

# Sliding - 3D



## Your smart choice, for great results!

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**Sliding-3D** is the new 3D printer that uses **thermoplastic extrusion technology**, it is developed and produced by **Robot Factory Srl**.

**Sliding-3D** is the first **professional 3D printer** which uses a moving print bed with 45° inclined extruder.

**Sliding-3D** is equipped with an **infinite** print bed, that makes this 3D printer particularly suitable both **to print multiple parts in a series**, as well as to print **large objects** (theoretically unbounded in length). The distinctive feature of **Sliding-3D** is the build volume (410mm x 380mm x  $\infty$  – endless), because the print bed is a sliding belt. For this reason, **Sliding-3D** can be engaged in an **uninterrupted** work cycle.

Using **Sliding-3D**, when a continuous printing **batch** is running, any time that a job is completed, a new job starts automatically and the printing goes on. During the printing job

the belt goes forward until the printed object, reaching the front roller, detach itself from the same belt. In this way the items can be collected in a container in front of the roller.



**Sliding-3D** is supplied with a convenient **External PAD**, it allows to manage the printing job using an **SD card**, even without a computer connection. On request, it is available another **PAD** equipped with **Color LCD display (touch screen)**, **WiFi** connection and **USB** port for a **pen drive**.

To manage and further extend the control by remote, on request, it is available the **OCTOPRINT** system too ( <https://octoprint.org/> ).

**Sliding-3D** main features:

### **Good bed adhesion**

**Sliding-3D** has a special print bed made using a **composite material**, it does not require any preparation (glue, spray, adhesive belt, etc.), because it prevents the possible detachment of the model during the printing phase and favors the detachment at the end of printing phase.

### **Extruder Cooling system**

With the double fan, an air flow is created that allows the perfect cooling of the extruder while maintaining the nozzle at maximum temperature.



Highlighted the area in the cooling stream

### **Heated bed**

**Sliding-3D** is equipped with a **heated bed**, this one improves the print quality by keeping the extruded polymer warm and preventing warping.

### **Stable and strong machine**

**Sliding-3D** has the structure, engineered using aluminum structural profiles, stainless steel and prismatic guides which have carriage with double balls bearing. These characteristics guarantee precision and rigidity to the system, which means high precision in the printing result. **Sliding-3D** is a high quality product, aimed to a professional use of 3D printing.

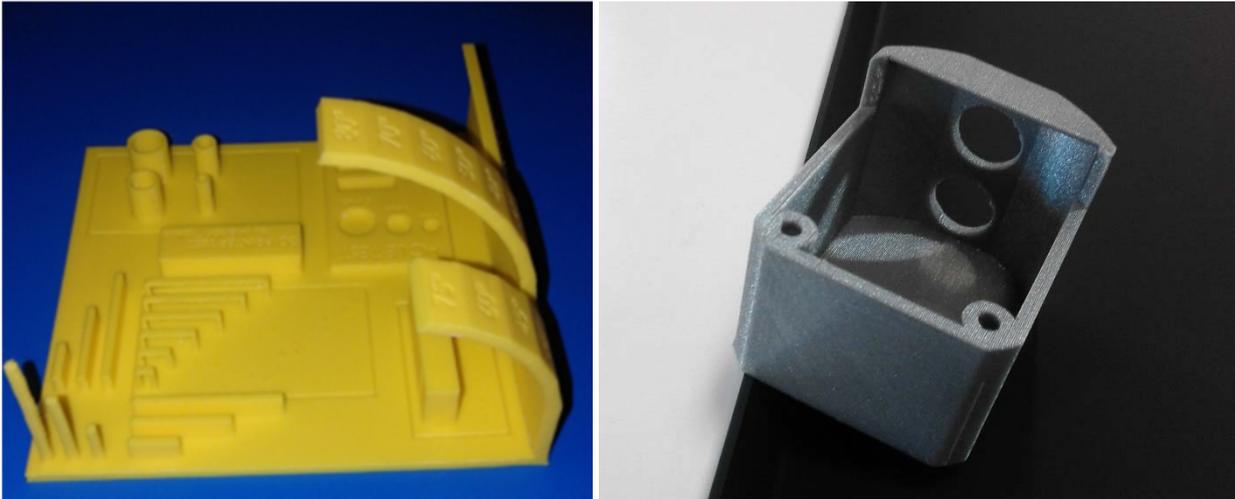


### **Controlled temperature**

**Sliding-3D** can be equipped, on request, with a protective **BOX** made by aluminum profiles and transparent polycarbonate. The **BOX** is suitably engineered to create a controlled temperature environment, required to print technologically advanced materials, preserving the functional characteristics of **Sliding-3D**.

## Support structures

Exploiting at the same time the **endless** print bed, the inclination of the printing layers and the layers translational function, **Sliding-3D** can reduce up to 100% the **support structures** (for the 'overhangs') usually needed to print using the other 3D printers. This means the extraordinary benefit of saving time and material used for the same print and drastically reducing post-processing times (usually required for the removal of any support structures and for the finishing of the printed part).



## Software

**Sliding-3D** uses the Simplify3D suite, therefore for this software it is provided the configuration necessary for its best use. Since **Sliding-3D** prints using 45° layer inclination, it is provided the **axis translations program** to manage the inclination of the printing layers and the **serialization** of the printing jobs.

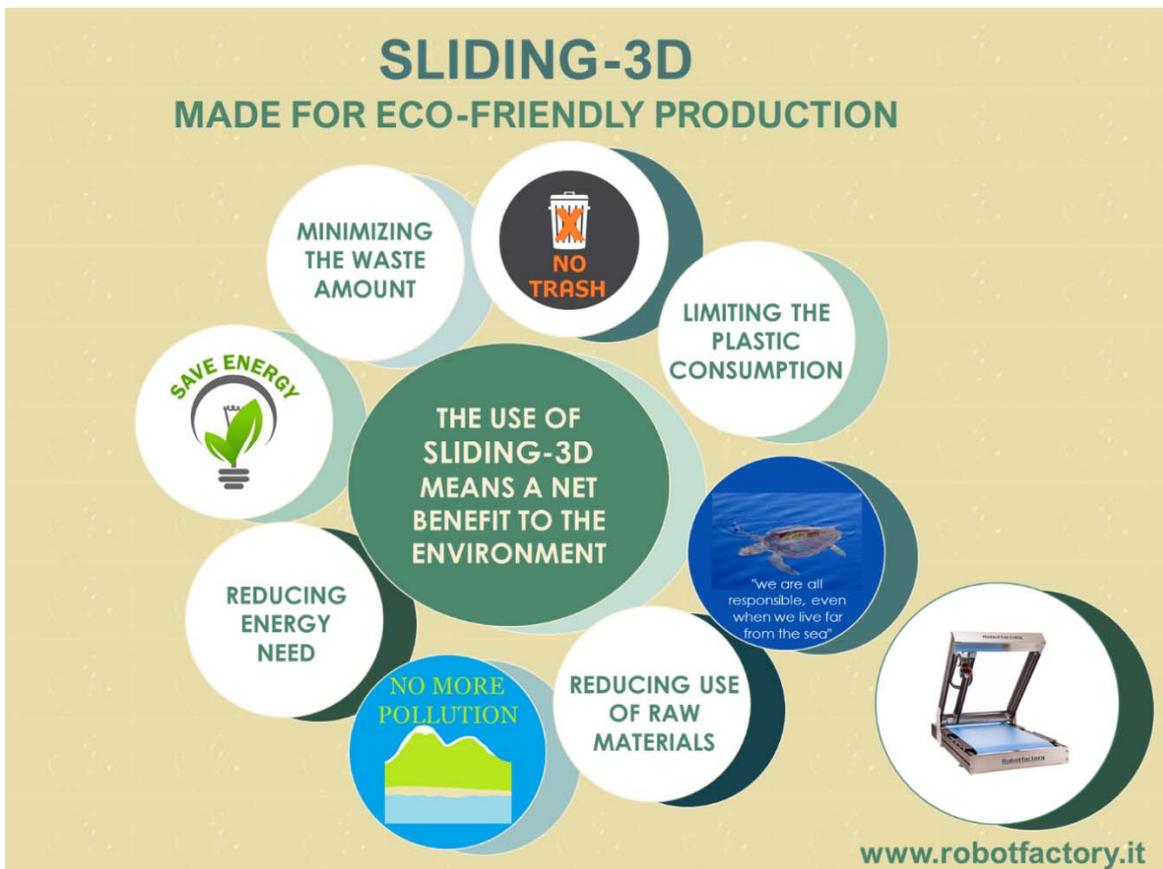
## Printing at 45° angle

Using **Sliding-3D**, the printing layers are printed inclined by 45° to the printing plane, this feature entails multiple advantages compared to any other traditional 3D printer:

- **Sliding-3D** does not require any **support structure**, since with a minimum of experience, in design phase you can exploit the self-supporting corner of the 3D model, this characteristic saves buckets of cash and time!
- The printing layers, inclined with respect to the print bed, give **greater rigidity to the printed model**, since it considerably increases the internal forces between the layers of material, giving to it better mechanical properties.
- The surface quality, especially of the **bottom** (part in contact with the Z axis), is not affected by the usual problems of the traditional 3D printers, and the **top** surface is significantly better of those are obtained using the traditional FFF printers (there are no contour lines on the curved surfaces).

## **Eco-friendly**

So, **Sliding-3D** is an **Eco-friendly** 3D printer, because, not requiring **any support structure**, it reduces the need of material and it reduces the plastic waste (removed supports), as well as the energy consumption during the printing process. Which makes **Sliding-3D** a 3D printer with a **reduced environmental impact**. Furthermore, not requiring any preparation (glue, spray, adhesive tape, etc.) on the print bed, it further reduces the environmental impact.



**Sliding-3D** requires very little **maintenance**, the only things to check for an optimal printing result are the distance of the nozzle from the print bed (belt), as well as the cleaning of the nozzle.

**Sliding-3D** is suitable to use in a wide range of industries and to obtain quality 3D models with high stability. Its technology can create accurate functional prototypes, manufacturing aids, customized objects, medical aids, parts for design checks, including for mechanical engineering, and 3D models in one-to-one scale to develop assembly processes, because it is suitable both **to print multiple parts in a series**, as well as to print **large objects**.



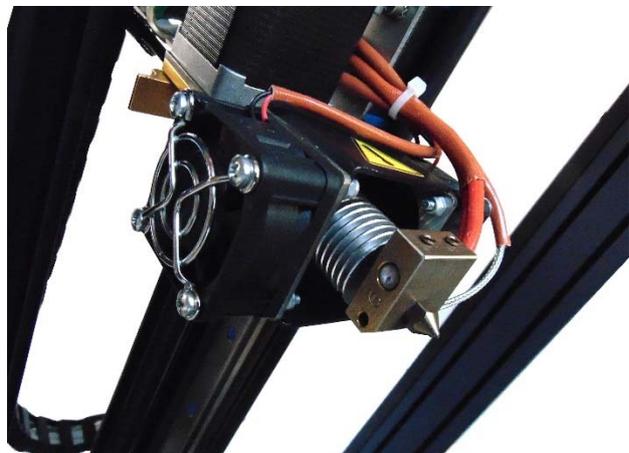
**Available two models**

**Sliding-3D** can be supplied in **two different versions** characterized by different arrangements, while maintaining its main features.

- **Sliding-3D Standard** mounts the extruder block that supports extrusion temperatures **up to 280°C**, allowing to print in all common materials such as **PLA, Nylon, PETG, HIPS, TPU as well as many others** currently available in the market.
- **Sliding 3D Plus** is also suitable for printing in addition to the usual materials also technologically advanced materials that are extruded at high temperatures, as it uses the new extruder block equipped with a **Type K – Class 1 – thermocouple** mounted in the **new heating block** that allows the nozzle to reach temperatures **up to 480 °C**. In the **Sliding 3D Plus** version the **extruder cooling** system was upgraded and the **quick nozzle change system** was adopted. Furthermore, in the **Plus** version the **belt** is made with new materials that can withstand temperatures on the heated bed up to **over 130 °C**. **Sliding-3D Plus** has been developed to ensure maximum performance even using technologically powerful materials that usually require extrusion temperatures between **280°C** and **480°C**, such as **Carbon Fiber, Glass Fiber, PPS, Thermec™, PEEK, Ultem™, etc..**



Sliding-3D **Standard**



Sliding-3D **Plus**

**Sliding-3D** (both versions) comes with **0.4mm nozzle**, for finer details, and **0.6mm nozzle** for large, high speed prints (**0.8mm** and **1.0mm** nozzles are also available on request).

## Technical Specifications

|                                    |  |
|------------------------------------|--|
| <i>Technology</i>                  | <i>FFF (Fused Filament Fabrication)</i>  |
| <i>Build Volume</i>                | <i>410mm x 380mm x ∞ (endless)</i>   |
| <i>Machine Size</i>                | <i>1.100mm x 570mm x 770mm</i>   |
| <i>Thickness Layer</i>             | <i>0.15 – 1.0 mm</i>   |
| <i>Nozzle/Filament</i>             | <i>Supplied nozzle diameter 0.4 / Filament diameter 1.75 mm</i>                                      |
| <i>Filament Type (standard)</i>    | <i>PLA, Nylon, PETG, HIPS, TPU and other</i>   |
| <i>Filament Type (PLUS)</i>        | <i>Carbon Fiber, Glass Fiber, PPS, Thermec™, PEEK, Ultem™, PLA, Nylon, PETG, HIPS, TPU and other</i> |
| <i>Extruder Temp. (standard)</i>   | <i>280 °C</i>  |
| <i>Extruder Temp. (PLUS)</i>       | <i>480 °C</i>  |
| <i>Sensor (standard)</i>           | <i>Thermistor NTC (fino a 300 °C)</i>  |
| <i>Sensor (PLUS)</i>               | <i>Type K – Class I – thermocouple with amplifier (up to 1090 °C)</i>                                |
| <i>Extruder Cooling (standard)</i> | <i>Two 40 x 10 fans</i>  |
| <i>Extruder Cooling (PLUS)</i>     | <i>Two 40 x 20 fans</i>  |
| <i>Heating Block (standard)</i>    | <i>Aluminum</i>  |
| <i>Heating Block (PLUS)</i>        | <i>Other than aluminum</i>   |
| <i>Nozzle Change (standard)</i>    | <i>Using a socket wrench</i>   |
| <i>Nozzle Change (PLUS)</i>        | <i>Quick nozzle complete change system</i>   |
| <i>Weight</i>                      | <i>36 kg</i>   |
| <i>Connect</i>                     | <i>USB – SD Card</i>   |
| <i>Control Device</i>              | <i>External PAD</i>  |

### On request:

- PAD with color LCD display – Touch screen – WiFi, **OCTOPRINT**, Different nozzles

**Robot Factory** production is **MADE IN ITALY**.

*Sliding - 3D*

by

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