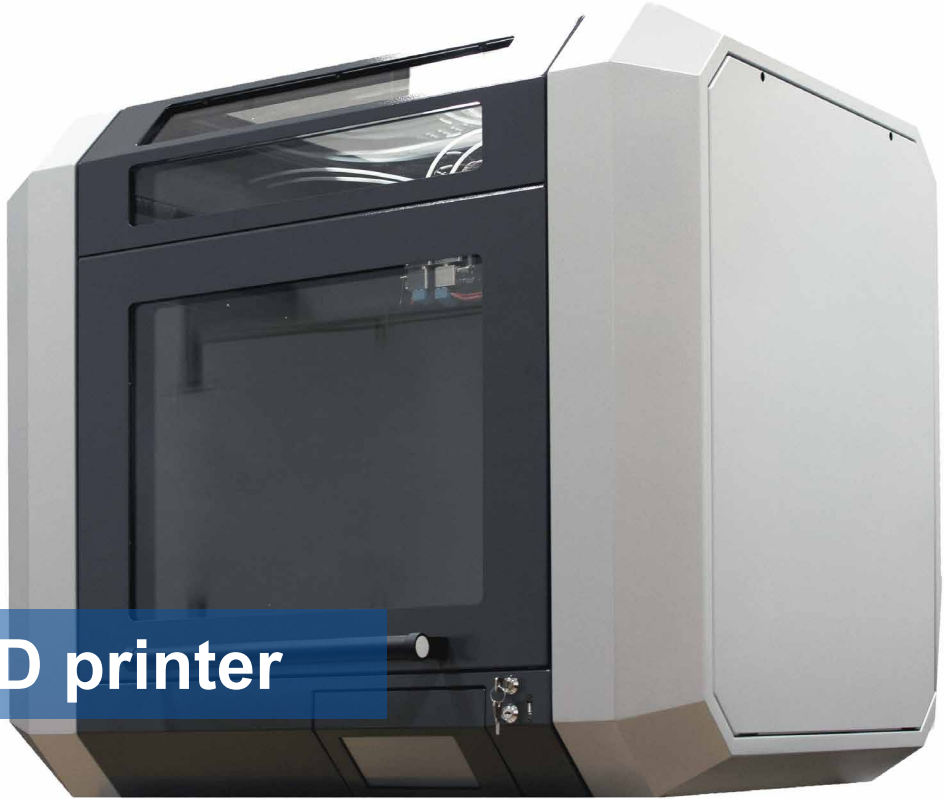
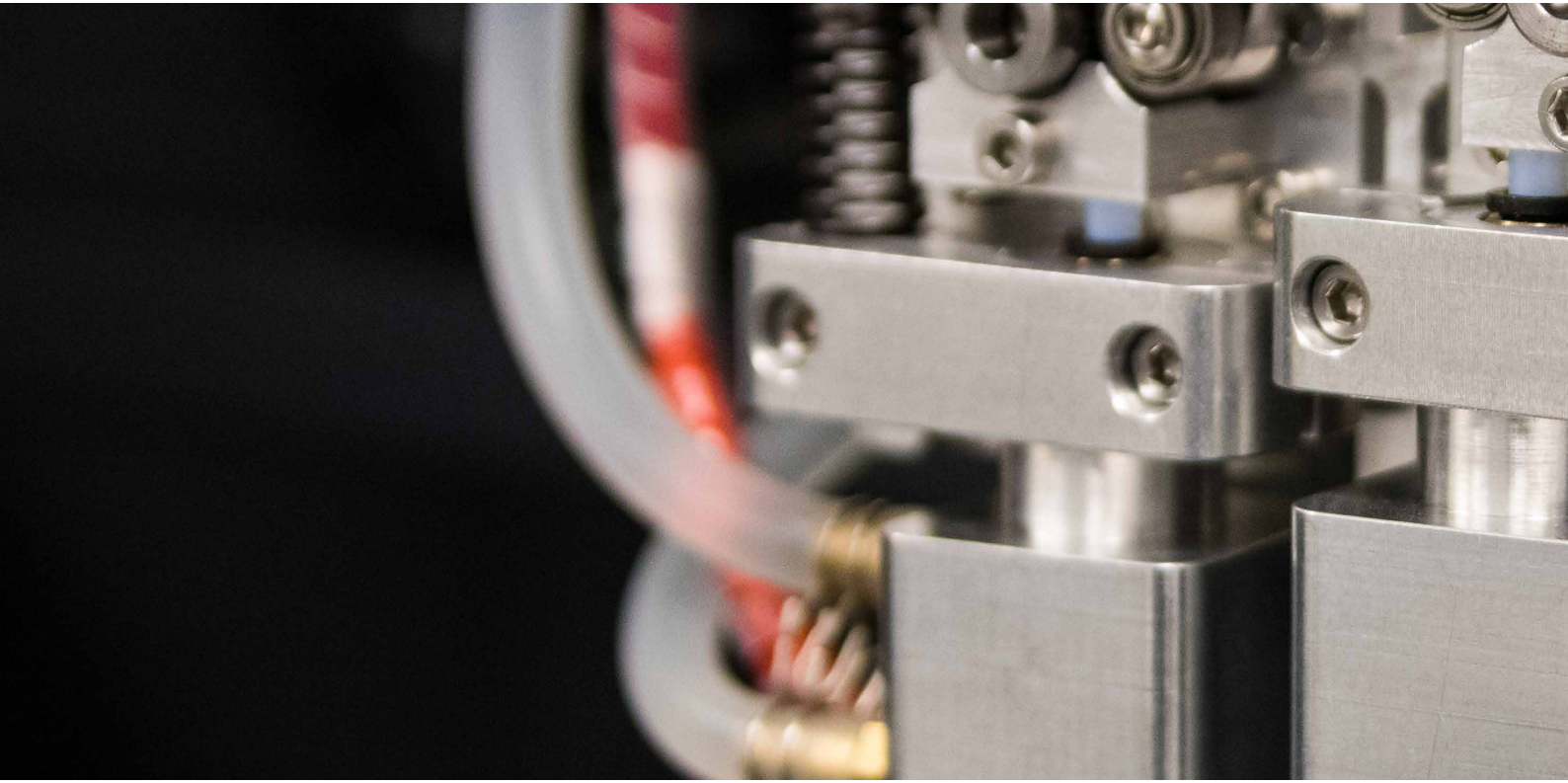
German RepRap



x500 3D printer



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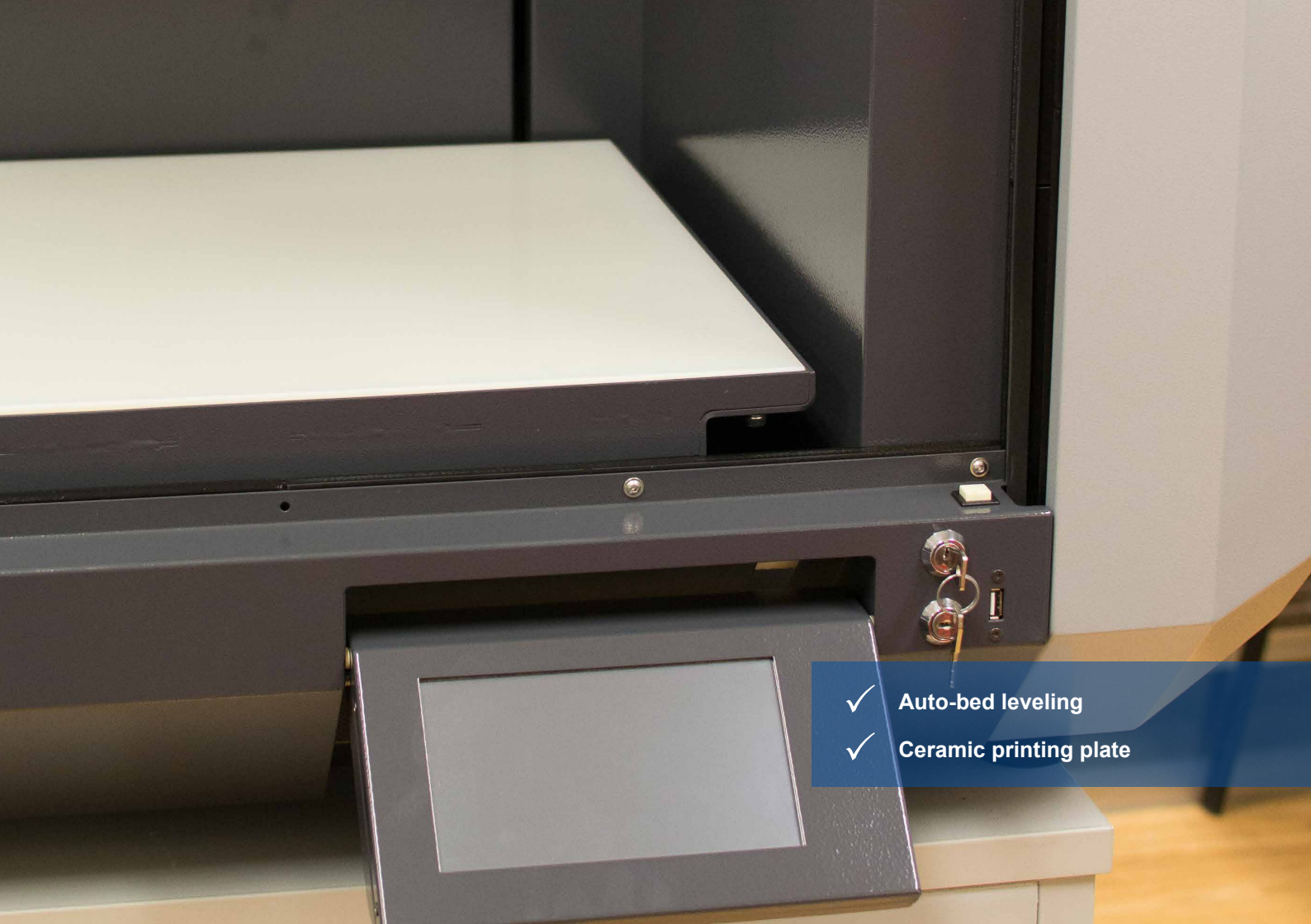
High Temperature applications in industrial quality

The X500 is designed for the continuous operation with high temperature materials. The X500 comes with a large building chamber of 500 x 400 x 450 mm (X/Y/Z) and a series of innovative features that focus on the demands of industrial applications. A solid metal frame and an overall weight of more than 180 kg allow for extremely stable and precise operations. The new water-cooled high temperature hot-end combined with the German RepRap “open platform” philosophy make the X500 the best choice for new material developments in the future.

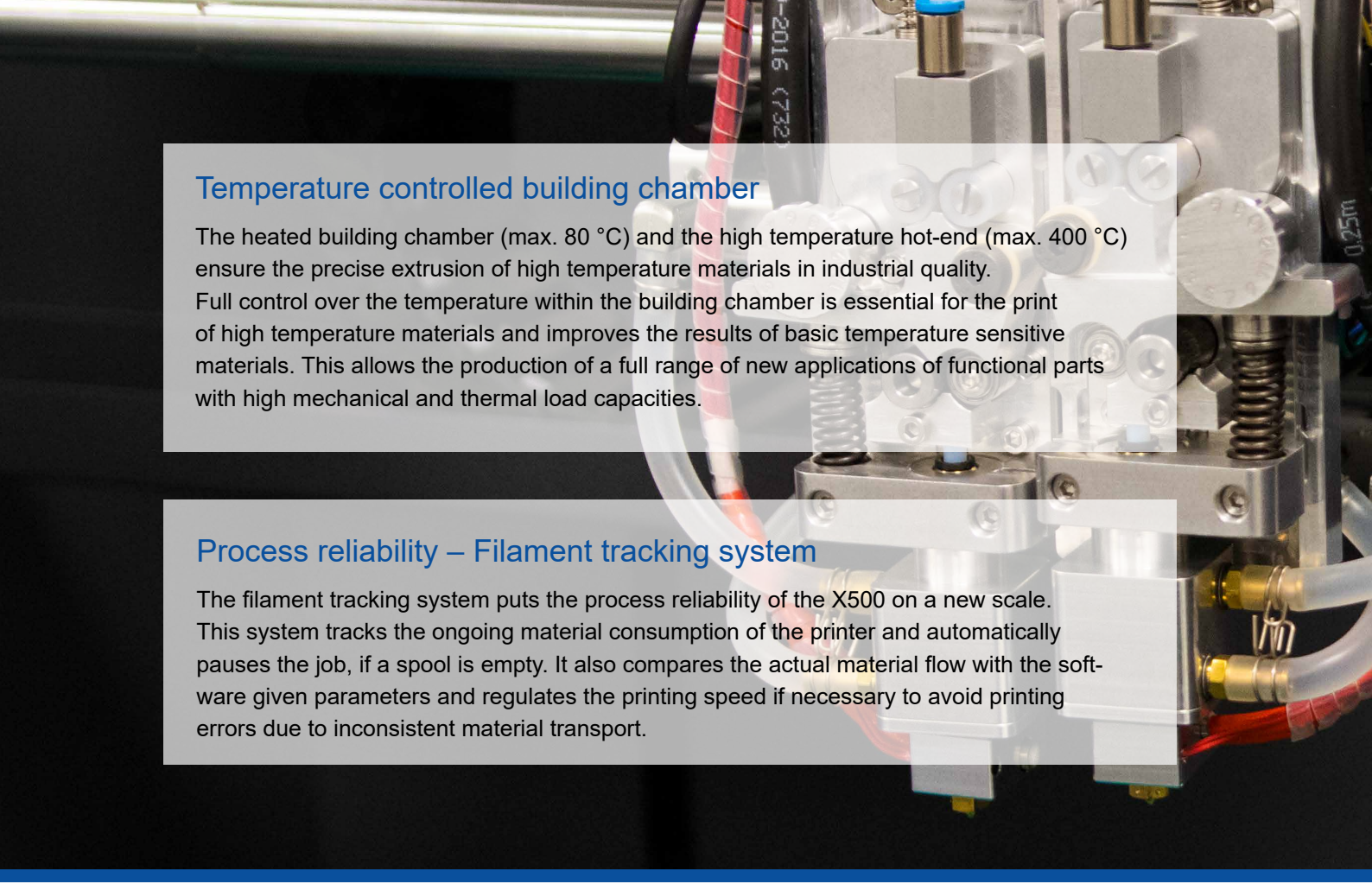

✓ Auto-bed leveling
✓ Ceramic printing plate

Easy calibration – Auto-bed leveling

After an initial manual calibration during the German RepRap installation service, the auto-bed leveling feature of the X500 uses precise laser sensors to calibrate the printing bed automatically before each print job. No more time consuming manual calibration is necessary. The additional “distortion correction” provides a live regulation of the distance between nozzle and printing surface and precisely levels out even the smallest irregularities.

Ceramic printing bed

The fully heated ceramic printing plate optimizes the adhesion between object and printing plate, which also improves the overall part accuracy. The high quality ceramic withstands temperatures of 400 °C without deformation.



Temperature controlled building chamber

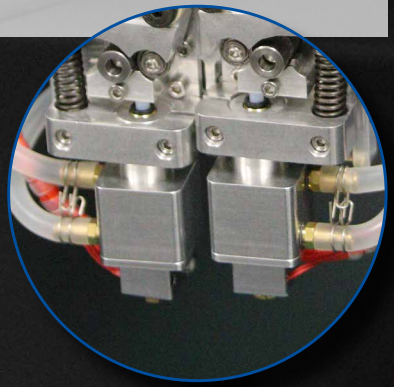
The heated building chamber (max. 80 °C) and the high temperature hot-end (max. 400 °C) ensure the precise extrusion of high temperature materials in industrial quality.
Full control over the temperature within the building chamber is essential for the print of high temperature materials and improves the results of basic temperature sensitive materials. This allows the production of a full range of new applications of functional parts with high mechanical and thermal load capacities.

Process reliability – Filament tracking system

The filament tracking system puts the process reliability of the X500 on a new scale. This system tracks the ongoing material consumption of the printer and automatically pauses the job, if a spool is empty. It also compares the actual material flow with the soft-ware given parameters and regulates the printing speed if necessary to avoid printing errors due to inconsistent material transport.

DD4 dual extruder technology

Equipped with the latest, water-cooled DD4 dual extruder technology the X500 is optimized for an easy workflow in a high temperature environment. A broad range of nozzle diameters are available to find the best settings for each material and geometry. The contact pressure for the filament transportation is controlled by a mechanical scale with specific steps and can be individualized for each material.



Precise in continuous operation

The use of high quality components fulfill the highest industry standards and allow for a reliable and precise 3D printing process in continuous operation.

✓ Touch display
✓ USB interface

Electronics for professional users

The electronic set up of the X500 is based on an industrial computer. The operator controls the printer via a touch screen display. The ethernet network connection allows a remote control of the printer and observation with an additional webcam via tablet, smartphone or computer.

A new print job can be started directly via USB on the machine or via the browser based control using the network capabilities.
“Stand alone printing” means that no additional devices are needed to control the X500 via network.

Professional cooling design

The X500 is equipped with an innovative cooling design to ensure a consistent temperature regulation. This ensures a high process reliability especially for high temperature materials.

Maintenance and Service

The X500 has proven its reliability in continuous operation and the best choice for industrial applications. We offer a full service package through our worldwide network of certified partners. This includes the on-site installation service as well as additional software trainings and maintenance contracts.

Specifications X500

Build platform* (X/Y/Z)	500 x 400 x 450 mm
Print speed*	10 – 150 mm/s
Travel speed*	10 – 300 mm/s
Position accuracy* (X/Y)	+/- 0,1 mm
Layer height* (min.)	0,02 mm
Filament / Nozzle diameter	1,75 mm / 0,4 mm
Nozzles available*	0,25 | 0,3 | 0,35 | 0,5 | 0,6 | 0,8 mm
Printing material* (filament)	Please find further Information about printing materials on our material database or on the German RepRap product leaflets.

Extruder type	DD4 Dual Extruder (water-cooled)
Extruder temperature (max.)	400° C (+/- 2%)
Options	maintenance contract
File transfer	Stand-alone printing with touch display, USB stick and ethernet
Software	Simplify3D
Operating voltage*	230 VAC
Diameter approx. (B/T/H)	1120 x 850 x 955 mm
Weights approx.	185 kg
Technology	FFF (Fused Filament Fabrication)

** eviations possible depending on setting/material/process*

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