

# TruPrint 5000



Highly productive  
3D printing for  
industrial serial  
production

06

## Software and monitoring

For industrial processing

01

## Fullfield multilaser 3 x 500 W

Simultaneous scanning of the entire  
build area for maximum productivity

02

## Up to 500 °C preheating (optional)

For highest part quality

03

## Automatic process start

For quick set up

04

## Interchangeable cylinder principle

For a high machine utilization rate

05

## External part and powder management

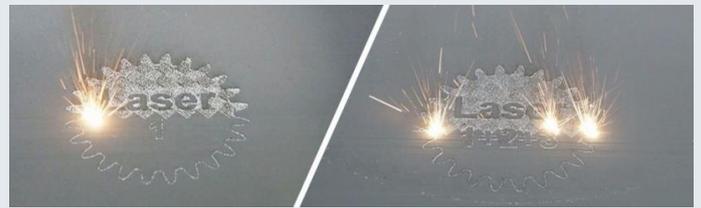
For set up and unpacking parallel  
to production



## Highly productive 3D printing for industrial serial production.

The TruPrint 5000 is a highly productive, semi-automatic Laser Metal Fusion (LMF) machine for the highest industrial 3D printing requirements.

Combined with external part and powder management and monitoring solutions, it is ideal for industrial additive manufacturing.



### TRUMPF fullfield multilaser (100% overlap)

Regardless of whether you work on a build part in the TruPrint 5000 with one laser or with three in parallel, you always get the same build part quality. It's just up to 3 times faster with the multilaser.

01

## Fullfield multilaser 3 x 500 Watt

Achieve maximum productivity with the TRUMPF fullfield multilaser: The three 500 Watt fiber lasers from TRUMPF simultaneously scan the entire build area enabling the highest possible build rates. The components are characterized by an optimal surface quality without any seam marks. All three lasers can also be arranged flexibly in the build chamber.

02

## Up to 500 °C preheating (optional)

Higher part quality is achieved by preheating the substrate plate (basic machine up to 200 °C). This enables a more robust build process for a variety of materials such as Ti6Al4V, or new ones like H11 or H13. Make use of the potential of 500 °C preheating to enhance your design flexibility in additive manufacturing.

03

## Automatic process start

Once the cylinders are placed in the TruPrint 5000, the machine completes all necessary set up procedures, including the build process start. This increases the process reliability and part quality.

04

## Interchangeable cylinder principle

The TruPrint 5000 system has quickly replaceable build and supply cylinders. This enables work done parallel to production - such as set-up, depowdering or cooling - and the achieving of high machine availability. The integrated zero-point clamping system directly on the substrate plate in the build cylinder offers an ideal basis for downstream processes such as sawing, milling or grinding.

05

## External part and powder management

The TruPrint 5000 is complemented with an industrial part and powder management system, consisting of a sieving station, an unpacking or a depowdering station and a powder silo – important process steps can be carried out under shielding gas.

With it, you can work parallel to production, the setup process is optimized, productivity is increased, and a high degree of safety is ensured as workers avoid contact with powder. This system can be used simultaneously for several TruPrint machines of the series.

06

## Software and monitoring

With TruTops Print and the Siemens NX software package, you receive the comprehensive software solution for the whole CAD/CAM/CAE process chain. The TruTops Print Multilaser Assistant optimizes laser splitting. Thanks to intelligent monitoring solutions, the build process and machine conditions can be monitored, analyzed and controlled remotely.

### TruPrint 5000

Build volume (cylinder)	mm x mm	Ø 300 x H 400 Ø 290 x H 390 (reduction if preheating is > 200 °C)
Processable materials <sup>[1]</sup>		Weldable metals in powder form, such as: stainless steels, tool steels, aluminum, nickel-based or titanium alloys
Build rate <sup>[2]</sup>	cm <sup>3</sup> /h	5 - 180
Layer thickness <sup>[3]</sup>	µm	30 - 150
Max. laser power at the workpiece (TRUMPF fiber laser)	W	3 x 500
Beam diameter <sup>[3]</sup>	µm	100 - 500
Measurable O <sub>2</sub> concentration	ppm	Down to <<1,000 (0.1%)
Scan speed (powder bed)	m/s	Max. 3
Preheating	°C	Basic machine: up to 200 Option: up to 500
Shielding gas		Nitrogen, argon
Automation		Automatic process start
Power supply	V / A / Hz	400 / 32 / 50
Dimensions (incl. filter, electrical cabinet)	mm	4616 x 1645 x 2038 With 500 °C option: 5266 x 1645 x 2038
Weight (incl. filter, electrical cabinet, powder)	kg	7085
Filter unit		Self-cleaning, long-term, multi-material filter unit

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

<sup>[2]</sup> Actual build rate consists of exposure and recoating. Dependent on system configuration, process parameters, material and degree of filling

<sup>[3]</sup> Individually adjustable

Subject to modifications. Please ask your local TRUMPF contact to check local product availability.

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