

Wizard 480+

Industrial CFF/FFF AM System



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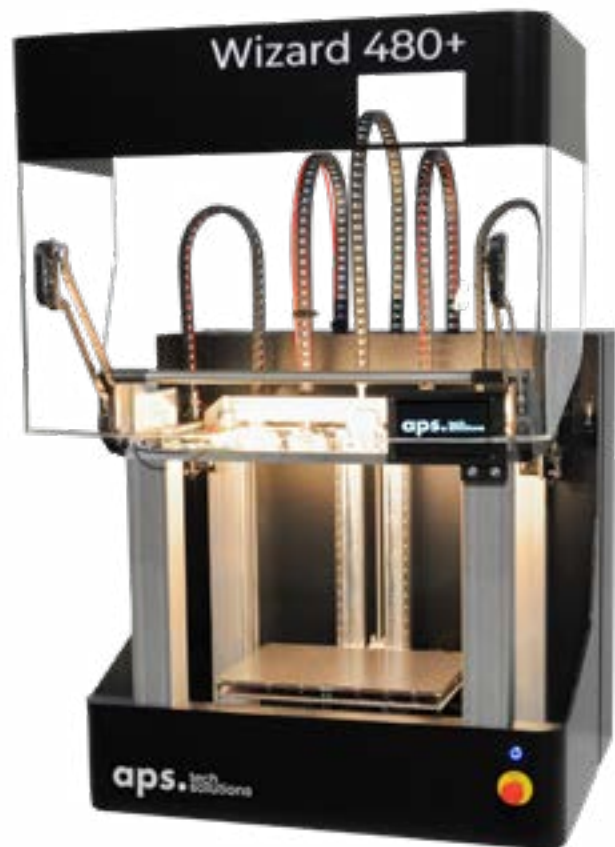
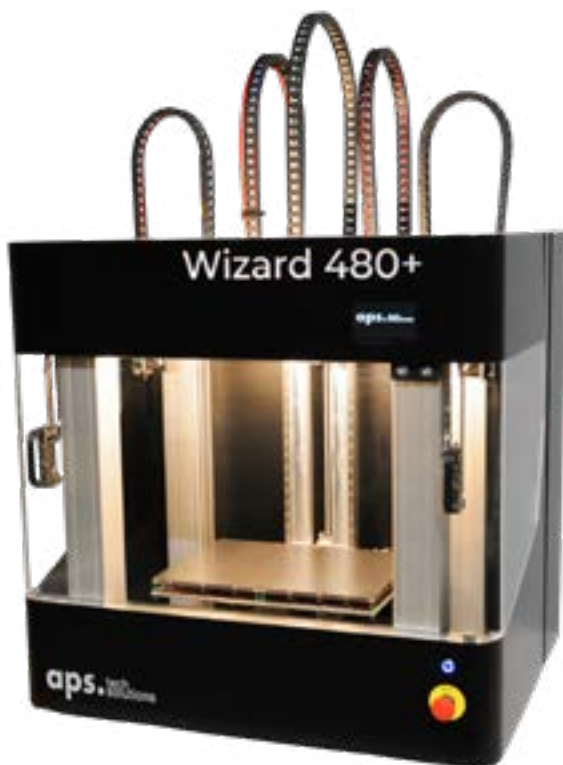
Industrial CFF/FFF AM System

The innovation in industrial 3D printing

The „WIZARD 480+“ combines several innovations into one complete system.

With our own developed and patent pending printhead technology and a dynamic tool change system enabling the production with CFF (Continuous Filament Fabrication) and FFF (Fused Filament Fabrication) and their combination for components in the dimensions of 400 x 230 x 370 mm

A dynamic tool change system enables the combined print with up to four materials in one part. The continuous fiber printing with carbon fibers, aramid, glass fiber or metal wires can be usefully supplemented with other materials with the FFF process, a new type of high-strength and very light-weight components can be engineered and produced. The Wizard 480+ CFF/FFF printing system combines a high-precision and very stable portal construction with a new - patent pending printhead technology for continuous fiber printing to an industrial high precision additive machine tool.



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1 Hightech – Made in Austria

Conceived, engineered and assembled in Austria with our own precision components and specially tested components to ensure the highest quality.

2 Continuous Filament Fabrication

Manufacture high-strength and lightweight parts with continuous carbon fiber or enhance your parts with other continuous filaments like glass fiber, aramid or metal wires.

3 Tool Changing System

Enables the possibility to use up to 4 different materials or different material variants within one process.

4 Highest precision

A high-precision portal construction with powerful drives, combined with our longstanding experience in special engineering and robotics, result in a highly precise additive machine tool for industrial use.

5 Advanced FFF technology

With an advanced FFF technology we can reach temperatures up to 500 °C, which enables us the processing of high performance plastics.

6 Water Cooled

Water cooled printheads contribute to process safety, Precision and repeatability and absolute accuracy.

7 No Restrictions

No restrictions on use of materials from third party suppliers. We also offer our own high-tech filaments.

8 Build space

- Components in the dimensions of 400 x 230 x 370 mm
- Heatbed temperatures up to 200°C
- Live video surveillance

9 Flexible extensions

- Adapte the System to your needs:
- Retrofittable printheads
 - Heatable building space
 - Air filter, etc.

10 Individual solutions for your success

Specific requirements demand specific solutions. The development of Individual solutions is one of our strength.

The Design

| | |
|-------------------------|--|
| Size of build volume | 400 x 230 x 370 mm |
| Repeatability | up to 0,02 mm |
| Minimal layer thickness | 0,01 mm |
| Heat bed temperature | up to 200 °C |
| Optional upgrades: | – heatable building space and adjustable up to 70 °C (thermally separated from drive and guide units) |
| | – Air filter |
| | – Video livestream for tool changer |
| | – Foundation |

Tool Changer

| | |
|-----------------------------------|--------------------------------|
| Automatic printhead change system | 4 slots (1 slot = 1 printhead) |
| Tool changing duration | < 3 sec. with 450 mm distance |

Printhead Options

| | |
|----------------------------------|--|
| Continuous Filament Fabrication: | – CFF up to 350 °C – CFF-HT(High Temperature) up to 500 °C |
| Fused Filament Fabrication: | – FFF with short heatzone and bowdendrive – FFF with long heatzone and bowdendrive – FFF with short heatzone and directdrive – FFF with long heatzone and directdrive |
| FFF for sinter applications: | – FFF optimized for metal filaments – FFF optimized for ceramic filaments |

Printhead Specifications FFF

| | |
|--------------------|--|
| Nozzle temperature | up to 500 °C |
| Nozzle diameter | 0,15 mm to 1 mm |
| Filament diameter: | – Standard: 1,75 mm – Optional: 2,85 mm |

Hardware

| | |
|------------------|-------------------|
| Display | 7" Touchdisplay |
| Interface | Ethernet, USB |
| Weight | ca. 130 kg |
| Input | 230V (50Hz) 2500W |
| Video livestream | Build space |

Software

| | |
|----------------------|---|
| Recommended Slicer | Simplify3D (license included) |
| Continuous filaments | APS Post-Processing-Program (included when buying a CFF printhead) |

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Materials

Continuous Filament Fabrication CFF

| | |
|---------------------------|--|
| Continuous carbon fiber | 1k with PA matrix On request: 1k, 1.5k, 2k, 3k On request: other plastics (e.g.: PEEK) |
| Further continuous fibers | Glas fiber, Aramid, copperwire On request: further continuous fibers and metal wires |

Fused Filament Fabrication FFF

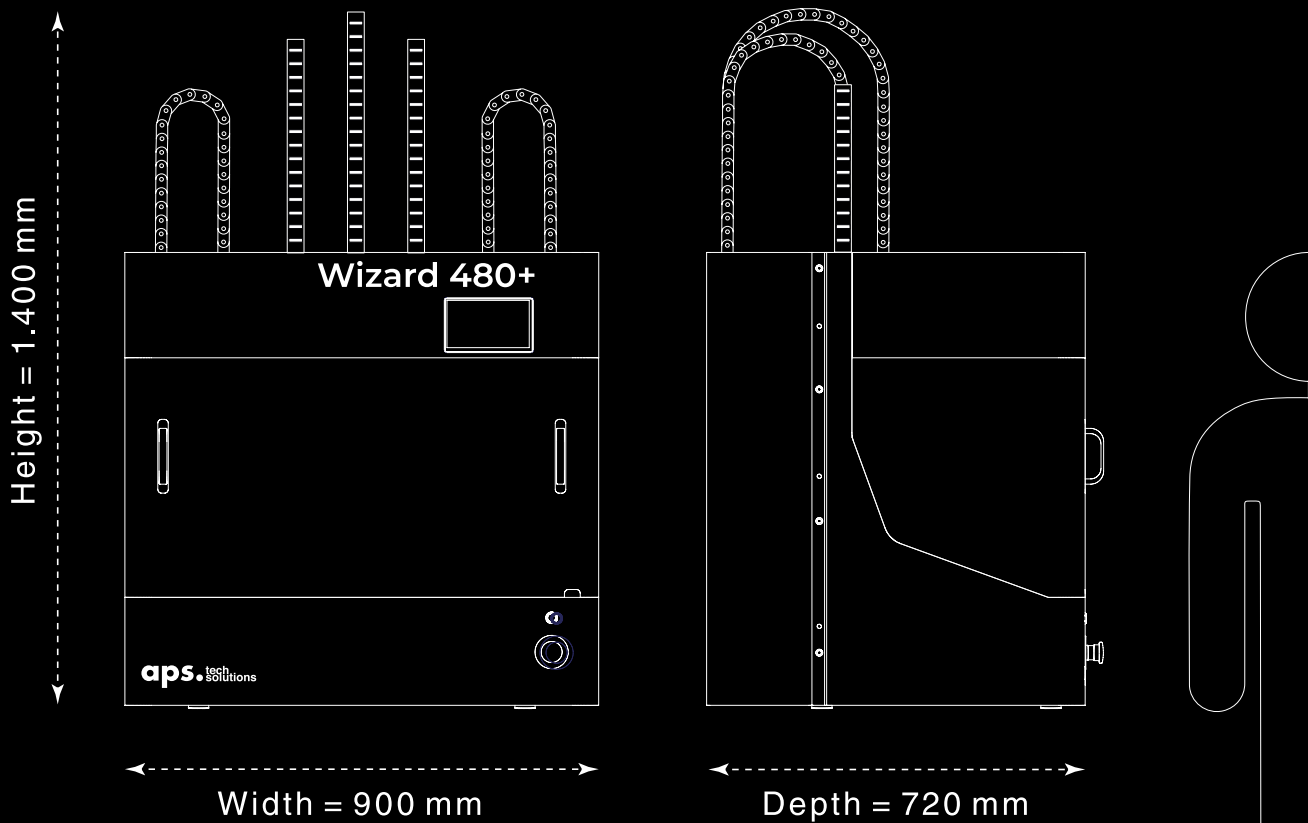
| | |
|---------------------------|---------------------------------------|
| Plastics | ABS, CPE, PET, PC, PLA, PVA, TPU, ... |
| High-performance plastics | PEI, PEEK, PEKK, Carbon Fiber PA, ... |

FFF for sinter applications

| | |
|--------------------------|--|
| High-alloy chrome steels | 316L 1.4404 17-4PH 1.4542 |
| Maraging steel | 1.2709 |
| Superalloys | IN 718 2.4668 IN 625 2.4856 |
| Light metals | Ti Titan (unlegiert) Ti6Al4V 3.7165 |
| Hard metals | WCo in verschiedenen Mischungsverhältnissen auf Anfrage |
| Ceramics | ZrO2 AlO3 |

No restriction on third-party materials - parameterization by user.

We also offer our own developed filaments. Additional materials are available on request.





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