, the diameter is constant etc.). ■ Check if the end of the material is cut at a right angle ■ Contact with Technical Support.
The print doesn't stick to the worktable (warpinig) The print is warping.	Work table is not clean. There is no adhesive. First layer is too high above the work table. The temperature of the work table is too low.	■ Check if the work table cleaned. ■ Make sure there is adhesive agent applied. ■ Perform new autocalibration. ■ Restore factory default, and repeat the calibration process. ■ Use 1-point manual calibration to set proper Z0 value. ■ Make sure that the work table has a proper temperature.
The print is cracked.	No covers attached. Improper print temperature.	■ Make sure that covers are attached on the machine. ■ Make sure the print temperature is right according to the material manufacturer's specifications. ■ Make sure that the .gcode file is designed correctly.
The print is melted.	The print temperature is too high. There is no cooling fan attached.	■ Make sure that the cooling fan is attached. ■ Make sure the print temperature is right according to the material manufacturer's specifications. ■ Make sure that the .gcode file is designed correctly. ■ Check if the thermistor is correctly installed inside the heating block.
No connection via USB.	PC is not detecting the machine.	■ Check the USB cable with other device. ■ Push the red reset button in front of the machine. ■ Check for drivers update.

Help and support

In case when an error occurs while the machine is working, an error message will be displayed on the machine LCD screen. The following table explains the error meanings, provide probable cause of the error and suggested solutions.

Error message	Cause	Solution
External SD Card unmounted.	■ SD card has lost the connection. ■ No reading from external SD Card.	■ Reconnect the SD Card. ■ Format external SD Card (FAT 32). ■ Check the connection with other SD Card. ■ Contact with Technical Support.
TouchProbe cable not found. Please, connect B cable.	■ The B cable is not connected. ■ The B cable is not detected.	■ Check the connection of the B cable, reconnect the B cable. ■ Contact with Technical Support.
TouchProbe cable not found. Please, connect B cable.	■ The A cable is not connected. ■ The Tensometer is not detected.	■ Check the connection of the A cable, reconnect the A cable. ■ Connect another extruder to check the connection. ■ Contact with Technical Support.
Internal electronics is too hot. Please check the fan in the bottom of the machine.	Internal electronic has too high temperature, bottom fan probably not working.	■ Check the fan on the bottom of the machine. ■ If fan is not working please, contact with Technical Support.
Heating failure. Please, restart the machine.	Error of the thermistor temperature reading.	■ Contact with Technical Support. ■ Check is the thermistor has no short circuit with the machine frame. ■ Check the current temperature reading.
Axes blockage.	One of the axes got blocked by: ■ Rest of the material. ■ Toolhead hit the print. ■ CNC mill stuck in milled material.	■ Reset the machine. ■ Remove the elements which cause the blockade. ■ Check the X and Y axis work by hand. ■ Make sure that nothing is blocking the axes before new job.

Calibration result inaccurate.	Inaccurate result of the auto calibration.	■ Check if the work table is aligned correctly. ■ Check if the X-axis is leveled correctly. ■ Check the position of the Z-axis sensor. ■ Restore the machine to factory default. ■ Contact with Technical Support
Config file does not exist.	■ Config file is missing. ■ No reading from internal SD Card. ■ Internal uSD Card is unplugged or damaged.	■ Check the uSD Card content. ■ Check the uSD Card connection to mainboard. ■ Visit knowledge base to download new config file. ■ Contact with Technical Support.
Config file corrupted.	Config file is corrupted.	■ Visit knowledge base to download new config file. ■ Contact with Technical Support.

In case of inappropriate machine behavior, take every precaution and disconnect the machine from the power source and immediately contact with Technical Support.
https://support.zmorph3d.com/hc/en-us/requests/new

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