



DWS DFAB®



DWS, Additive Manufacturing. Smart, Effective and Italian.

Reducing development times for new products and **cutting time to market** have become top priorities, strategic and non-deferrable resources for maintaining competitiveness in manufacturing.

DWS is part of this phase of the new digital industrial revolution by designing and developing **hi tech solutions for rapid prototyping and production**, pushing **3D printing to the highest precision and definition levels**.

We are one of the pioneers of the **Industry 4.0** philosophy: in 2007 we identified process innovation as the key for a fast, efficient and more flexible production and built the first **DigitalWax®** 3D printer. Eighty percent of our turnover is being exported to 70 countries in the world and we deal with various markets on a daily basis through our business units:

- **Dental Lab and Clinics**
- **Jewellery and Fashion Accessories**
- **Industrial**
- **Prosumer**





DFAB® The 3D Printing Revolution in Dentistry:

- Class IIa restoration in one session.
- Photoshade: the natural teeth colour gradient.
- The ultimate technology with the most user friendly interface.

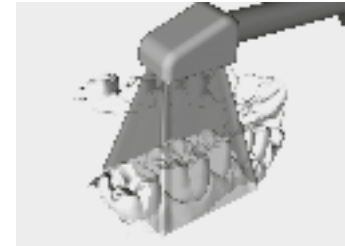
The restoration **in one session.**

DFAB® is a 3D printer to produce natural-like teeth. The device allows to cut times offering a prompt service and the best quality for material and 3D printing through an innovative process developed by DWS: starting from an .stl file, the user selects the colours and shades of the restoration thanks to the innovative **Photoshade** system included in the software provided with the 3D printer.

DFAB® prints in around 20 minutes and the bridge is ready for the insertion after the supports removal and an easy process of finishing.



Phase 01



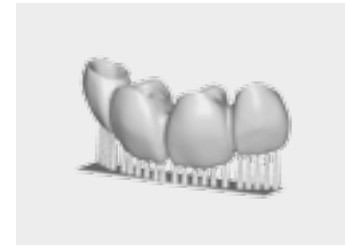
Scan file
Intraoral scanner *

Phase 02



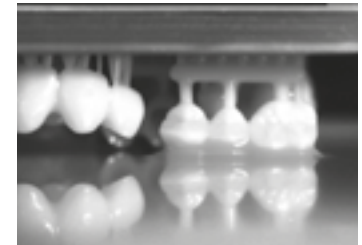
STL file
Dental CAD/CAM *

Phase 03



STL
File Editing

Phase 04



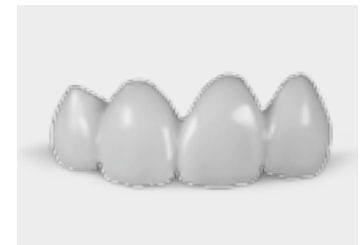
DFAB® building process
Complete in around 20 minutes.

Phase 05



Support removal and finishing

Final result



Bridge ready for the insertion

* Scanner and CAD/CAM software not included

TEMPORIS®.

The certified biocompatible material.

Temporis® is a biocompatible material produced by DWS, developed for the 3D printing of Class IIa *¹ restoration. The material has shown mechanical strength values that are comparable to a well-established hybrid composite resin restorative material. *²

- The raw materials are completely biocompatible and non-toxic.
- The restoration is produced using the cutting-edge and innovative **Photoshade** system, patented by DWS.
- If needed, **Temporis®** material can be layered with a light biocompatible compound and personalized by using all types of composite staining kits.
- **Temporis®** cartridges for **DFAB®** are supplied in disposable packs to avoid material waste.
- The cartridges come with a building platform and a cleaning tool.

*¹ The polymer is to be considered a long-term invasive medical device in Class IIa as provided for by the Rule 5, Annex IX, Dir. 93/42/EEC.

*² Alharbi, Nawal, Reham Osman, and Daniel Wismeijer. "Effects of build direction on the mechanical properties of 3D-printed complete coverage interim dental restorations." *The Journal of prosthetic dentistry* 115.6 (2016): 760-767.

USA market: Temporis® is waiting for FDA approval.

Photoshade: a natural effect thanks to the innovative colour gradient.

The most important opportunity **DFAB**® system offers dental studios and clinics is the possibility to create restorations that are like the patient's ones in terms of colour and shading, for the most authentic end result currently possible.

The user can set the colour, choosing two shades of maximum and minimum intensity, from the VITA® range between A1 and A3.5. The software accurately reproduces the shades in order to obtain intermediate nuances.

Class IIa restorations, bridges and crowns are thus able to guarantee patients not only the most functional fit for chewing, but also the best possible result in terms of appearance.

If needed, the restoration obtained can be easily modelled and polished.

The **Photoshade** system for **DFAB**® Desktop and **DFAB**® Chairside is able to reproduce and carefully apply consecutive shades of colour between A1 and A3.5 on the VITA® scale to restorations.

The user can decide the precise positioning of the starting point and of the end of the colour gradient, as shown by the red lines on the pictures. This process is not obtainable with conventional CAD/CAM milling systems and 3D printers.

* Trademarks property of their respective owners.

Selection of the colour gradient.

Starting point

End point





DFAB® Chairside version.

The ultimate technology with the most intuitive and user friendly interface.

DFAB® Chairside is an all-in-one device that integrates an ultra-high-speed 3D additive manufacturing system with a personal computer that has a user interface managed from a touch-screen monitor.

- It is a safe system that involves the insertion of the cartridge and the automatic management of the material.
- Disposable cartridges: safe and clean system.
- Vs CAD/CAM milling systems: no dust, no coolant, no tooling, no noise.
- Material waste reduction.
- Easy UV curing with a dental curing UV light (not included).
- Compatible with most intraoral scanners and CAD/CAM systems of the dental sector.
- Compact, simple, elegant design.
- **DFAB® Chairside** touch-screen functions have been developed to allow operators to easily control the process thanks to its user-friendly commands.

DFAB® Desktop version.

Keep the whole process under control straight from your PC.

DFAB® Desktop version can easily be connected to a computer and receives instructions and commands by using the proprietary software.

- It is a safe system that involves the insertion of the cartridge and the automatic management of the material.
- Disposable cartridges: safe and clean system.
- Vs CAD/CAM milling systems: no dust, no coolant, no tooling, no noise.
- Material waste reduction.
- Easy UV curing with a dental curing UV light (not included).
- Compatible with most intraoral scanners and CAD/CAM systems of the dental sector.
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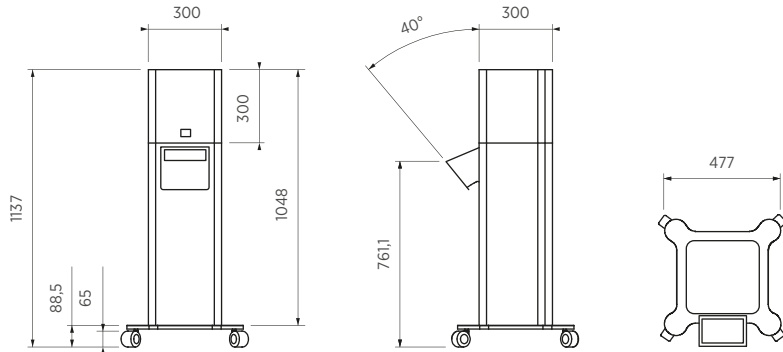


SPECIFICATIONS

DFAB® Chairside version

Technical data

Laser Source:	BE-1600B
Working Area (x, y, z):	47 x 18 x 40 mm
Software Included:	Parametric Editor for 3D printing
OS:	Windows 10 included in the touch-screen pc
Input Files Format:	.stl, .slc, .naut, .fictor, .mkr, .3dm (only mesh), .ply, .3ds, .obj, .lwo, .x
User Interface:	7" Touch-screen Display
Machine Size:	477 x 477 x 1137 mm
Weight:	40 Kg
Operating Temp. and Humidity:	15 - 25 °C / 60%
Electrical Consumption:	200 W
Power Supply:	AC 240 / 100V / 50-60 Hz

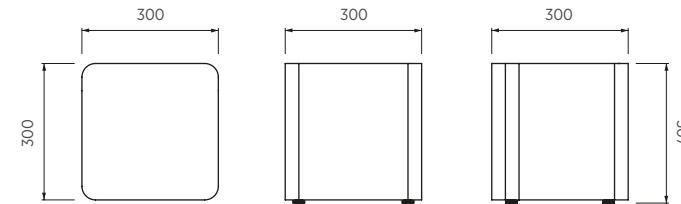


* Technical specifications subject to change without notice.

DFAB® Desktop version

Technical data

Laser Source:	BE-1600B
Working Area (x, y, z):	47 x 18 x 40 mm
Software Included:	Parametric Editor for 3D printing
OS:	Windows 7 or higher
Input Files Format:	.stl, .slc, .naut, .fictor, .mkr, .3dm (only mesh), .ply, .3ds, .obj, .lwo, .x
Machine Size:	300 x 300 x 307 mm
Weight:	15 Kg
Operating Temp. and Humidity:	15-25 °C / 60%
Electrical Consumption:	160 W
Power Supply:	24V DC with AC 240 / 100V / 50-60 Hz external supplier included



* Technical specifications subject to change without notice.



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Information

This brochure contains informative addressed to healthcare professionals as it deals with information that may lead to serious damages for patient's health and safety if not properly understood and duly executed. Regulations under the Italian law (Legislative Decree dated February, 23rd 2006, Legislative Decree no. 219/2006 and in general by Legislative Decree no. 46/97 as amended by Legislative Decree no. 37 dated January, 25th 2010).

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