bigrep **PRO**

INDUSTRIAL QUALITY MEETS **COST EFFICIENCY**.
COMPLEX PARTS IN LARGE SCALE.

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.

Scan to see more

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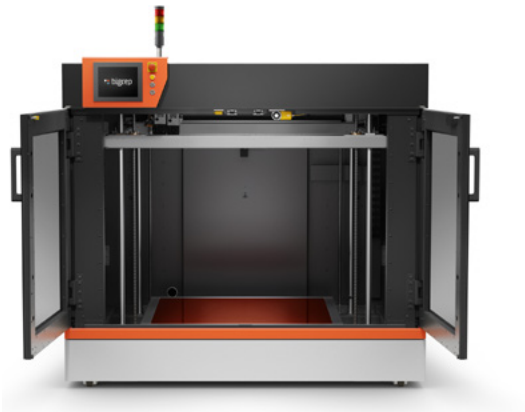
Airflight 3D prints molds and patterns to produce carbon fiber parts for human-sized drones.

Scan to see more

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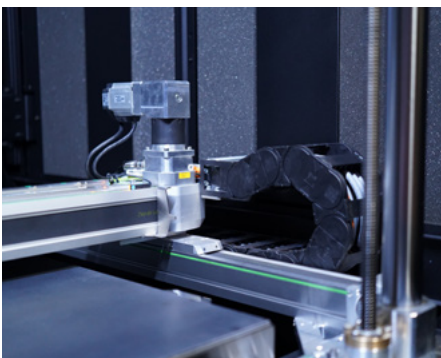## GERMAN ENGINEERED
THE **BIGREP PRO**

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.

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
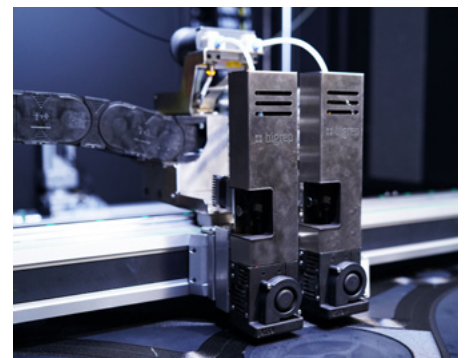### The Dry Material Storage

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.

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 PA12 CF. With ACE you can print large-format, strong parts 50% faster than other large-scale printers.

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.

bigrep PRO

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 1020 y 970 z 985 mm** (x 40 y 38 z 38.5 in)
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)**
Recommended BigRep materials	**ASA, HI-TEMP, HI-TEMP CF, PETG, PLA, PLX, PA12 CF, PRO HT, TPU 98A** Open for 3rd party materials
Support materials	**BVOH** Open for 3rd party materials
Print bed temperature	**Max. 100 °C** (212°F)
Printer weight	**2160 kg** (4762 lbs)
Size	**x 1950 y 2500 z 1790 mm** (x 77 y 98 z 70 in)
Power	**3 Phase 400 V AC, PE, 16 A, 50 / 60 Hz**
Safety certifications	**UL, CE, EC Machinery Directive 2006/42/EC Compliant**

* Single Extrusion

BIGREP **SOFTWARE** SOLUTIONS
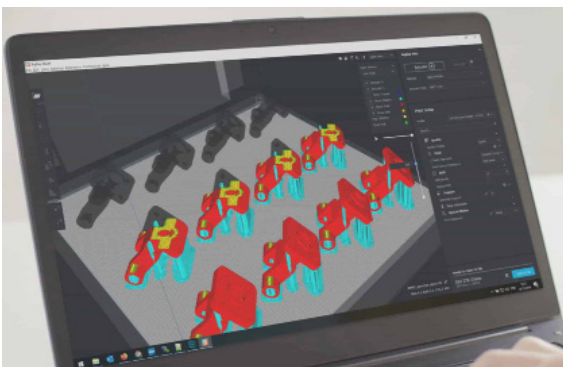

bigrep **CONNECT**

UNLOCK **DATA**. DISCOVER **CONVENIENCE**.

BigRep CONNECT is a **one-stop platform** connecting you with your BigRep printers, boosting productivity with remote monitoring and data analytics. It's fully web-based, giving you access no matter where you are or what device you use. **Monitor printer status** including temperatures, loaded material, and running updates. BigRep CONNECT's **print job management** lets you upload files, organize your job queue, preview prints, check elapsed and remaining print time, and much more. With **team management**, you can create user accounts with designated access to printers and custom user rights. BigRep CONNECT's **printing analytics** gives you statistical data - like printer and filament usage - so you can optimize your production to get the most from your BigRep 3D printer. Best of all: **it's free!**

bigrep **BLADE**

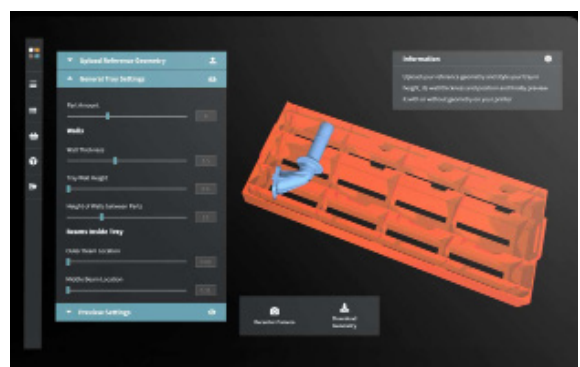### PREP **FASTER**. PRINT **SMARTER**.

BLADE, BigRep's easy to use slicer software, allows for greater control of printing parameters on all BigRep large-format 3D printers. Its integrated estimation engine gives accurate printing time and material use predictions for unmatched planning and productivity.

bigrep **FLOW**

WORKFLOW **AUTOMATION** FOR **TOOLS** THAT **WORK**.

A new customizable SaaS solution that makes application engineering for 3D printed jigs, fixtures, and manufacturing aids easier than ever, with no design skills or 3D printing experience required.

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2023/09

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