

bigrep **PRO**



ITERATE FAST. **PRODUCE** FASTER.
GET TO MARKET FASTEST.

1 m³ for factory tooling, end-use parts, and industrial applications.

bigrep PRO

NEXT LEVEL INDUSTRIAL PRINTING

With a 1 cubic meter build volume, the BigRep PRO is a fully enclosed industrial 3D printer for producing full-scale, large parts including functional prototypes, factory tooling, patterns and molds, and end-use parts. Built for productivity throughout all stages of manufacturing, the PRO provides designers, engineers, and manufacturers with an easy-to-use, agile solution to produce faster and cheaper.

Supported by its Precision Motions Portal, a durable, custom-built gantry, along with Bosch Rexroth CNC components, the PRO consistently delivers on speed, precision, and quality. Embrace agile manufacturing and rethink your prototyping and production process with smart technology designed to complement conventional machining methods and drive the next generation of industrialization.

Using the latest PRO is easier than ever thanks to BigRep JUMPSTART, a hybrid software-hardware solution that lets you skip the hassle and just start printing. It includes the SWITCHPLATE, a removable and flexible print bed surface, the LOCKSTAGE for easy and secure extruder mounting, and the MXT® Control System that bypasses manual calibration ensuring crucial first print layers are optimal every time.



INDUSTRIAL APPLICATIONS WITH THE **BIGREP PRO**

PROTOTYPES



AGILE ITERATION FOR REDUCED TIME TO MARKET

- Produce full-scale, functional parts from alpha phase to zero series
- Learn faster and iterate designs in hours and days, not weeks and months
- Avoid expensive, outsourced, and traditional slow production

TOOLING, JIGS, FIXTURES



IMPROVE PRODUCTION WORKFLOWS

- Customize tools for perfect fit, reduced weight, and ergonomic design
- Slash lead times with on-demand production and avoid outsourcing logistics
- Reduce production and material costs of optimized tooling

PATTERNS AND MOLDS



SAVE TIME AND MONEY WITH RAPID PRODUCTION

- Replace high-cost patterns and molds made from expensive materials
- Speed up design iteration, product testing, and production
- Minimize outsourcing, external logistics, and supply chain dependence

END-USE PARTS



RAPID PRODUCTION OF ANY LOT SIZE ON DEMAND

- From small-series production to unique parts without added costs
- Produce on-demand to reduce inventory and warehousing
- Reduce lead times and get to market fast to stay ahead of the competition

BIGREP PRO **CASE STUDIES**



Zöller-Kipper

End-Use Parts

Zöller-Kipper iterates prototypes and produces end-use truck components for small batch production.



Scan to see more



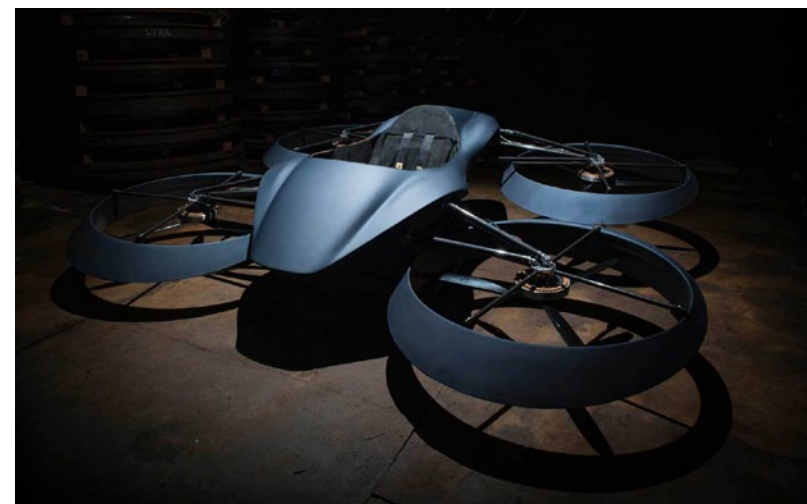
Ford Motor Company

Inspection Fixtures

Ford uses 3D printed inspection fixtures to check that the fit between the car body and door achieves acceptable tolerances.



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Airflight

Carbon Fiber Molds

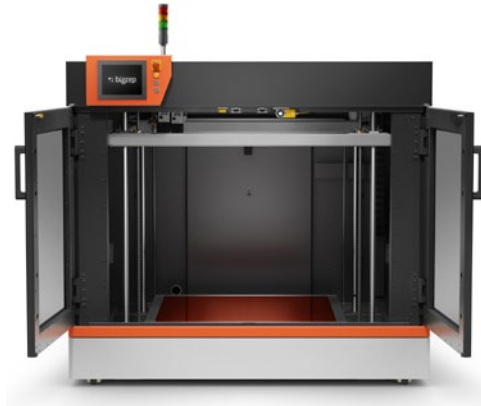
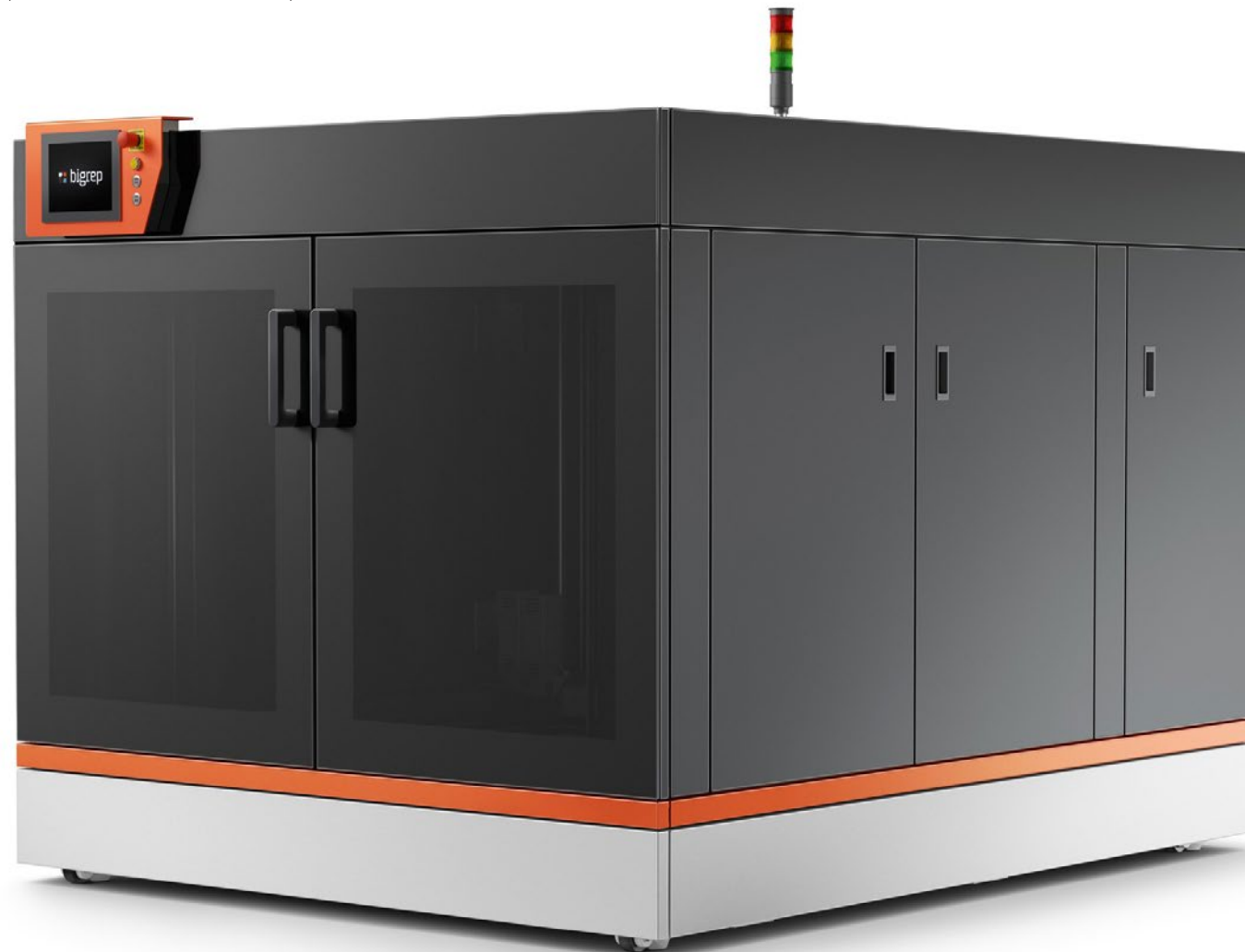
Airflight 3D prints molds and patterns to produce carbon fiber parts for human-sized drones.



Scan to see more

LARGE-SCALE & GERMAN ENGINEERED THE **BIGREP PRO**

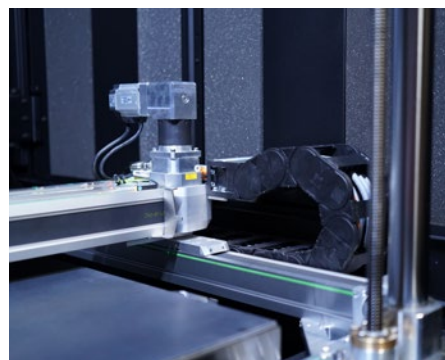
The BigRep PRO is a 1 m³ powerhouse, built to take you from prototyping to production. It provides a highly scalable solution to manufacture prototypes, end-use parts, factory tooling and more with high-performance, engineering-grade materials. Compared with other manufacturing and FFF printing solutions, the PRO can produce full-scale, accurate parts faster and at lower production costs.



Industrial 3D-Printing

The 1 m³
Build Volume

The PRO continues BigRep's tradition of innovation in large-format 3D printing. Designed to print big parts, as well as batches of smaller parts, the PRO's fully enclosed 1 m³ build volume ensures consistent print temperatures and safety from hazards on the factory floor.



High Accuracy at High Speeds

The Precisions Motion Portal

The PRO's massive 1 m³ build volume is supported by a durable, custom-built gantry engineered for high speed, fast acceleration, and accuracy. The robust frame eliminates vibrations during printing assuring fast, yet precise movement gliding the extruders along a reinforced carriage system. Powered by Bosch servo motors with integrated encoders, the PRO calculates the real-time location of the print head to self-monitor for position accuracy.

Fast, Precise & Fiber-Ready Two Advanced Capability Extruder

BigRep's Advanced Capability Extruder (ACE) expands the material capabilities of the PRO while still reliably delivering quality prints with speed and precision. ACE is a direct drive extruder, perfectly equipped for fiber reinforced materials such as BigRep's HI-TEMP CF. With ACE you can print large-format, strong parts 50% faster than other large-scale printers.



JUMPSTART Skip the Hassle, Just Print.



BigRep JUMPSTART is a hybrid software-hardware solution now available for the BigRep PRO making it easier than ever to skip the hassle and start printing. Learn more about JUMPSTART on page 8.

Airtight Filament Chamber

The Dry
Material
Storage



The sealed filament chamber stores two filament spools in an environment shielded from external influences. Drying cartridges further minimize humidity, allowing sensitive materials to be stored at a consistent dryness level.

JUMPSTART

SKIP THE HASSLE. JUST PRINT.

Using the latest PRO is easier than ever thanks to BigRep JUMPSTART, a hybrid software-hardware solution that lets you skip the hassle and just start printing. It includes the SWITCHPLATE, a removable and flexible print bed surface, the LOCKSTAGE for easy and secure extruder mounting, and the MXT® Control System that bypasses manual calibration ensuring crucial first print layers are optimal every time.

SWITCHPLATE

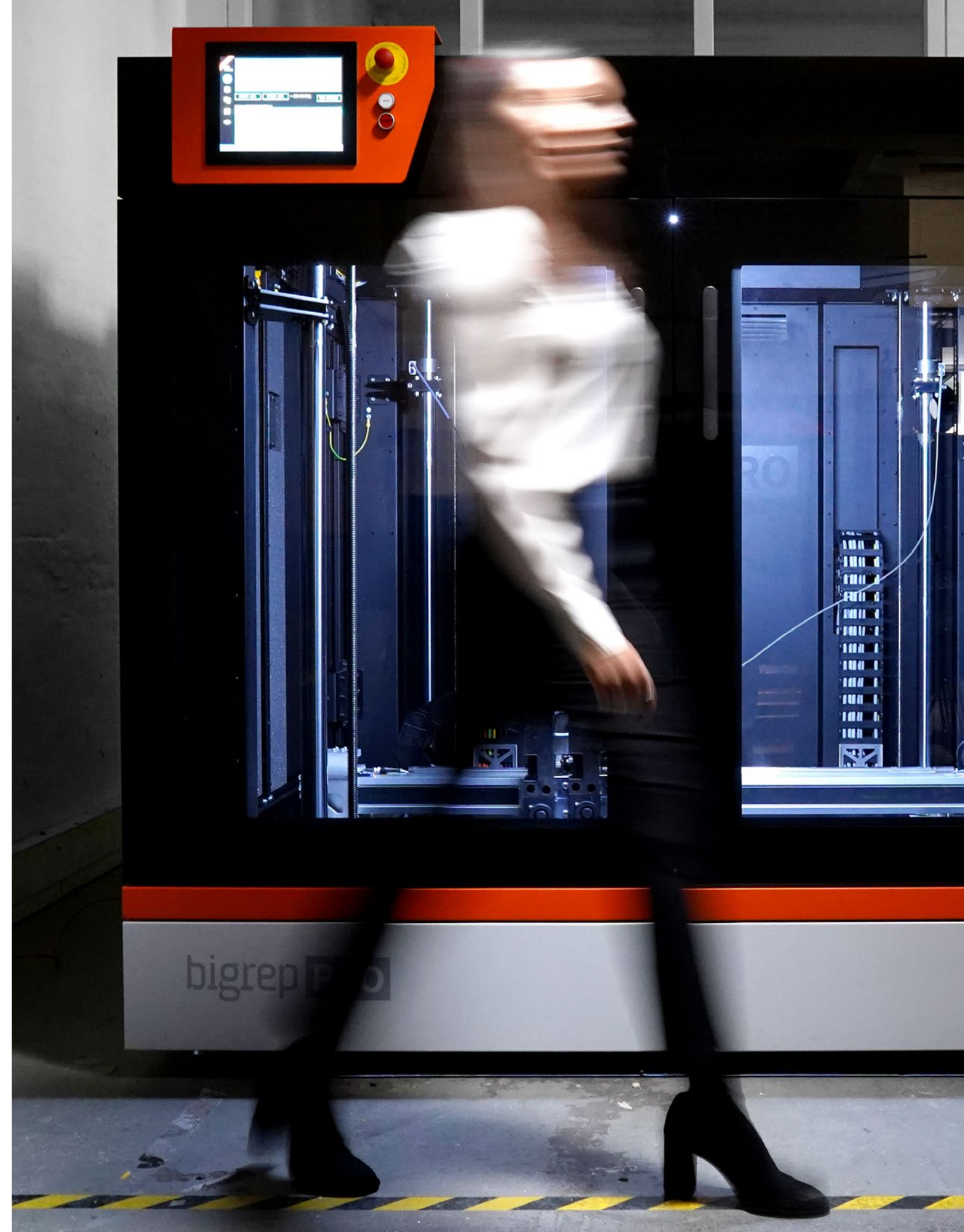
BigRep SWITCHPLATE is a removable and flexible print bed surface available in different coatings, each optimized for various materials ensuring proper bed adhesion in the BigRep PRO without the need for glue. The SWITCHPLATE is magnetic and easily snaps into place. Heat increases the adhesiveness of the SWITCHPLATE surface so your print stays fixed during printing, but is easy to remove once cooled. For time-saving production, the SWITCHPLATE can be swapped before cooling to free the printer to begin the next print.

LOCKSTAGE

The LOCKSTAGE allows simple and secure extruder mounting without the need for manual position calibration. Extruders easily snap into place and provide consistent precision throughout your entire print.

MXT® CONTROL SYSTEM

The BigRep PRO's updated MXT® Control System orchestrates the harmonious coordination of all components and processes to ensure fast printing, accuracy, and repeatability. It employs proprietary algorithms that improve your G-code print file. The result is better quality such as smoother surfaces from spline interpolation, higher accuracy from backlash compensation and vibration filtration, and all-around consistent results. MXT® is the brain powering BigRep JUMPSTART, which simplifies the user experience bypassing the need for manual print bed and extruder calibration ensuring crucial first print layers are optimal every time.





TECHNICAL SPECIFICATIONS

The PRO's large build volume enables large, full-scale prints or smaller batch printing, providing you with an agile manufacturing solution to produce functional prototypes, factory tooling, patterns and molds, and end-use parts faster and cheaper.

Version	BigRep PRO.2
Build volume*	x 40 y 38 z 38.5 in (x 1020 y 970 z 985 mm)
Layer height resolution	0.3 mm, 0.6 mm (Other layer heights supported through slicer software.)
Speed Acceleration (XY)	Max. 600 mm/s Max. 5000 mm/s²
Extruders	Two Fiber-Ready PRO ACE Extruders Interchangeable hotend with fiber-ready 0.6 mm and 1 mm nozzle.
Printing technology	Fused-Filament-Fabrication (FFF / FDM)
Certified BigRep materials	HI-TEMP CF, PRO HT, PETG, ASA, PA6/66, PA12-CF Other filaments upon request
Support materials	BVOH Other filaments upon request
Print bed temperature	Max. 212 °F (100 °C)
Printer weight	Approx. 3417 lbs (1550 kg)
Size	x 77 y 98 z 70 in (x 1950 y 2500 z 1790 mm)
Power	3 Phase 400V AC, PE, 16 A, 50 / 60 Hz
Safety certifications	UL, CE, EC Machinery Directive 2006/42/EC Compliant

* Single Extrusion



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