# Inside the third dimension of manufacturing

Ultimate generation systems for the 3D printing of industrial applications.





DWS designs and manufactures 3D printing systems, along with software and specific materials, for an ideal use in the industrial fields of fast production and of rapid prototyping.

DWS continuously innovates and integrates its advanced solutions, so to help companies and R&D departments entering or completing the digitalization of their processes, efficiently exploiting their resources, containing internal costs and increasing competitiveness.





Strong and transparent like glass. An example of the possibilities offered by the combined use of DWS systems and materials.

#### TRANSPARENT MATERIALS

## Look, functionality and quality: pursuing perfection.

The use of DWS 3D printers and transparent materials represents the most advanced, fast and satisfying method for prototyping. The creation of transparent or transparent-colored objects is obtained by preserving the required qualities of the material.

The materials, purposefully developed and through stereolithographic technology, faithfully reproduce the characteristics of **glass**, **crystal** and **plastics**, also automotive, at the same time granting of strength and accuracy.

For example, **VITRA** boasts superior transparency, at the same time guaranteeing best final results in terms of dimensional stability, either for single objects or components and in a wide range of industrial sectors.

- Maximum obtainable transparency
- Truthful tactile effect
- Smooth surfaces
- Accuracy of details
- Extreme hardness and resistance

Material	XFAB 2000	XFAB 2500SD	XFAB 3500SD	029X	XPRO S	XPRO Q
VITRA 413	<b>A</b>	<b>A</b>	=	_	=	-
VITRA 430	<b>A</b>	<b>A</b>	_	_	_	_
VITRA DL375	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>

See appendix for specifications.

List of compatibility subject to modifications.

#### **ELASTOMERS**

## The most advanced solutions for simulating rubbery materials.

The research and development of DWS, nowadays, offers to the manufacturing industry and in all sectors of competence the best answer to rapid production and prototyping needs for objects and products' components with rubber-like or similar characteristics.

The performances of black or translucent elastomers, obtained with the use of DWS 3D printers and polymers, is positioned among the highest levels required by the market.

**Elasticity**, **elongation** and **resistance to wear and tear** of the models produced, together with many other excellent qualities, allow the operator to reproduce a wide range of finished products, in a short time and with low costs.

- Superior elasticity
- High tensile strength and breaking point
- Excellent surface quality
- Excellent resolution
- Reduced printing times and costs

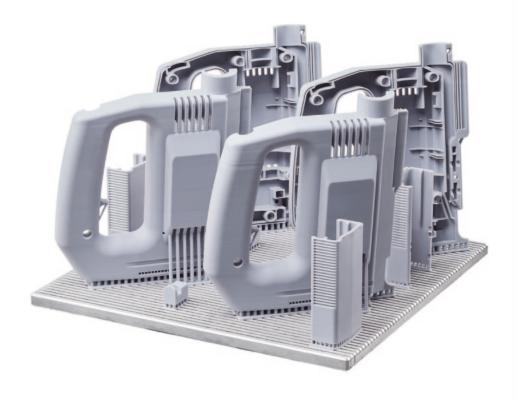
Material	XFAB 2000	XFAB 2500SD	XFAB 3500SD	029X	XPRO S	XPRO Q
FLEXA 692	<b>A</b>	<b>A</b>	_	_	_	_
FLEXA 693	<b>A</b>	<b>A</b>	_	_	=	_
FLEXA GM08	_	=	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
FLEXA GM08B	_	=	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>

See appendix for specifications.

List of compatibility subject to modifications.



Elastomers produced with DWS systems: surface quality and technical performances are evident, in some cases the highest presently on the market.



You can touch with your hand the very high printing precision and the superior quality of materials, each of them safely usable for their own goals.

#### **FUNCTIONAL MATERIALS**

## Accuracy, range and performances, for products that work.

Not only or simply static prototypes, but real objects, working and complying to precise destinations of use; even complex ones. This is the big difference. The major intrinsic value of the productions achievable thanks to DWS technology. **Precision** and **dimensional stability**, joined with a series of precious physical-mechanical performances (like the high resolution of DL260 material), mark products that are functional, rapidly developed even in elaborated shapes and geometries, able to be used and tested in accordance with the correct specifications, case by case.

- High precision in printing
- Complete range of functional materials
- Excellent physical and mechanical performances
- Fast production

Material	XFAB 2000	XFAB 2500SD	XFAB 3500SD	029X	XPRO S	XPRO Q
INVICTA 907	<b>A</b>	<b>A</b>	-	-	-	_
INVICTA 915	<b>A</b>	<b>A</b>	-	_	<b>A</b>	-
INVICTA 917	<b>A</b>	<b>A</b>	-	-	<b>A</b>	-
INVICTA 977	<b>A</b>	<b>A</b>	-	-	-	_
INVICTA ABO01	_	-	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
INVICTA ABOO2	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
INVICTA DL370	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
INVICTA DL380	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
INVICTA DL385	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
INVICTA DL390	_		<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
INVICTA DL395	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
INVICTA DL405	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
INVICTA DL406	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>

See appendix for specifications.

List of compatibility subject to modifications.

#### **HIGH TEMPERATURE MATERIALS**

## Stability, resistance and printout details at the highest levels.

Resolution and the ability to resist to exceptional stresses are the characteristics required from a **heat-resistant** material and from metal substitutes. The products made with DWS 3D printing technologies and materials precisely simulate the thermal performances of the reference materials, at high temperatures and for several manufacturing cycles, but they can be produced in surprisingly **reduced times and costs**. The range of resins available is wide and complies with all the different needs for resistance to thermal stress.

- Highest printing resolution
- Exceptional thermal resistance
- Extremely reduced printing times and costs
- Resistant to use for many production cycles
- Range of materials suitable for different temperatures

Material	XFAB 2000	XFAB 2500SD	XFAB 3500SD	029X	XPRO S	XPRO Q
THERMA 289	<b>A</b>	<b>A</b>	-	-	-	=
THERMA 294	<b>A</b>	<b>A</b>	_	_	_	_
THERMA DM210	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
THERMA DM220	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
THERMA DM500	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
PRECISA 780	<b>A</b>	<b>A</b>	-	_	_	_
PRECISA DL260	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>

See appendix for specifications.

List of compatibility subject to modifications.



The extreme precision of the details strikes at first sight. A detail that resists to the highest temperatures.





Castable models for industrial use made with DWS 3D printers and materials can be of refined and complex design.

# CASTABLE MATERIALS Indirect production

## No limit in designing complex and detailed models.

Now you can 3D print clusters\* in high resolution for a fully digital innovative workflow. DWS innovative materials for the creation of **castable models** allow the precise and easy realization of items either of simple geometries or characterized by complex structures, patterns, undercuts, graven and with relief models. Models require very simple procedures after printing and are easy to cast. **FUSIA 445** is castable material for DWS stereolithographic printers, developed to produce lost wax casting clusters\*. Thanks to the combination of the material, the printer and the specific designed software, the workflow become completely digital and automated. This increase the productivity of the medium and large companies, reducing time to market and reducing production time and costs in various application fields.

- Ultra-high resolution and precision
- Wax-like materials, easy to cast
- Flexibility and resilience in the washing and casting phase
- Fully digital and automated workflow
- Increased productivity
- Reduction of costs and production times
- Production managed in real time
- Industry compliance 4.0

<sup>\*</sup> Patent pending

Material	XFAB 2000	XFAB 2500SD	XFAB 3500SD	029X	XPRO S	XPRO Q
Fusia 444	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
Fusia 445	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>

See appendix for specifications.

List of compatibility subject to modifications.

#### **DIRECT MANUFACTURING**

INVICTA 405 and INVICTA 406, from 3D printing to final market, with no steps in between.

Among the ultimate developments of DWS' research, **INVICTA 405** and **INVICTA 406** are really revolutionary materials. Their characteristics allow the application of 3D printing systems to direct production in different and important fields, such as that of eyewear, with previously unthinkable results. INVICTA 405 and INVICTA 406 ensure the product an uncommon **resistance**, combined to a good **flexibility** and to a perfect **memory** of the original shape, after bending. The material guarantees, moreover, an uncommon durability, safe from alterations or relevant deteriorations and able to easily **absorb colors** within the same chemical structure, granting aesthetical effects with surprising consistency and elegance.

- Good level of transparency
- Shape memory
- Resistance and flexibility
- Long life
- Possibility of surface coating and pigmentation

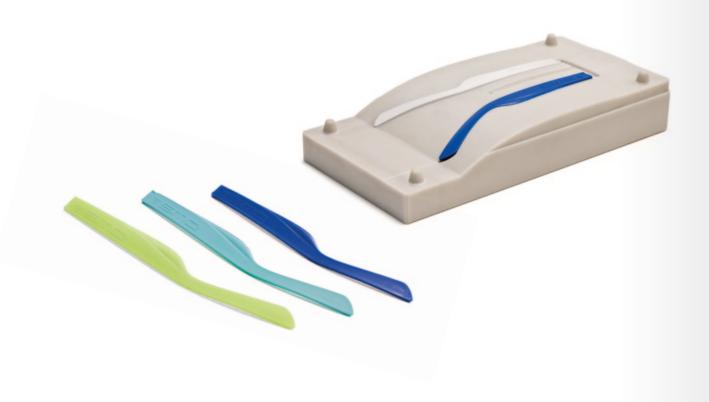
Material	XFAB 2000	XFAB 2500SD	XFAB 3500SD	029X	XPRO S	XPRO Q
INVICTA DL405	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
INVICTA DL406	_	_	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>

See appendix for specifications.

List of compatibility subject to modifications.



Two items produced with the innovative resin INVICTA 405 and INVICTA 406: aesthetically and functionally ready to face the market and the consumer's requests.



The use of DM500 ensures, in few hours, the production of accurate and resistant molds, able to perform for hundreds of cycles.

#### **INDIRECT MANUFACTURING**

## DM500, high technology resin for new generation processes.

**THERMA DM500** is a photosensitive material for DWS stereolithographic 3D printers, developed to produce **injection molds** for plastic materials. It resists to **hundreds of cycles** at the highest temperatures and under remarkable pressure. This resin eventually fills up the gap between the prototyping world and the manufacturing one, reducing time to market by shrinking mold production times and costs.

Thanks to it, in fact, new generations of products can exploit, from the very initial phases or for short batches productions, the end technology of injection molding, therefore validating geometries and materials of finished products and shortening **time to market**.

- Smooth surfaces
- High resolution and precision
- Excellent accuracy
- Minimum production times

Material	XFAB 2000	XFAB 2500SD	XFAB 3500SD	029X	XPRO S	XPRO Q
THERMA DM500	_		<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>

See appendix for specifications.

List of compatibility subject to modifications.

## **GEAR VR SAMSUNG VISOR**

Technology and comfort validated on the prototype.

**Designer:** Samsung

Visor for augmented reality, holding a smartphone for 3D video projection. The prototype was made with the **029X** printer by using three different materials. The rigid and flexible components, once removed the supports and assembled, create a prototype for the validation of design, before starting mass production. Junction parts and flexible ones have comfortable and smooth surfaces and do not need further surface finishing.



029 **X** 

**Technology:** stereolithographic 3D printer

Material: Invicta DL380, Invicta AB001, Flexa GM08B

**Building time:** 9 hours





Different views of the prototype produced with Invicta DL380 in O29X 3D printer.

## HALFTOYS DIGITALHANDS

Details and precision: with 3D printing playtime and education become exclusive.

Designer: Jang Seok Youn

Halftoys are 3D printed toys, with ludic-educational goals, that can be disassembled and re-assembled.

The project originates from the partnership between DigitalHands - HDC Korea and a group of digital artists who explored 3D printing creative potentials. HalfToys were created on **XFAB 3500SD** and the material **Precisa DL260**, with the goal of obtaining smooth, precise and detailed surfaces. After the print, components were washed in a water-alcohol solution, for two minutes, followed by a cycle of 20 minutes in an UV curing unit. Once the supports were removed, the items were refined with light sanding and painting in different colors.



XFAB **3500SD** 

**Technology:** stereolithographic 3D printer

Material: Precisa DL260 Building time: 9 hours







Excellent resins and resolution:

3D printing makes the difference there where surface and details are important.

## ALUX MUSIC AND LIGHT DIFFUSER

Speed and precision, proper materials. Interior design today is 3D printed.

**Designer:** Alice Barki

Alux is a lamp and, at the same time, a speaker. Born from the ingenuity of Italian designer Alice Barki, inspired by sound waves, Alux finds a second vocation - that of a lamp - in a shape that resembles a vase.

Perfect for minimalist and modern environments, Alux allows for the easy control of its functions by means of an app.

The music and light speaker has dimensions of  $30 \times 30 \times 30 \times 30 \times 30$  cm and was produced with **XPRO Q**, a system that offers the ideal working area with resin **Invicta DL380**. After the washing the lamp in alcohol for two minutes, it was placed in an UV curing device for 20 minutes. It was, then, polished with vaseline.



XPRO (

**Technology:** stereolithographic 3D printer

Material: Invicta DL380 Building time: 48 hours







Alux's surface and details obtained with resin DL380 and produced in XPRO Q 3D printer.

**CASE STUDIES** 

## KELYFOS LOUDSPEAKER

Aesthetic and functional accuracy, also in middle-size dimension products.

**Designer:** Alice Barki

Kelyfos is the "gramophone" designed by designer Alice Barki and printed with **XFAB 2000**. It is made out of 8 elements. The size of the base is 35 x 30 x 30 cm. A sort of sculpture for lines and volumes, reminding those of a Nautilus: the designer, as a matter of fact, got inspired by old gramophones and the shapes of seashells. The item is internally hollow and works as a sounding board for music coming from a smartphone, lodged in a proper housing. The designer chose the material **Invicta 915**, ideal for making details and smooth surfaces stand out. The realization of the 8 components of the gramophone took 87 hours for printing with XFAB 2000. Each element was, then, cleaned through immersion in isopropyl alcohol for about 7 minutes and a UV curing cycle for 20 minutes. Once assembled, the object did not need further finishing processes.



XFAB **2000** 

**Technology:** stereolithographic 3D printer

Material: Invicta 915

Building time: 87 hours totally







Different views of Kelyfos: functional characteristics and the 3D printing precision are stand out.

## SKIPPER SMELL-REMOVER BRAUN

Solid and versatile printing, for functional, dismountable, technological elements.

Designers: Carlotta Borgato, Timothy Liddell, Nicole Maccari, Maria Terraroli

Skipper is a portable device to refresh dresses and shoes, by eliminating the smells caused by bacteria proliferation. The device is made of a single dismountable piece and it combines the effects of sterilization via ionized air with the generation of UV rays.

The object has a solid shape and is extremely versatile. It is provided with a cord allowing its opening at different angles, according to requirements.

UV rays are emitted by capsules at the edges of each wing and they can be removed and positioned inside shoes and boots. Skipper, with its delicate but efficient hygienic and cleaning process, allows time saving, by refreshing the items that cannot be immediately treated in a washing machine, therefore preserving their quality and lasting.

The project was developed by the Milan Polytechnic University, in cooperation with Braun GmbH. The print was made by ShapeMode with the **XFAB 2000** 3D printer, the materials used were **Invicta 915** and **Invicta 917**.



XFAB **2000** 

**Technology:** stereolithographic 3D printer **Material:** Invicta 915 and Invicta 917











The printing of Skypper's components was done in XFAB 2000, ensuring strength and perfect resolution for an efficient use.



## The new 3D printers for rapid production and prototyping.

**XFAB 2000** is the innovative 3D "Plug & Play" desktop printer, accurate and precise, with a high definition of details, ideal for medium-small size companies and for professionals. It is provided with the best DWS technology, TTT System and BluEdge® laser included.

**XFAB 2500SD** is ideal for R&D departments and professionals requiring fast and precise prototyping and is provided with Nauta® and Fictor® software, which allow the manual setting of parameters for the best performance of DWS materials. It guarantees the widest freedom in the optimization of printing for models.

- Fast and precise stereolithographic printer
- "Plug & Play" system
- Materials developed and produced by DWS
- TTT System Tank Translation Technology that reduces wear and tear of tanks

SOFTWARE NAUTA AND FICTOR INCLUDED

 $\emptyset$  180 $\times$ 180 WORKING AREA X, Y, Z (mm)



XFAB **2000 / 2500SD** 

**Dimensions** 400 x 606 x 642 mm





**Dimensions** 400 x 606 x 742 mm



## XFAB

## High productivity and precision, with no compromises.

Advanced version of the XFAB series, the **XFAB 3500SD** combines great precision to the highest performances in terms of productivity, thus, resulting in the perfect printer for companies from all industrial sectors. Its design results ideal also for cluster installations.

Through the use of Nauta® and Fictor® software, the customization of parameters allows the production of the highest precision models used in design and industrial applications.

- Fast and highly precise stereolithographic 3D printer
- Complete range of professional DWS materials
- "Plug & Play" system
- TTT System Tank Translation Technology that reduces wear and tear of tanks

BUILT-IN PC
WIDE RANGE OF MATERIALS

 $140\times140\times180^*$ 

\*Chamfered corners

**PRINTERS** 

# Highly Performing SLA Technology.

Rapid manufacturing system developed for medium-high productive volumes, aimed at medium-big production departments. It ensures high speed and precision also by integrating Nauta® Plus (allows automatic generation of supports).

Moreover, it is provided with the electromechanical device called TTT System (Tank Translation Technology), which increases tank life and reduces costs of operation.

- Print precision and resolution at its highest levels on the market
- Ideal for the creation of considerable quantities of models
- TTT System Tank Translation Technology that optimizes wear and tear of tanks
- Very low costs for operation and maintenance

RAPID PRODUCTION | 150x150x200 **BEST RESOLUTION** 

WORKING AREA X, Y, Z (mm)





029



**Dimensions** 610 x 660 x 1400 mm

### High resolution for a fully digital innovative workflow.

A system for rapid production designed for medium-high productive volumes, aimed at medium-big size productive departments. It grants high speed and precision.

029XC runs both the proprietary Nauta Plus software (that allows the automatic generation of supports) and its special module (optional) XCluster\* to produce clusters to lost wax casting. Thanks to its combination between materials and the 3D printer and to the expressly designed software, your workflow will become totally digital and automated. This will increase the productivity of medium-big size companies, reducing the time-to-market and production times and costs in the different application fields.

- Very high resolution and precision
- Fully digital and automated workflow
- Increased productivity
- Reduction of costs and production times
- Complies to Industry 4.0
- TTT System Tank Translation Technology that optimizes the wear of the resin tank
- Low maintenance costs

\* Patent pending

HIGH PRODUCTIVITY | 170x170x200

**BEST RESOLUTION** 

WORKING AREA X, Y, Z (mm)





029

XC

Dimensions 610 x 660 x 1400 mm



XPRO **S** 

Dimensions

704 x 1446 x 2048 mm

## XPRO S

# Industrial applications for big productions.

The innovative DWS 3D printer for manufacturing. XPRO S is the ideal choice for companies needing to produce in a short time very huge quantities of models and **big objects** with optimal results. High productivity and precision, joined by a wide range of materials, make this printer versatile and suitable for almost any kind of industrial application.

- Provided with an integrated touch screen monitor PC
- Low running and maintenance costs
- Exceptional value/price ratio
- TTT System Tank Translation Technology that optimizes wear and tear of tanks

MAXI AREA

300x300x300

WORKING AREA X, Y, Z (mm)



Maximum working area and resolution at the same time thanks to the quad-laser system.

XPRO Q is a 3D printing system developed for big production volumes and the ideal solution for large scale processes requiring maximum precision and resolution. It ensures high productivity thanks to the wide working area  $300 \times 300 \times 300$  mm and print speed. It can use a wide range of materials developed by DWS and it is, thus, able to materialize industrial applications with accuracy and speed.

- 4 Solid State BluEdge® laser sources working at the same time that guarantee the reduction of production times without influencing the highest resolution
- TTT System Tank Translation Technology that optimizes wear and tear of tanks
- Provided with an integrated monitor touch screen PC
- Suitable also for cluster configurations.

4 LASERS
BEST RESOLUTION

 $300 \times 300 \times 300$ 



XPRO

Dimensions

704 x 1446 x 2048 mm

SPECIFICATIONS

	Color	Tensile strength (MPa)	Elongation at break (%)	Tensile modulus (MPa)
VITRA 413	light yellow	20~40	2~3	1500~2250
VITRA 430	transparent	30~40	12~20	1250~1450
VITRA DL375	transparent	45~55	6~10	1700~2200
FLEXA 692	black	-	20~80	-
FLEXA 693	light yellow	-	25~65	-
FLEXA GM08B	black	-	30~60	-
FLEXA GM08	light yellow	-	20~65	-
INVICTA 907	gray	40~55	6~8	1750~2100
INVICTA 915	white	30~50	2~7	1350~2400
INVICTA 917	gray	30~50	2~7	1350~2400
INVICTA 977	light yellow	35~45	2~5	1750~2150
INVICTA ABOO1	white	25~45	3~5	1200~1950
INVICTA AB002	gray	25~45	3~5	1200~1950
INVICTA DL370	light yellow	18~28	10~15	500~990
INVICTA DL380	black	25~35	7~14	720~1200
INVICTA DL385	black	25~40	11~25	900~1800
INVICTA DL390	white	15~22	14~16	360~600
INVICTA DL395	white	30~45	13~25	1200~1900
INVICTA DL405	white	40~55	10~15	1700~2200
INVICTA DL406	transparent	40~55	8~12	1700~2200
THERMA 289*	light green	30~55	1~3	3100~5500
THERMA 294*	dark blue	20~45	1~3	1800~2900
THERMA DM210*	dark blue	20~45	1~4	1550~3100
THERMA DM220*	light blue	40~55	1~2	4650~5600
THERMA DM500*	gray	50~80	5~10	2400~3050
PRECISA 780	light gray	35~45	6~7	1700~2000
PRECISA DL260	opaque gray	25~40	2~6	1350~2700

	Flexural strength (MPa)	Flexural modulus (MPa)	Surface hardness (ShoreD)	HDT @0.46 MPa (°C)
VITRA 413	60~115	1750~2650	86~88	54~58
VITRA 430	55~70	1200~1400	76~78	51~55
VITRA DL375	80~105	2000~2500	86~88	48~52
FLEXA 692	-	-	27~33	-
FLEXA 693	-	-	35	-
FLEXA GM08B	-	-	22~25	-
FLEXA GM08	-	-	25~27	-
INVICTA 907	75~105	1900~2500	86~87	50~54
INVICTA 915	60~95	1500~2200	81~83	49~53
INVICTA 917	60~95	1500~2200	81~83	55~59
INVICTA 977	80~110	1850~2600	86~88	52~56
INVICTA ABOO1	50~90	1420~2020	83~87	47~51
INVICTA AB002	50~90	1420~2020	83~87	47~51
INVICTA DL370	36~50	670~1130	79~81	44~48
INVICTA DL380	50~65	1050~1400	82~83	45~49
INVICTA DL385	45~78	900~1800	78~84	42~46
INVICTA DL390	25~40	370~780	71~75	42~46
INVICTA DL395	50~80	1000~1800	83~85	42~46
INVICTA DL405	70~90	1800~2000	80~82	44~48
INVICTA DL406	70~90	1800~2000	80~82	44~48
THERMA 289*	60~90	2900~5550	90~94	61~120
THERMA 294*	55~125	2000~3400	88~91	56~98
THERMA DM210*	50~135	1450~2800	85~90	56~98
THERMA DM220*	65~120	4600~6500	91~93	75~110
THERMA DM500*	70~160	1700~4000	90~91	55~90
PRECISA 780	60~80	1500~1850	82~85	48~53
PRECISA DL260	50~65	1300~2800	86~91	50~82

 $^{\ast}$  Post heat treatment 30 min at 120 °C is needed to get maximun heat resistance.

 $<sup>^{\</sup>ast}$  Post heat treatment 30 min at 120 °C is needed to get maximun heat resistance.

SPECIFICATIONS







Technical data*	XFAB 2000	XFAB 2500SD
Technology	Laser Stereolithography	Laser Stereolithography
Working Area	Ø 180 x 180 mm	Ø 180 x 180 mm
Laser Source	Solid State BlueEdge®	Solid State BlueEdge®
Layer Thickness	10-100 micron (depending on the type of material used)	10-100 micron (depending on the type of material used)
Scanning Method	Galvanometer	Galvanometer
Software	Fictor XFAB Edition and Nauta XFAB Edition Included	Fictor XFAB Edition and Nauta XFAB Edition Included
Input Files Format	.stl, .slc, .nauta, .fictor, .mkr, .3dm, .3ds, .ply, .obj, .lwo, .x	.stl, .slc, .nauta, .fictor, .mkr, .3dm, .3ds, .ply, .obj, .lwo, .x
Machine Size	400 x 606 x 642 mm	400 x 606 x 642 mm
Weight	31 Kg	31 Kg
Operating Temperature and Humidity	20-25 °C / 60%	20-25 °C / 60%
Power Supply	24V DC con AC 240/100V / 50-60 Hz - External Supplier Included	24V DC con AC 240/100V / 50-60 Hz - External Supplier Included
Electrical Consumption	160W	160W
PC Minimum Requirements	Windows 7 or Above *1	Windows 7 or Above *1
Memory	RAM 4GB *1	RAM 4GB *1
Graphic Card	OpenGL 2.0 Compatible or Above *1	OpenGL 2.0 Compatible or Above *1
I/O Interfaces	1 USB port	1 USB port
Connectivity	1 Active Internet Connection	1 Active Internet Connection

 $<sup>^{*1} \ \</sup>text{The recommended requirements may vary in accordance with the complexity of the file to be printed.}$ 



Technical data*	XFAB 3500SD
Technology	Laser Stereolithography
Working Area	$140 \times 140 \times 180 \text{ mm}$ (Chamfered corners)
Laser Source	Solid State BlueEdge®
Layer Thickness	10-100 micron (depending on the type of material used)
Scanning Method	Galvanometer
Software	Fictor XFAB Edition and Nauta XFAB Edition Included
Input Files Format	.stl, .slc, .nauta, .fictor, .mkr, .3dm, .3ds, .ply, .obj, .lwo, .x
Machine Size	400 x 606 x 742 mm
Weight	40 Kg
Operating Temperature and Humidity	20°-25 °C / 60%
Power Supply	24V DC con AC 240/100V / 50-60 Hz - External Supplier Included
Electrical Consumption	160W
PC Minimum Requirements	Windows 7 or above *1
Memory	RAM 4GB *1
Graphic Card	OpenGL 2.0 Compatible or Above *1
I/O Interfaces	1 USB Port - 1 Ethernet TCP/IP Port
Connectivity	1 Active Internet Connection

<sup>\*1</sup> Built-in PC, the minimum requirements are expressed in order to operate Nauta with an external PC (not included). The recommended requirements may vary in accordance with the complexity of the file to be printed.

**SPECIFICATIONS** 





Technical data*	029 X	029 XC
Technology	Laser Stereolithography	Laser Stereolithography
Working Area	150 x 150 x 200 mm	170 x 170 x 200 mm
Laser Source	Solid State BlueEdge®	Solid State BlueEdge®
Layer Thickness	10-100 micron (depending on the type of material used)	10-100 micron (depending on the type of material used)
Scanning Method	Galvanometer	Galvanometer
Software	Nauta+ and Fictor	Nauta+ and Fictor
Input Files Format	.stl, .slc, .nauta, .fictor, .mkr, .3dm, .3ds, .ply, .obj, .lwo, .x	.stl, .slc, .nauta, .fictor, .mkr, .3dm, .3ds, .ply, .obj, .lwo, .x
Machine Size	610 x 660 x 1400 mm	610 x 660 x 1400 mm
Weight	150 Kg	150 Kg
Operating Temperature and Humidity	20-25 °C / 60%	20-25 °C / 60%
Power Supply	AC 230/115 V / 50-60 Hz	AC 230/115 V / 50-60 Hz
Electrical Consumption	500W	500W
PC Minimum Requirements	External PC included	External PC included
Memory	-	-
Graphic Card	-	-
I/O Interfaces	1 USB Port - 1 Ethernet TCP/IP Port	1 USB Port - 1 Ethernet TCP/IP Port
Connectivity	1 Active Internet Connection	1 Active Internet Connection





Technical data*	XPRO S	XPRO Q
Technology	Laser Stereolithography	Laser Stereolithography
Working Area	300 x 300 x 300 mm	300 x 300 x 300 mm
Laser Source	Solid State BlueEdge®	Solid State BlueEdge®
Layer Thickness	10-100 micron (depending on the type of material used)	10-100 micron (depending on the type of material used)
Scanning Method	Galvanometer	Quad-Galvanometer
Software	Nauta+ and Fictor	Nauta+ and Fictor
Input Files Format	.stl, .slc, .nauta, .fictor, .mkr, .3dm, .3ds, .ply, .obj, .lwo, .x	.stl, .slc, .nauta, .fictor, .mkr, .3dm, .3ds, .ply, .obj, .lwo, .x
Machine Size	704 x 1446 x 2048 mm	704 x 1446 x 2048 mm
Weight	500 Kg	500 Kg
Operating Temperature and Humidity	20-25 °C / 60%	20-25 °C / 60%
Power Supply	AC 230/115 V / 50-60 Hz	AC 230/115 V / 50-60 Hz
Electrical Consumption	500W	500W
PC Minimum Requirements	Windows 7 or Above *1	Windows 7 or Above *1
Memory	RAM 4GB *1	RAM 4GB *1
Graphic Card	OpenGL 2.0 Compatible or Above *1	OpenGL 2.0 Compatible or Above *1
I/O Interfaces	1 USB Port - 1 Ethernet TCP/IP Port	1 USB Port - 1 Ethernet TCP/IP Port
Connectivity	1 Active Internet Connection	1 Active Internet Connection

<sup>\*1</sup> Built-in PC, the minimum requirements are expressed in order to operate Nauta with an external PC (not included).
The recommended requirements may vary in accordance with the complexity of the file to be printed.

46



#### DWS

Via della Meccanica, 21 36016 Thiene (VI) - Italy T +39 0445 810810 info@dwssystems.com

www.dwssystems.com

MADE IN ITALY

JosephRossi.com

