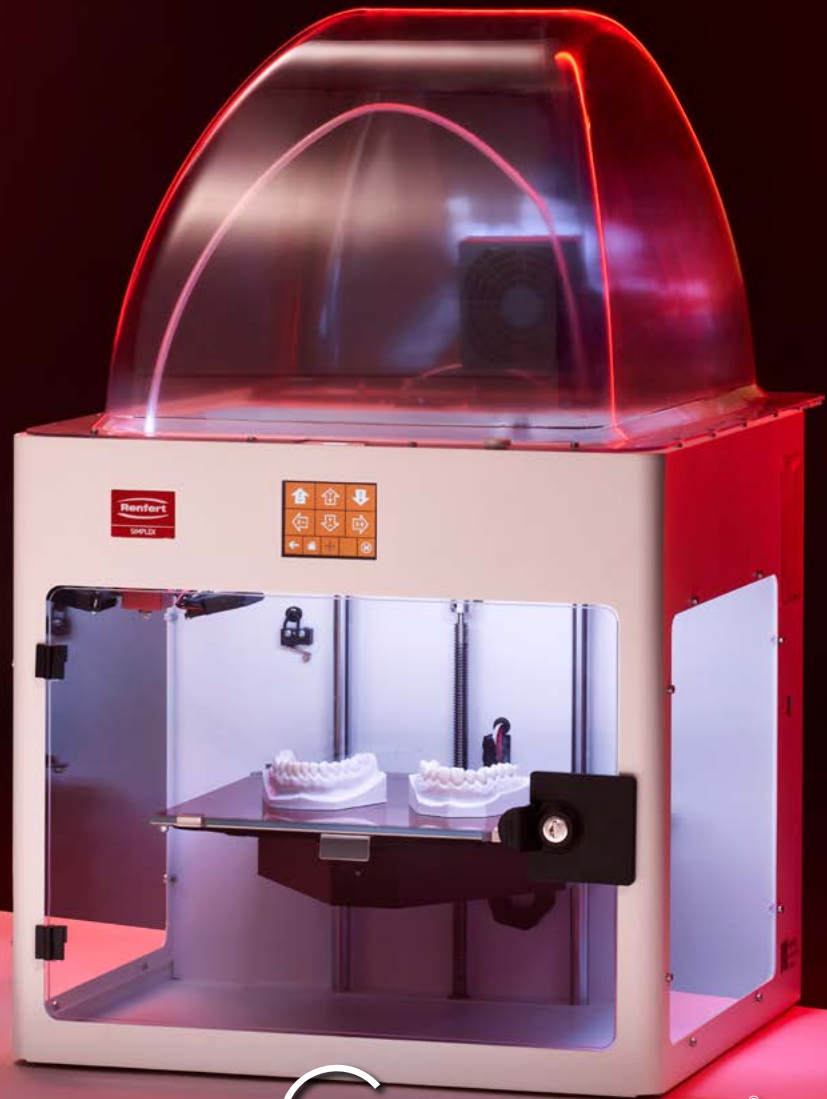


Renfert

making work easy

Simplex

the 3D filament
printer system



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FORESTADENT[®]
GERMAN PRECISION IN ORTHODONTICS

The uncomplicated start in professional dental 3D filament printing

The Simplex 3D filament printer

The SIMPLEX is a dedicated dental 3D filament printer. With the slicer software specially developed for the dental sector, you can print models easily and reliably via „plug and print“, which are also harmless to health and biologically safe. The SIMPLEX 3D filament printer system covers the entire range of orthodontic model production and the 3D models produced do not require any post-processing.

The SIMPLEX 3D filament printer system is a carefully tailored dental system solution for filament printing processes (modified 3D filament printer, dental-specific slicer software and bio-filaments for orthodontic model fabrication) for consistently reproducible and reliable results.

Advantages

- Plug & Print – easy installation and handling – even without prior knowledge
- Sliceware tailored to printer, filaments and dental applications
- Intuitive operation via touchscreen
- Intuitive sliceware with preset parameters for different model types
- Filament monitoring system with notification function and automatic troubleshooting
- Closed build space with venting for consistent print quality and safety at work
- Heatable and removable print bed for optimum adhesion and easy cleaning

Filaments for orthodontic model fabrication

Special filaments

The high-quality filaments are suitable for the special requirements of the orthodontic sector: consistency, high dimensional stability and outstanding mechanical and physical properties enable high-quality prints with great attention to detail. In addition, all filaments are biologically safe, free from irritating components and no unpleasant vapors are produced during the printing process.

Advantages

- The filaments are matched to the respective application and are also pre-calibrated on the printer and in the sliceware. This enables reliable printing at a high level
- PLA filaments are ecologically safe and consist to a large extent of renewable raw materials (e.g. corn starch)
- Filament prints require no cleaning, post-processing or curing in a light oven
- Low printing costs compared to a resin printer
- Color and UV-resistant
- Made in Germany



The 4 filaments

at a glance



SIMPLEX Study Model

The bio-filament SIMPLEX Study Model offers high detail reproduction and is industrially compostable. Especially for the digital production of planning models/ diagnostic models.

Printing temperature: 190 – 230 °C.



SIMPLEX Aligner Model

The special filament SIMPLEX Aligner Model is tailored to the special requirements of aligner production and models for the thermoforming technique. It is temperature-resistant and dimensionally stable up to 230 °C. Tempering or pre-cooling of the models is not necessary.

Printing temperature: 235 – 255 °C.



SIMPLEX Working Model

The bio-filament SIMPLEX Working Model is designed for digitally planned working models and has a high level of detail reproduction. The material is industrially compostable.

Printing temperature: 190 – 230 °C.



SIMPLEX Multi-use Model

The bio-filament SIMPLEX Multi-use Model with its high content of hard plaster ensures a natural surface effect and offers a high level of detail reproduction. The models can be optimally processed with rotary instruments or a scalpel.

Printing temperature: 205 – 220 °C.

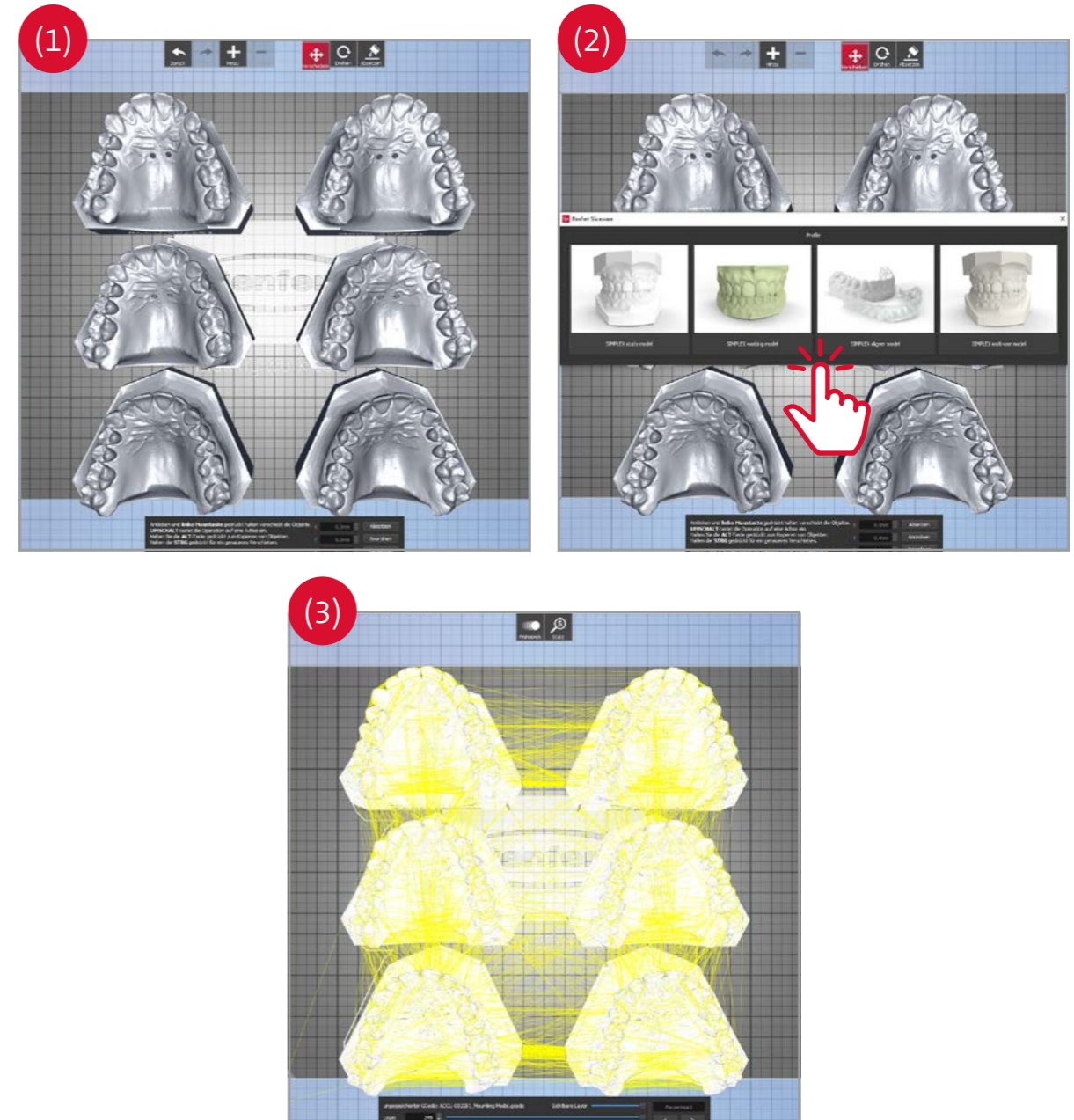
The SIMPLEX Sliceware

The simple and trouble-free way to a 3D model

Slicing – breaking down a 3D object into individual layers – is sometimes the most challenging task in 3D printing. In the Fused Filament Fabrication process (FFF) in particular, the models are hollowed out to save printing time and material. For this purpose, wall thicknesses and internal support structures must be defined to ensure the stability of the model during printing and further processing. It is often a lengthy and frustrating try & error process to define the necessary parameters.

SIMPLEX Sliceware takes this task off your hands. It has four predefined printing modes (Study, Working, Aligner and Multi-use) that are tailored to the respective filaments and applications. The corresponding preset wall thicknesses and support structures ensure process-reliable reproducibility at all times.

All you have to do is load the data model into the sliceware (1), determine whether it is a study, working, aligner or multi-use model (2) and the sliceware creates the necessary print data with a click of the mouse (3).



Technical data

and other parameters

| TECHNICAL DATA | |
|---|--|
| Printer type | Fused filament fabrication (FFF) |
| Operating mode | Plug & Print; network/PC-independent operation possible (printer cable, USB, WiFi) |
| Permitted mains voltage | 90 – 264 V |
| Permitted mains frequency | 47 / 63 Hz |
| Temperature range (nozzle) | 180 – 260 °C |
| Temperature range (print bed) | 50 – 110 °C |
| Print bed | Specially tempered glass with Kapton foil |
| Extruder | Single |
| Extruder type | All-Metal Hotend |
| Diameter (nozzle) | 0,4 mm |
| Diameter (filament) | 1,75 mm |
| Layer resolution | ≥50 µm |
| Print speed | 50 – 200 mm / s |
| Position accuracy | 4 x 4 x 2 µm |
| Weight (empty) | 16,5 kg |
| Dimensions (B x H x T) (Build space) | 250 x 200 x 200 mm |
| Dimensions (B x H x T) (Casing) | 406 x 350 x 385 mm |
| Dimensions (B x H x T) (Overall dimensions) | 415 x 500 x 635 mm |
| Software package | SIMPLEX sliceware |
| File types | OBJ STL CWPRJ |
| Operating system | Windows 7 and higher OS X Linux |

Your advantages

at a glance



Step by step

to the printed model for an in-house aligner



Intraoral scan of upper and lower jaw

e.g. with scanners from Medit or 3Shape



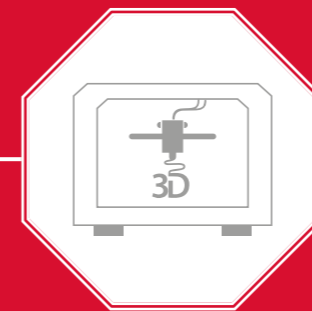
Treatment plan

and resulting STL files created in suitable software



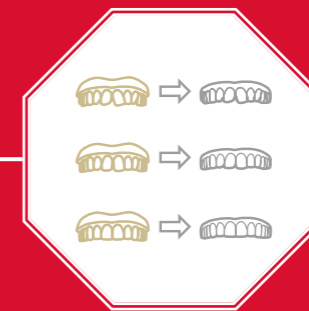
Print preparation

Slicing of models and generation of print data



Printing of aligner models

with the Simplex 3D filament printer



Thermoforming of the aligners

with Track® V /Track® P ci / Track® P device and Track® sheets



Finished

How it works:

Operating the Simplex 3D filament printer system



Unpacking and installing

The printer is unpacked, set up and ready for use in just a few minutes. The necessary tools are included in the set.



Leveling the print bed

To ensure optimum printing results, the print bed must be leveled during commissioning. This is quickly done in a guided process and without prior knowledge.



Load filament

Load the desired filament into the printer in a few simple steps.



Install SIMPLEX Sliceware

Install the latest version of SIMPLEX Sliceware, which you can download via the Renfert CONNECT App.



Print

As soon as you have edited your models in the SIMPLEX Sliceware, you can transfer them immediately to the SIMPLEX 3D printer via cable, WiFi or USB drive.

Renfert CONNECT App

24/7/365 support



In addition to the Customer Success Program, Renfert provides you with a comprehensive support package free of charge with every Renfert device you purchase.

At www.renfert.com/simplex Renfert offers you the following support:

- Self-help videos and support videos
- Repair instructions
- Operating instructions
- Spare parts lists
- Drawings
- FAQs
- Latest version of the Simplex sliceware

Warranty and service

from Renfert

3-year Renfert Workflow warranty

What you can rely on: 3-year guarantee on Renfert appliances!*

10-year spare parts guarantee

All Renfert products are very durable. So the availability of spare parts is also prepared for this. Renfert guarantees that original spare parts will be available for every device for at least ten years after purchase.

Activity guarantee

As your first point of contact, together with Renfert we form a strong team that ensures with passion and expertise that your printer runs and that downtimes in your laboratory are minimized as far as possible. In this way, we help to ensure that capacity and efficiency are guaranteed.

Maintenance service

Optimum product performance increases the service life and reduces the risk of failure considerably. Ask about the attractive Renfert service offers!

Equipment rental service

Here, too, we are at your side together with Renfert. Benefit from Renfert's loaner equipment service to avoid downtime. Get in touch with us!

* Wear parts excluded



Order overview

| Order No. | Content | Description |
|-----------|---------|--|
| 999-3000 | 1 | SIMPLEX 3D FILAMENT PRINTER CONSISTING OF: printer, SIMPLEX sliceware and SIMPLEX print, filament sensor, build space cover with fan, lockable Plexiglas door with lock and key, SIMPLEX study model filament, USB stick, filament roll holder, Bowden (filament guide tube), service set, mains cable with EU plug, travel adapter, USB A-B cable, distance card, Quick Start Guide, operating instructions |
| 999-3010 | 1 | Filament SIMPLEX Study Model for planning and diagnostic models PLA, white, 800 g |
| 999-3011 | 1 | Filament SIMPLEX Working Model for working models in the laboratory PLA, green, 800 g |
| 999-3012 | 1 | Filament SIMPLEX Aligner Model for models for aligner fabrication Temperature and pressure-resistant filament, white, 800 g |
| 999-3013 | 1 | Filament SIMPLEX Multi-use Model for detailed models with a plaster-like surface PLA with hard plaster content, white, 800 g |
| 999-3040 | 1 | SIMPLEX Model Isolation Insulating agent for filament- and resin-printed models, 80 g |



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