Tumaker
Connected 3D Printers Company

# NX PRO PELLETS

## USER MANUAL

## ÍNDEX

# PRINTER SPECIFICATIONS


Printer Volume: 295x185x200 mm
Printer Size: 550x440x460 mm
Package Size: 605x501x500 mm
Package Weight: 24 kg
Printer Weight: 22 kg

Nozzle Diameter: 0.4 - 0.6 - 0.8 - 2.0 - 4.0 - 5.0 mm
Nozzle temperature: 350ºC
Two temperature control points
Files: STL,OBJ, AMF

Materials: Materials in pellet format.
Recommended Size: circular with 3-5mm diameter
Printing speed: Depends on parameters

Connected to the Internet
Connectivity: Wifi Micro SD
Optional: Ethernet

Energy Smart Management
Power Rating: 500W
Noise Level: 44 dB (closed door, 40dB)

Display: 5” color touch screen
Control devices: PC, tablet,
Smartphone. Control model: Web

Layer resolution: 10µm
Maximum Layer Height:

0,8 nozzle: 0.64mm
0,6 nozzle: 0.48mm
0,4 nozzle: 0.3mm

2.0 nozzle: 1.6 mm
4.0 nozzle: 3.3 mm
5.0 nozzle: 4.1 mm

Simplify3D Professional Software

Heated Bed: 100º
Build Plate Leveling:

· Automatic

1 Year Limited Warranty

# MAIN PARTS OF THE PRINTER

**Main parts of the printer**

| | |
|---|---|
| ① Display | ④ Layer fan |
| ② Nozzle | ⑤ Frontal fan |
| ③ Hotend | ⑥ Hopper |

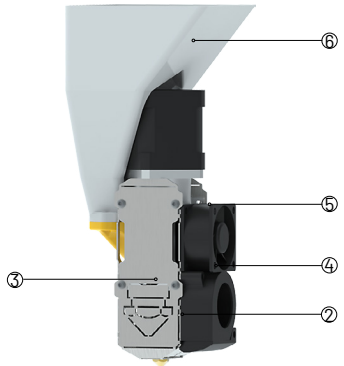
### Ⓐ HOTEND

It moves in the X and Y axes by melting the pellet of material and depositing it on the platform or heated bed. It has a nozzle that heats up to the required temperature according to the corresponding printing material


### Ⓑ PLATFORM OR HEATED BED

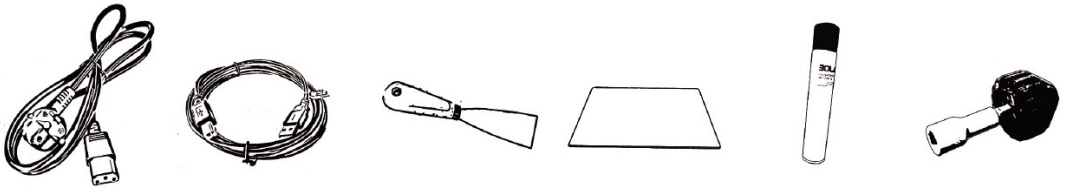
The printing happens on the surface of the platform; this one moves along the Z axis. Depending on the printing material, it must be heated to a different temperature.

**NOTE**: The distance between the platform and the nozzle has to be perfectly calibrated for optimum printing.




# ELEMENTS INCLUDED IN THE PRINTER

Make sure the following items have been delivered to you with the printer. If not, please contact us.



POWER CORD | MICRO USB CABLE | SPATULA | GLASS | FIXING LACQUER | NOZZLE CHANGING TOOL

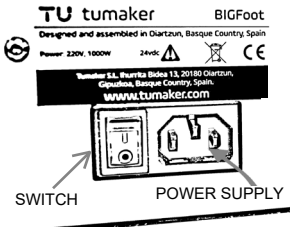
# INSTALLATION AND SET UP

## DISPLAY

The light indicator will stay on while the printer is on.


## WIRING

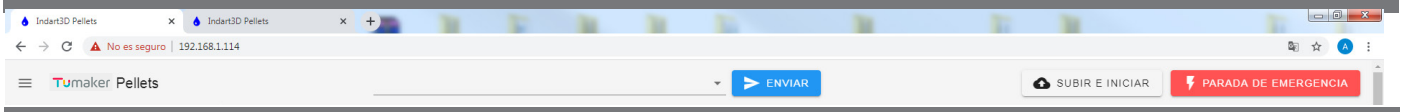
To start with the installation and set up, connect the power cable to the slot on the back of the printer and plug it into the power socket. Switch onthe printer by pressing the button.




Connect your device to the network of the printer

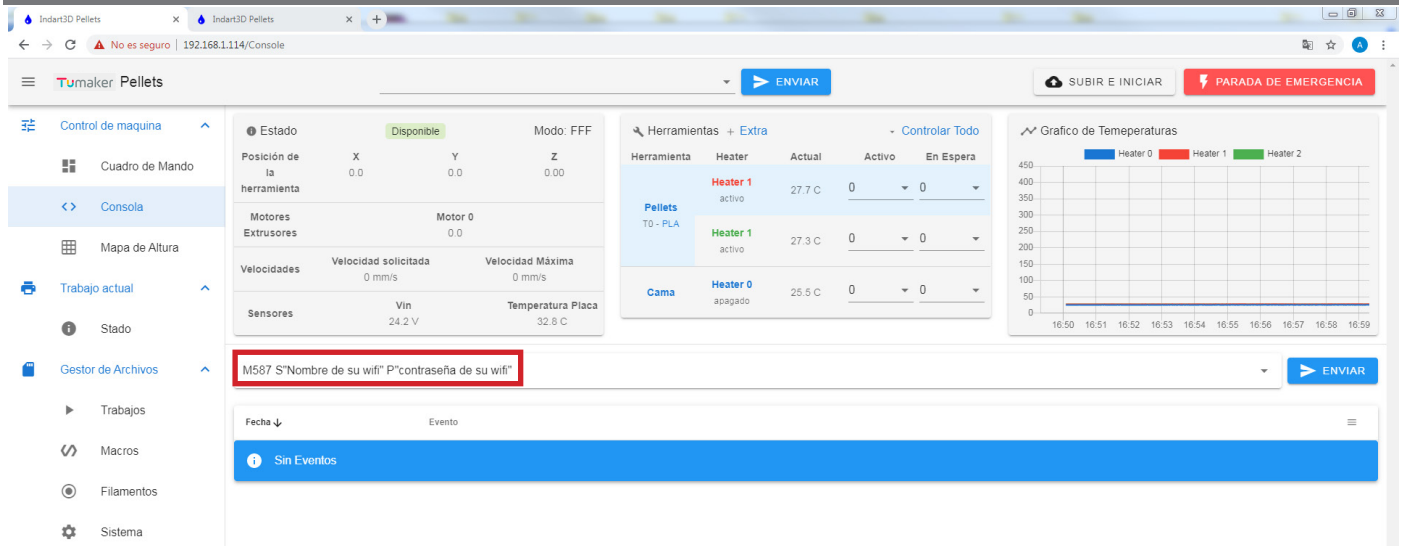
- WifiSSID: INDART3D_XXXXXX
- Password: indart3d
- Acces IP: 192.168.1.114

Access the web interface through the access IP in your browser

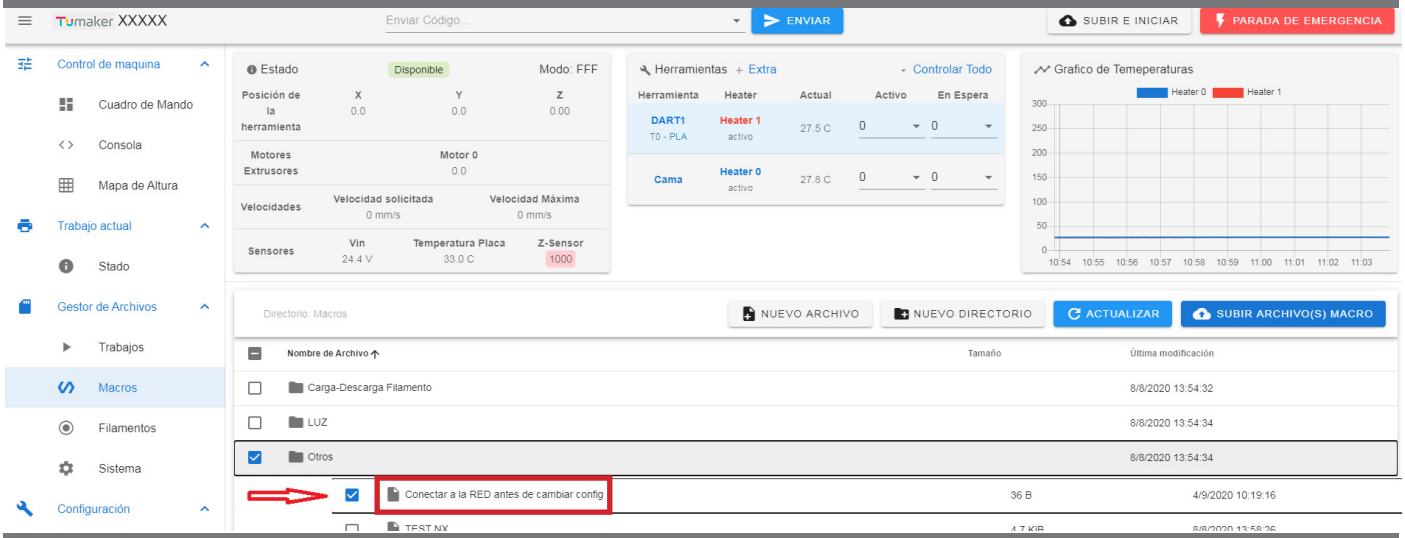



OPTIONAL: Connect the printer to the local network
If you want to put the printer on the network and access it from any device on the same network, follow the next step. Go to Console, type and send: M587 S ”Name of your wifi” P ”password of your wifi”

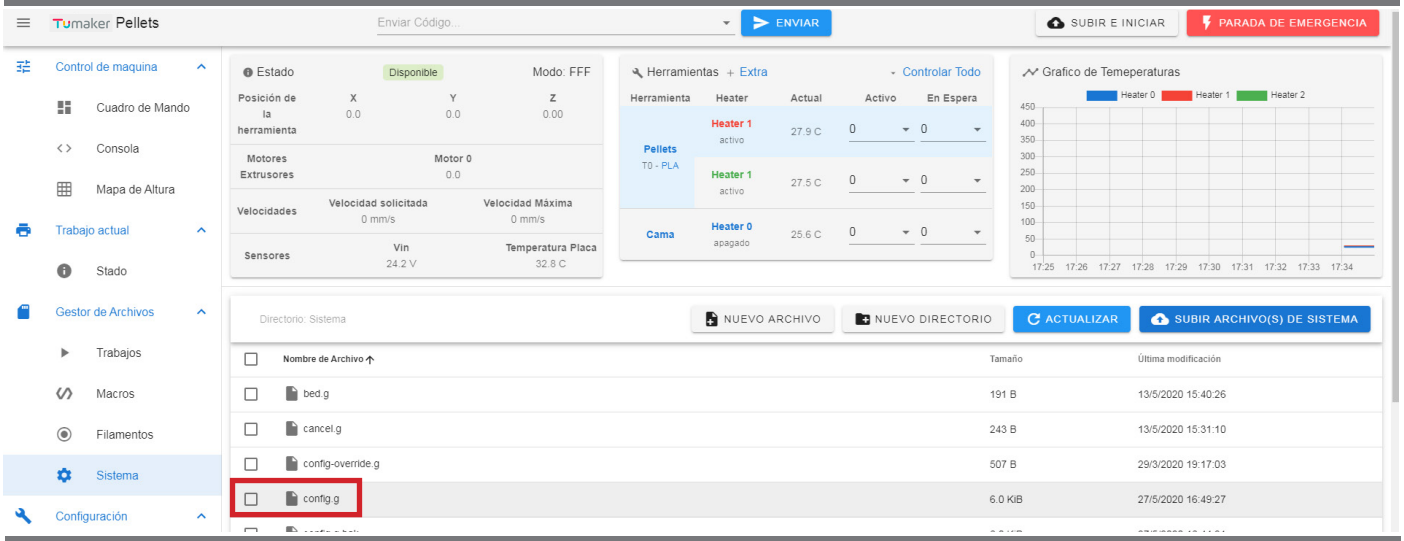
If you know a free IP on your network, you can add the following commands after the password, leaving a space: Ixxx.xxx.x.xxx otherwise the router will assign a random IP.



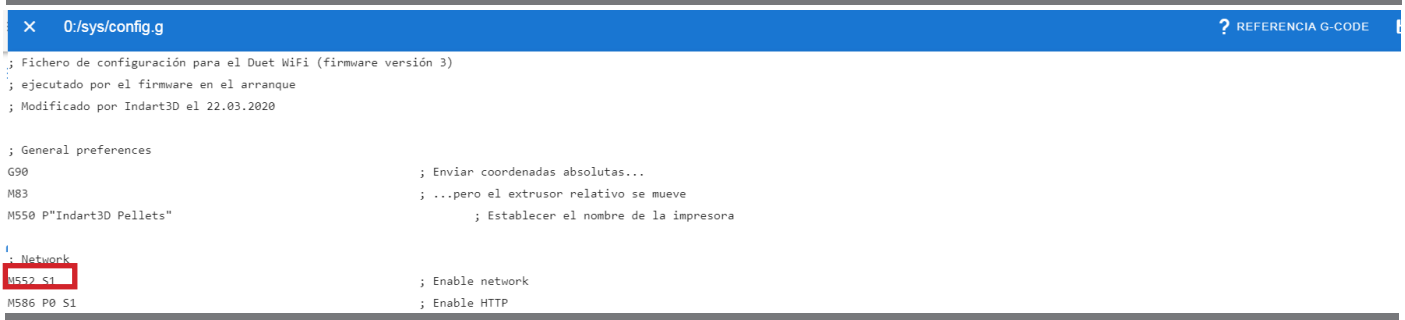
Access the Macros / Others / Connect to the NET section and run it. Next, on the printer screen you will see the assigned IP.




If you already have your IP, access from it, go to System and open the config.g file
ATENTION changing parameters not indicated in this file may imply the malfunction of the machine




In the Network section replace: M552 S2 for M552
S1. Click Save




Press YES to restart the board

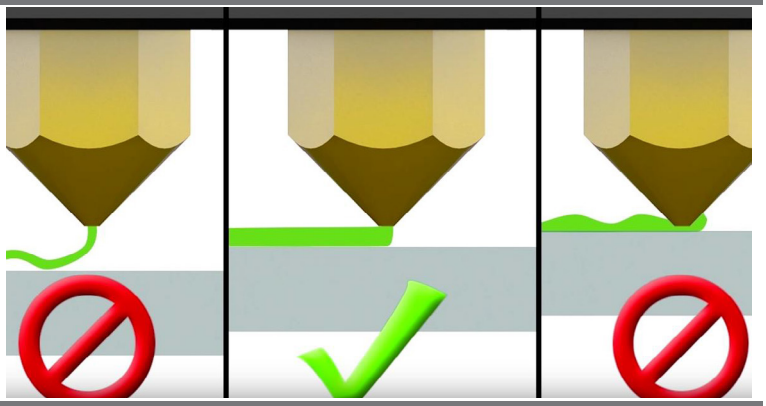

I have the IP

- You can now access the printer from any device connected to this network
- If you have not entered the IP by command in the console, it is recommended to do so, so that the router does not change it: M587 S "Wifi name " P " Password" I192.168.X.XXX
- If you have not obtained the IP or have any other problem, do not hesitate to consult at: https://tumaker.com/tumaker-en/support/

# QUICK GUIDE

## Level the Build Plate

- Heat the base to the temperature you want to print at
- Make sure you have a clean tip
- Execute the calibration process found in the Macros “Calibration” section and follow the steps
- Use the knurled nuts on the base to fit the Nozzle to the Build Base
- If it was your first calibration you may have to repeat this process
- During printing, fine-tune using Z Babystepping until proper adhesion is achieved

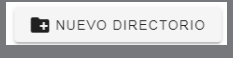



## Load Filament

The 3D printing of pellets is characterized by being a type of manufacturing different from the printing process with filament spools.

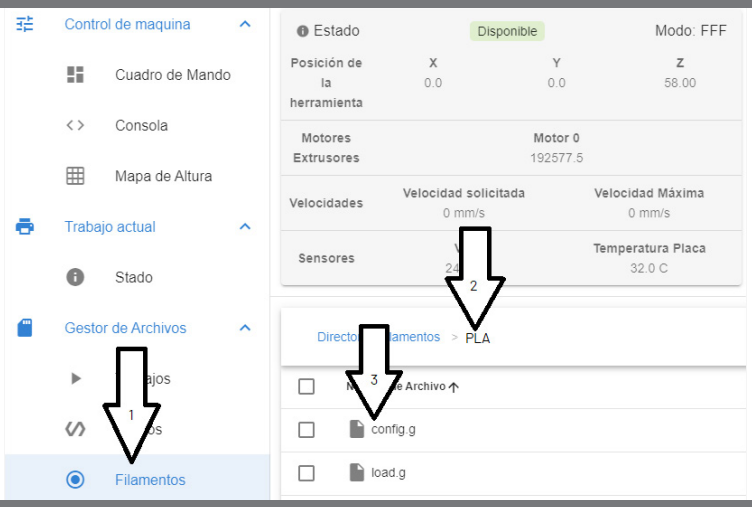
- First, introduce the pellets into the hopper manually.
- The pellets will begin to fall through the hopper and will melt inside the extruder.
- The molten material will be ejected from the nozzle and will begin to adhere to the build platform.

## Load G-Code / Print

- In Jobs select: **UPLOAD FILE (S) TO G-CODE** and upload your “.gcode” file
- With the left button click on the file you want to print
- With the right button select more options
- You can create folders to organize your files by clicking 

# ADJUS THE PELLET EXTRUSION

Open the material config.g



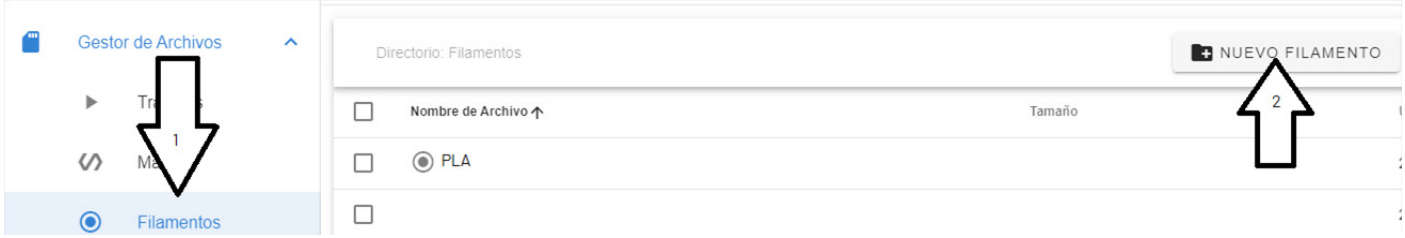

In config.g you can change the flow rate, the temperature of the two measurement points and the bed

0:/filaments/PLA/config.g

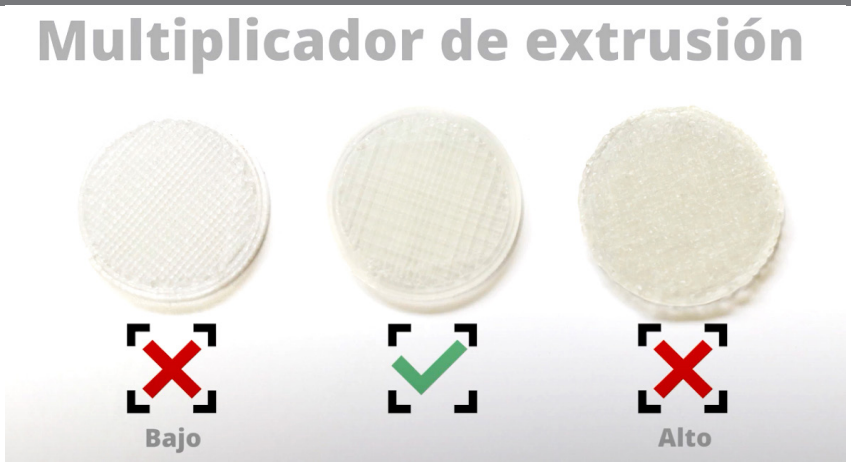
```
; Configuración de parametros para PLA, estos parámetros son orientativos
;   NOTA1:  Se debe haber cargado el Material desde el Panel de Control
;       NOTA2:  Se deben establecer las temeperaturas del material aquí
;           NOTA3: Para echar más material, aumentar el valor del comando M92 EXXX, para echar menos disminuirlo
M106 P0 S1 H1 T45                   ; Activa ventilador termostático
M92 E425                            ; Establece los pasos del Motor
G10 S200:180                        ; Establece temperatura de los cabezales
M140 S45                            ; Establece temperatura de la cama
```

**New Material**

Once created, copy the config.g from a previous material and edit the necessary parameters



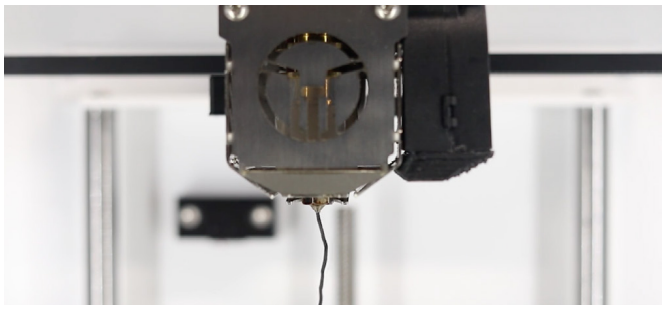

In file manager / Macros / Extrusion calibration / Select the model you want to print.
Modify the flow until you have an optimal result.

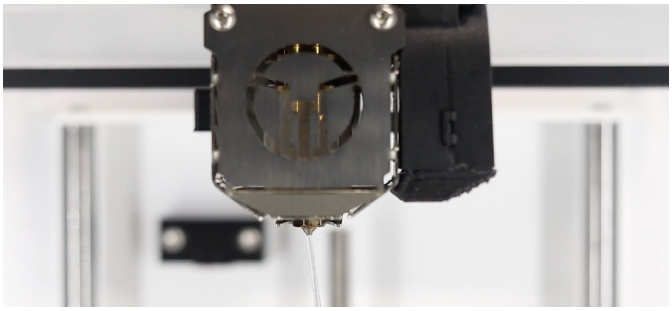


# HEAD CLEANING

**260º**: Use ABS or materials with a similar melting temperature range for materials over 260º. Start extruding until no trace of the previously used material remains. Once this point is reached, progressively lower the temperature to 250º.

**260º**: Use polypropylene for materials less than 260º. Start extruding until no trace of the previously used material remains. Once at this point, progressively lower the temperature to 210º.





# SIMPLIFY 3D PRINTING SOFTWARE

Tumaker 3D printing stations include the Simplify3D™ professional manufacturing suite, a software with all the advanced and optimized characteristics to create the most complex objects in the highest quality. It includes a powerful simulator to make you more productive, visualizing the result of the printing strategy you're working on before you start manufacturing.

If you have any questions about the use of the Voladora do not hesitate to write us to the following email:

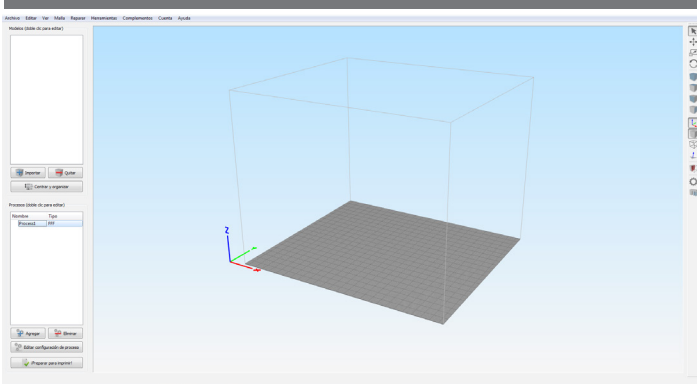
**https://tumaker.com/tumaker-en/support/**

You will be able to repair the imported designs in Simplify3D itself and you will love the intelligent support option. Spectacular functionality with which the software will create the right support for the most complex parts.
If you have any questions about the use of the software, please consult the following page:

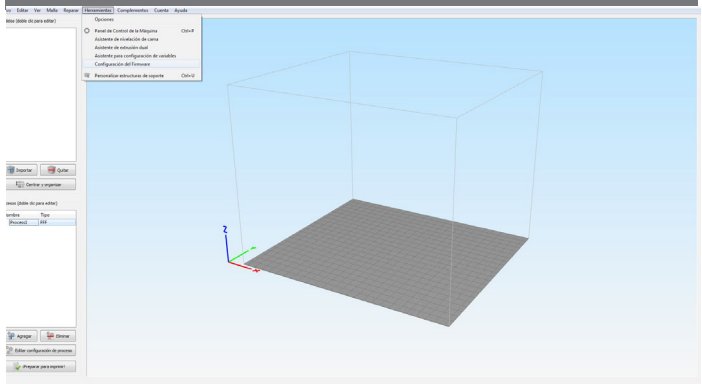
**https://www.simplify3d.com/support/**

# SIMPLIFY 3D LOADING PROFILES

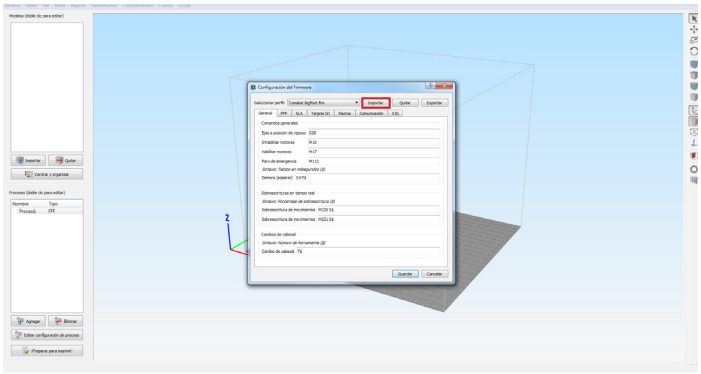
Open Simplify3d



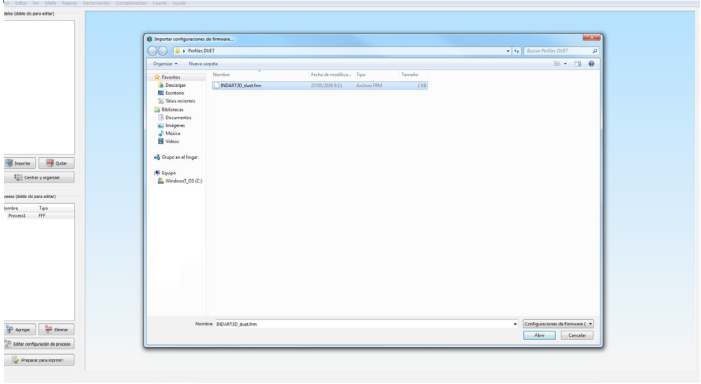
In Tools go to Firmware Configuration



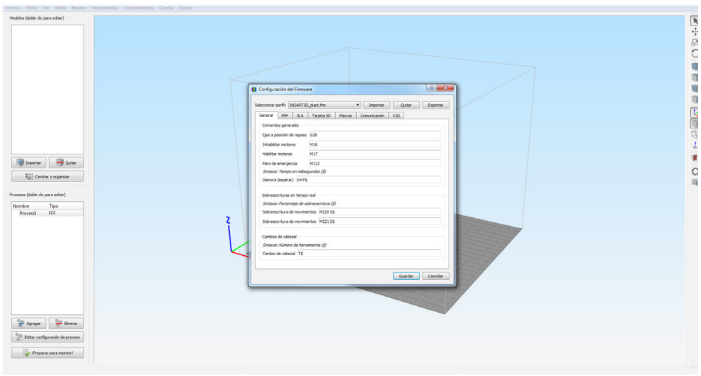
Click on Import



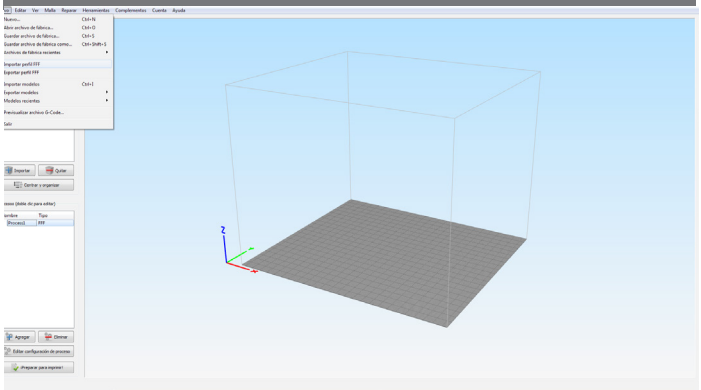
Select the .frm file



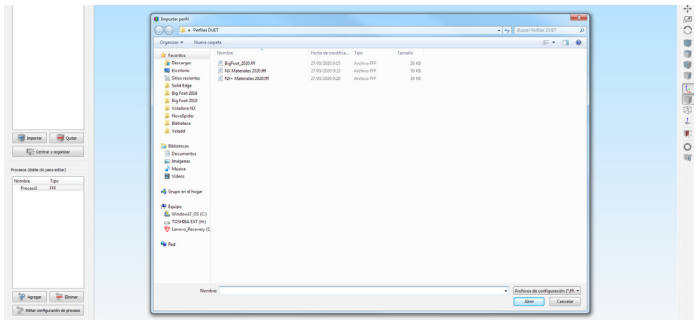
Click save



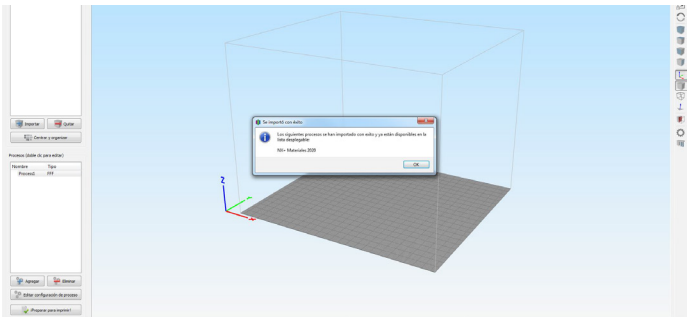
In File go to Import FFF profile



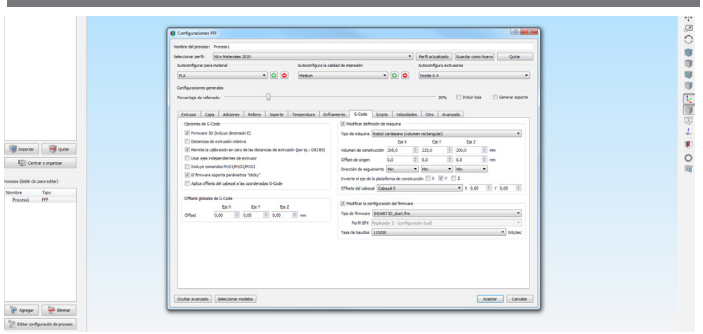
Select the .fff file you want to import



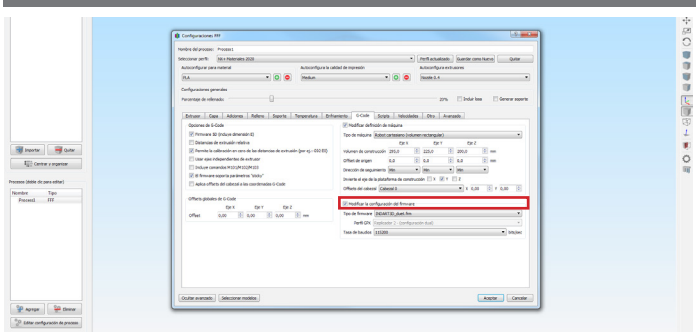
It will show a message like this



In the Process select the imported profile



Make sure that the imported .frm appears in the G-Code tab



# SECURITY

## ATTENTION, HOT SURFACE

The platform and nozzle of the head can be heated up to 120ºC and 300ºC depending on the printing material, therefore caution is recommended.


## RISK OF ENTRAPMENT

Do not handle any mechanical parts of the printer while it is in operation.


# BASIC RECOMENDATIONS

- Place the printer on a firm surface without vibration.
- Place the printer in a draft-free environment with an ambient temperature between 15ºC - 25ºC.
- Follow the printer installation and power-up instructions.
- Use materials recommended by Tumaker to ensure proper printer operation.
- General cleaning and greasing of the printer every 6 months is recomended.
- Cleaning the head
  Every 100h of printing.
  Depending on the material it would be advisable to do it more regularly.
- It is advisable to change the nozzle periodically, every time you change spools or material. Write us and we will provide them to you.
- Make your prints by following the recommendations and parameters given by Tumaker.
- Follow the maintenance recommendations for optimal printer operation and durability.

# WARRANTY

Tumaker S. SMALL . COOP., (Tumaker") provides this Limited Warranty to purchasers of the Tumaker product(s) included in the sales package ("Product"). Tumaker warrants to you that, during the warranty period, Tumaker or a service company authorized by Tumaker will, within a commercially reasonable time, remedy defects in materials, design and workmanship by repair or, if Tumaker deems it necessary in its sole discretion, replacement of the Product in accordance with this Limited Warranty (except as otherwise provided by law). This Limited Warranty shall only be valid and enforceable in the country in which you purchased the Product as long as Tumaker has intended the Product for sale in that country. However, if you purchased the Product in a member state of the European Union, this Limited Warranty is valid and in force.
Some limitations may apply to the service covered by the warranty due to the country-specific elements present in the Products. Tumaker obligation with respect to its products under warranty is limited to replacement of parts or repair at its discretion and at the premises of Tumaker or a dealer authorized by Tumaker. In the case of requiring the replacement of parts at the customer's home, will be made upon acceptance of travel budget and labor. The configured and manipulated products and accessories that had to be assembled will not be covered by this warranty.

## Warranty period

The warranty period shall commence at the time of the original purchase of the Product by the first end user. Tumaker products are not consumer items. They are oriented elements for professional and industrial use. Tumaker offers **a warranty period of 1 year** valid only if it has not been misused or if the maintenance and periodic revisions required by the product for proper operation have not been carried out correctly. This warranty will not be valid in the cases specified in the "What is not covered by the limited warranty?" section.
To the extent permitted by the law of your country, the Warranty Period will not be extended or renewed or otherwise affected by the subsequent resale, repair or replacement of the Product authorized by Tumaker.
However, repaired part(s) or replacement products supplied during the Warranty Period will be warranted for the remainder of the original Warranty Period. Optional "warranty extensions" are available to the buyer, extending the warranty coverage.

## How to obtain warranty service

If you wish to make a claim under this Limited Warranty, please send your Product (or the affected part when it is not the entire Product) to a service company authorized by Tumaker. For more information on how to make a claim, see https:/tumaker.com/contacto/. Information on Tumaker authorized customer service centers and service companies can be found in the Tumaker sales package or on local Tumaker website.
Any claim made under this Limited Warranty shall be subjected to your notice of the alleged defect to Tumaker or to a service company authorized by Tumaker within a reasonable time of discovery and in any event not later than the expiration date of the Warranty Period. When making a claim under this Limited Warranty you must provide (a) the Product (or affected part) and (b) the noriginal proof of purchase, clearly indicating the name and address of the seller, the date and place of purchase, the type of product, and the serial number.

## What is not covered by the Limited Warranty?

**1.** User manuals or third party software, content, data or links, configuration, included in or downloaded from the Product or during installation, assembly or shipment, as well as those incorporated at any other time in the delivery chain or otherwise acquired in any way and in any form by you. Tumaker does not warrant that Tumaker software will meet your needs, work in combination with any hardware or software provided by an independent vendor, or resell, repair, or replace the Product authorized by Tumaker.

**2.** Normal wear (including, but not limited to, wear of moving parts). Defects caused by improper handling (including, but not limited to, defects caused by sharp elements, bending, compression or dropping, etc.). Defects or damage caused by misuse of the Product, including use contrary to instructions provided by Tumaker (for the Product). Other acts beyond Tumaker reasonable control.

**3.** Defects or alleged defects caused by the fact that the Product was used with, or in connection with, any product, equipment, software and/or service not manufactured or supplied by Tumaker or was used in a manner other than for its intended use.

**4.** The deterioration of the Product if it has been exposed to inadequate environmental conditions, humidity or extreme atmospheric or thermal conditions or to rapid changes thereof, to corrosion, oxidation, spillage of food or liquids or to the influence of chemical products.

**5.** A different firmware than the one provided nor the use of a different printing base than the one recommended.

**6.** Direct or indirect damage resulting from the use of a third-party printing material (one that has not been supplied by Tumaker) or from the use of a consumable in an unsuitable condition (with adhering elements, grease residues or other similar incidents).

**7.** It does not cover damage caused by improper transport: use of packaging other than the original.

**8.** It does not cover the connection at a voltage other than that set by the manufacturer.

**9.** It does not cover if Tumaker products have been repaired or altered by personnel other than Tumaker or personnel not authorized by Tumaker.

**10.** It does not cover if the documentation and information requested by Tumaker is not submitted.

**11.** It does not cover if the elements which by their nature require periodic maintenance have not been carried out.

**12.** It does not cover if the lack of functionality is a consequence of the lack of knowledge on the part of the buyers.

## Returns

You have 7 business days to return a Tumaker product. This period applies from the day you receive the order and the postmark or transport company's stamp will be used to check the return date.

• The product must be in its original packaging, in new and complete condition (with all accessories, manuals, cables, etc.) and accompanied by the invoice or delivery note.

• The goods must be returned in perfect condition. Items sent or returned incomplete, damaged or deteriorated will not be accepted.

• Loss of the item or damage occurring during a shipment shall be the responsibility of the customer. We recommend that you return the items by registered mail or courier service and with insurance for the value of the product.

If all these requirements are met, the amount of the returned item will be reimbursed or, always through the same form of payment in which you paid the order and excluding the shipping costs of the return and what was paid for training, installation or other services. If the device is damaged, the amount of the repair will be deducted from the amount of the return. If a technical analysis of the product is carried out within the framework of the right of withdrawal.

r Tumaker will make every effort to reimburse the customer as soon as possible.

## Responsability

Tumaker shall not be liable to the Buyer for the failure or inability of Tumaker products to function properly. Nor for any loss, damage, injury or expense of any kind or nature caused directly or indirectly by Tumaker's products. If for any reason it is necessary to ship the Product to Tumaker facilities, it is recommended that the Product be shipped under insurance to cover possible loss or damage. In any case, any incident related to transport will be the responsibility of the buyer. Likewise, Tumaker is not responsible for its stations not being able to print geometries not previously analyzed by its technical service.

## Anex A

The following list corresponds to some elements that are not covered by the limited warranty.

## Consumable elements

- Filaments for 3D printing
- Printing platform
- Hotend Set:
  - Fans
  - Sensors
  - Resistances
  - Heating block
  - Nozzles
  - Straight adjustor
- Bowden Tube
- Accesories