

## TruPrint 1000

3D printing in premium quality: highly productive and compact

.World Premiere

05

### Best fit for dental applications

Lower part cost due to preform, multiplate and hybrid digital chain

01

### Highest build rates and machine run time

Due to multilaser 2 x 200 W and automatic substrate plate change

04

### Process flexibility and advanced monitoring

Due to the adjustable spot size (55/80  $\mu\text{m}$ ) and detailed process analysis

02

### Superior part and surface quality

Simultaneous scanning of the entire build area for improvement in performance

03

### Ergonomic contact-free powder handling

Inert powder cycle with glove box and interchangeable cylinders



# Discover our new TruPrint 1000

With the next generation of the TruPrint 1000, we are continuing a success story - with even higher productivity and premium quality thanks to the fullfield multilaser and a completely redesigned homogeneity of the gas flow. The 3D printer is predestined for processing metal powders using the Laser Metal Fusion process, also known as Powder Bed Fusion. Due to its high robustness and quality in 3D printing, the TruPrint 1000 is not only perfectly suited for the dental market but is also impressive in the R&D sector or in small series production.

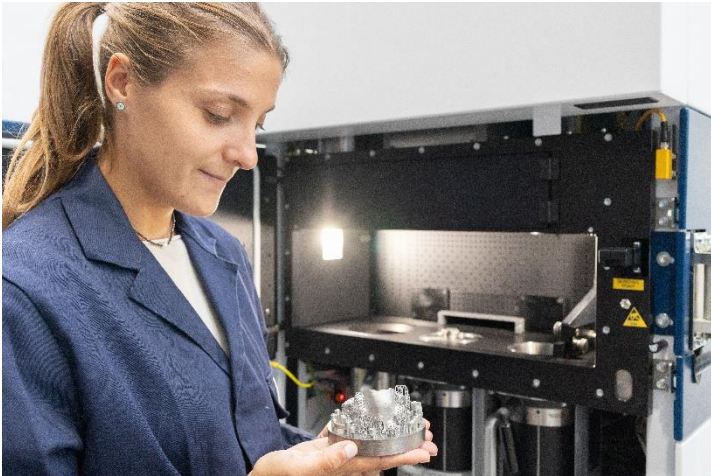
01

## Highest build rates & machine run time

Due to multilaser 2 x 200 W and automatic substrate plate change

Use the fullfield multilaser option for maximum productivity: Two 200 W TRUMPF fiber lasers expose simultaneously with full overlap in the entire build area and thus flexibly generate up to 80 % more parts at the same time - with the best quality. In this way, you achieve faster parts availability and maximum flexibility for customer orders.

Compensate for order peaks with the multiplate option: Benefit from longer machine running times without operator intervention and thus produce up to four build jobs in a row.



02

## Superior part and surface quality

By redesigned gas flow and improved laser focus stability

Achieve even better part quality with our newly developed shielding gas concept. It guarantees a highly robust melt process during which the process chamber as well as the optics protective glass remain clean. An optimum shielding gas stream is achieved by the smaller process chamber and a primary and secondary gas flow. This ensures recurring high part quality, particularly in industrial series production.

The high optical stability of the laser beam, which is always focused on the powder level thanks to an integrated variable beam expander, guarantees a perfectly homogeneous print result over the entire build area and repeatable print quality machine after machine.



03

## Ergonomic contact-free powder handling

Inert powder cycle with glove box and interchangeable cylinders

Now ergonomic, non-contact powder handling is also possible in a small format. A closed powder cycle under inert gas is created with glovebox and interchangeable cylinders.

We designed changing cylinders as easy as operating an espresso machine! The interchangeable cylinders significantly increases your productivity and reduces setup times. The supply cylinder can be filled outside the machine during production. The whole system also works when reducing the build volume ( $\varnothing 50 \times H 100 \text{ mm}$ ) when using high-priced materials. Benefit from handling inert powder thanks to the standard tri-clamp connection using an external sieving station as the TRUMPF Powder Preparation Station or provided by our partner assonic. The powder can be sieved, processed and stored under inert conditions enabling the usage of reactive material as titanium.





04

## Process flexibility and advanced monitoring

Due to the adjustable spot size (55/80  $\mu\text{m}$ ) and detailed process analysis

The motorized optics option supports you with a higher process flexibility. Simply switch between 55 or 80  $\mu\text{m}$  beam diameter in the powder bed to choose between higher productivity or higher energy density for special powder as highly reflective material. You can automatically monitor the powder bed via an integrated camera in the TruPrint build chamber and automatic image processing. This gives you an overview of the part condition at any time and allows you to analyze the quality parameters layer by layer.

05

## Best fit for dental applications

Lower part cost due to preform, multiplate and hybrid digital chain

The production of implant-supported dentures is the fastest growing segment in the dental industry all over the world. Therefore, it is becoming more and more important for dental laboratories to tap into this lucrative pioneering field, using highly productive 3D printers in response to the growing pressures of cost and competition in the industry.

Benefit from our 3D printing knowledge in dental technology and our dental options as preform, multiplate or the possibility of hybrid manufacturing.

Preform option offers you a precise and cost-effective production of individual single abutments, when you only print the patient-specific portion on a preform without supports and easy remove it from the plate.

The multiplate option ensures an overnight production without operator interaction – for up to four build plates.

For build job programming our system is multi-compatible with dental CAD/CAM software. Get the support for a hybrid process chain for serial production of telescopic technology and implant-supported dental objects.





## Fits through every door

The new design of the TruPrint 1000 is optimally designed so that the machine fits through a standard door and can be accommodated in any laboratory, e.g., in the dental sector or in universities.

**Experience the TruPrint 1000  
in the AM Showroom - live or online!**  
[www.trumpf.info/am-showroom](http://www.trumpf.info/am-showroom)

TruPrint 1000		
Build volume (cylinder)	mm x mm	Ø 100 x H 100 Optional: Smaller build volume
Processable materials <sup>[1]</sup>		Weldable metals in powder form, such as: Stainless steels, tool steels, aluminum <sup>[2]</sup> , nickel-based, cobalt- chrome, copper, titanium <sup>[2]</sup> or precious metal <sup>[2]</sup> alloys, amorphous metals
Build rate <sup>[3]</sup>	cm <sup>3</sup> /h	10 - 50
Layer thickness <sup>[4]</sup>	µm	20 - 60
Max. laser power at the workpiece (TRUMPF fiber laser)	W	200 Optional multilaser: 2 x 200
Beam diameter	µm	80 Optional: 55/80
O <sub>2</sub> concentration	ppm	Down to 3000 (0.3%) Optional: down to 100 (0.01%)
Scan speed (powder bed)	m/s	Max. 2
Shielding gas		Nitrogen, argon
Power supply	V / A / Hz	230 – 7 – 50/60
Dimensions	mm	780 x 2050 x 1160
Weight (incl. powder)	kg	900

<sup>[1]</sup> Current material and parameter availability upon request

<sup>[2]</sup> Available with specific option

<sup>[3]</sup> Dependent on system configuration, process parameters, material and degree of filling

<sup>[4]</sup> Individually adjustable

Subject to alteration. Only specifications in our offer and order confirmation are binding.

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