

miniFactory | Ultra 2

MAKE IT RIGHT. EVERY TIME.



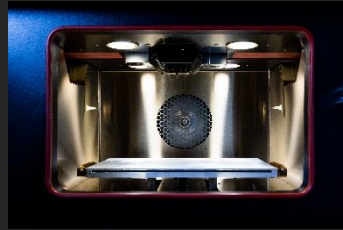
NEW FEATURES, MADE FOR VALUE MAKING.



FASTER

Improved technical solutions together with software optimizations enables increased output with well known miniFactory quality.

- **Real print speed up to 120mm/s for amorphous high-performance polymers.**



STRONGER

Smart triple sensed heated chamber and optimized airflow ensure precise temperature management for stronger parts.

- **Smart Chamber (Triple sensing)**
- **Precise temperature management**



SMARTER

Real-time quality assurance technology together with automatic production supervision ensure high-quality manufacturing.

- **Real time quality assurance**
- **Production supervision**
 - On-board camera
- **Smart maintenance intervals**
 - Full system statistics.



SMOOTHER

Usability due simplified user interface equipped with remote control lets you control the printer anywhere. Industry 4.0 compatible system.

- **Remote control**
- **Industry 4.0 compatible**
- **New mF2 UI + 10" Touch screen**
 - **Integrated annealing**

NEW **ULTRA 2**. SUPERLATIVE OF PERFORMANCE.

OPEN MATERIAL SYSTEM ★

License free material validation program enables fast and easy integration of new materials.

250°C SMART HEATED CHAMBER ★

Unlocks the widest material range on the market and ensure the extreme stability of the printed parts.

INTEGRATED ANNEALING SYSTEM ★

Set the desired annealing cycle and increase the crystallinity of 3D printed PEEK or PEKK parts.

FAST PREPARATION TIME ★

It takes less than 30 minutes to heat the printing chamber at 220°C and start printing.



★ QUALITY ASSURANCE TECHNOLOGY

The quality assurance technology compares the data and confirms the repeatability of the production.

★ SMART MAINTENANCE INTERVALS

Automatic maintenance recommendations to keep the system in perfect condition.

★ ACTIVE MATERIAL DRYING CHAMBER

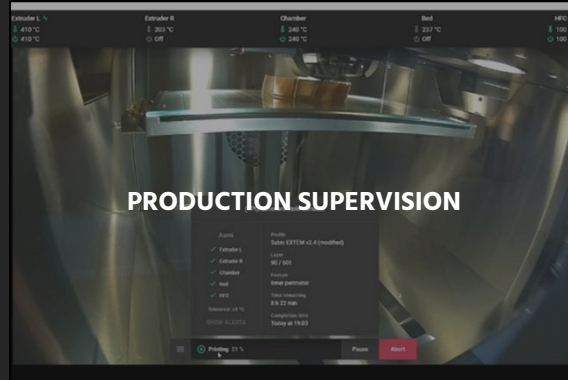
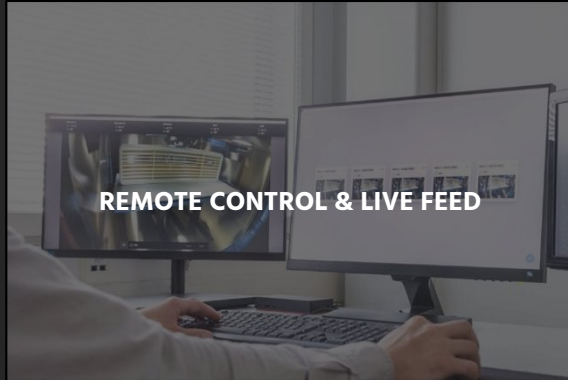
Ensures the optimal humidity control for filaments to reach the best printing quality.

★ SERVO DRIVEN TECHNOLOGY

High-end servo technology makes Ultra one of the most accurate FFF printing systems available.

THREE-LAYER **QUALITY** ASSURANCE

A COMPREHENSIVE QUALITY ASSURANCE TECHNOLOGY TAKES THE RELIABILITY OF 3D PRINTING TO A WHOLE NEW LEVEL.
ON DEMAND MANUFACTURING - UNLOCKED.



MATERIALS **APPROVED** BY THE INDUSTRIES

With miniFactory you have access for the widest material range on the market without any additional licenses or fees. 50+ High-Performance materials.

From commodity and engineering polymers all the way up to the most demanding high-performance polymers and composites.
Material range is many times wider than in "closed systems" or in the systems with lower chamber temperature.



EXTREME PERFORMANCE WITH PEEK

Make valuable PEEK parts in-house with all materials of the PAEK Polymer family.



CARBON FIBER MATERIALS

Build strong and lightweight parts by choosing carbon fiber reinforced polymers to the metal replacement applications.



VALIDATED MATERIALS

Making parts for aerospace or motorsports?
Are you looking for a material compatible for EN45455 or UL94 V-0?

THREE **REASONS** FOR MINIFACTORY

RELIABLE AND EASY WORKFLOW

We have packed our **10 years of experience** into the straightforward and **understandable usability of our products**, enabling you to produce successful 3D prints time after time.

As high-performance polymer printing is technology-intensive, it can easily become complex. However, thanks to our experience, we have succeeded in making the miniFactory Ultra printer **easy to use**.

WARRANTY UP TO 5 YEARS

Our technology is designed for daily industrial use. The assembly expertise, combined with high-quality components and a comprehensive service offering, enables a **warranty of up to 5 years**.

With our **optimized service plan** and authorized support network, you have **local partner to support you throughout the life-cycle of the system**.

SENSIBLE INVESTMENT AND SATISFIED CUSTOMERS

The miniFactory Ultra 3D printer is a unique solution that enables reliable 3D printing of high-performance polymers. Due to its durable features, it is **one of the most cost-effective solutions on the market**.

We have delivered miniFactory Ultra 3D printers to more than 20 countries. **Our customer satisfaction is top class all around the world**, as our equipment and services are supreme.



3D PRINTING VS. CONVENTIONAL MANUFACTURING METHODS?

★ **FFF ONLY** - FFF technology is the best and the most cost-effective manufacturing method for high-performance polymers. High-performance polymer powders are not recyclable, making SLS economically unsustainable technology for such materials.

★ **NO LIMITED STOCK SHAPES** -> HPP stock shapes are extremely limited and expensive. By using FFF technology, manufacturing of parts can be up to 80% cheaper compared to conventional methods.

Technology	Equipment investment	1 pcs (lead time / price)	10 pcs (lead time / price)	50pcs (Lead time / Price)
3D printing	Ultra 3D Printer – 80k€	1d / 180€	10d / 1800€	50d / 9 000€
CNC Machining	CNC Machine – 150k€	2d / 1 000€	5d / 10 000€	25d / 50 000€
Injection molding	Inj. molding machine - 200k€	4d / 15 020€	4d / 15 200€	5d / 16 000€

The calculation includes set up cost + material cost.

- 3D Printing filament CFPEEK -> ~800€/kg
- PEEK CF raw material block 15 x 15 x 10cm -> ~1000€/piece
- Heatable mold for the part -> ~15 000€/mold



Example part –
CF PEEK part for aerospace
(size D12 x 9cm, weight 180g)

PRINTABILITY COMPARASION TABLE

250°C heated chamber unlocks the widest material range on the market and ensure the extreme stability of the printed parts.



CHAMBER TEMPERATURE / MATERIAL	90°C	180°C	250°C
TPI, CF-TPI	✗	✗	✓
PPSU	✗	✗	✓
ULTEM 1010, CF-ULTEM1010, ESD-ULTEM1010, GF-ULTEM1010	✗	✗	✓
ULTEM 9085, CF-ULTEM9085	✗	✓	✓
PEKK-A, CF-PEKK-A, ESD-PEKK-A	✗	✓	✓
PC, CF-PC, ESD-PC	✗	✓	✓

✓ CAN BE PRINTED WITH OPTIMAL PROCESS TO ENSURE HIGH QUALITY AND ULTIMATE STRENGTH.

✗ IF PRINTED, MAJOR RISK FOR DEFORMING, WARPING AND UNEVEN MECHANICAL PROPERTIES DUE **TOO LOW CHAMBER TEMPERATURE**.

INTEGRATED **ANNEALING** SYSTEM

Set the desired annealing cycle and increase the crystallinity of 3D printed PEEK or PEKK parts.

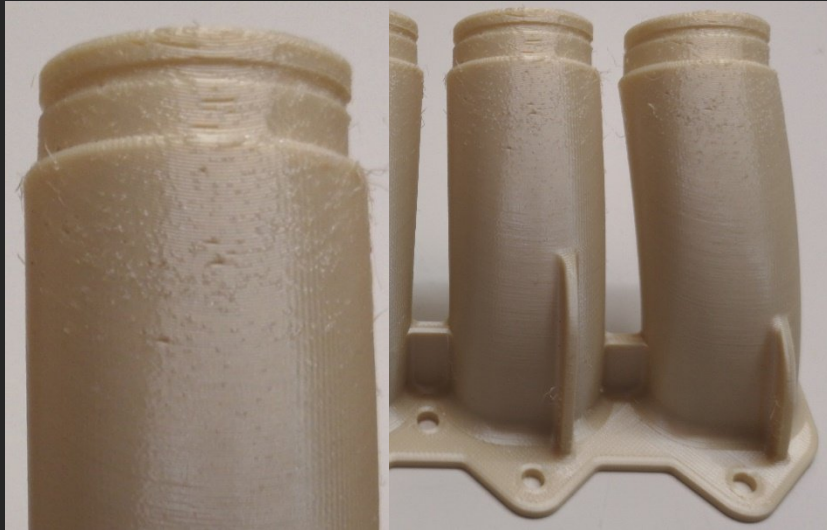


ACTIVE MATERIAL **DRYING** CHAMBER

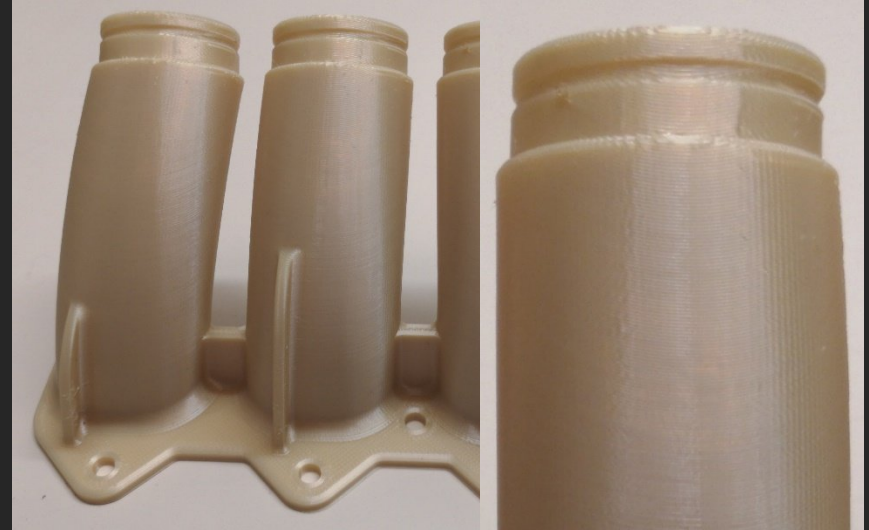
Active material drying is extremely important feature as moistured material will cause visual, and in worst case, mechanical failures for the printed parts.

Most of competing systems on the market use a separated, expensive filament drier or the temperature in the filament chamber is too low.
With both of these approaches, after few hours of printing the moisture problems most likely starts to ruin your prints.

WITHOUT ACTIVE MATERIAL DRYING



WITH THE MINIFACTORY'S ACTIVE MATERIAL DRYING



ULTRA 2 SPECIFICATIONS



CHAMBER TEMPERATURE	250°C
PLATFORM TEMPERATURE	250°C
EXTRUDER TEMPERATURE	480°C
MECHANICS	AC-SERVO MOTORS & BALL SCREWS CLASS C5
REPEATABILITY	0,025MM/400MM
EXTRUDERS	2, SEPARABLE EXTRUDERS
BUILD VOLUME	330MM X 180MM X 180 MM
MATERIALS	TPI, PEI, PEKK, PEEK, PPSU, PPS, PVDF, PA, PC, ABS + MORE + WIDE RANGE OF GF/CF COMPOSITES AND ESD POLYMERS
BUILD PLATFORM	INTERNAL VACUUM SYSTEM
LEVELING	FULLY AUTOMATIC CALIBRATION
UI	10" TOUCH SCREEN / MF2 UI
SAFETY	ACTIVATED CARBON FILTERING
FILAMENT DIAMETER	1,75MM
COOLING	LIQUID COOLING & AIR COOLING
SENSING	JAM & RUNOUT SENSORS
INTEGRATED FEATURES	AARNI – QUALITY ASSURANCE TECHNOLOGY REMOTE CONTROL + ON-BOARD CAMERA MATERIAL DRYING CHAMBER SMART MAINTENANCE INTERVALS FULL SYSTEM STATISTICS INTEGRATED ANNEALING SYSTEM
SLICING SOFTWARE	SIMPLIFY 3D, CURA
CERTIFICATION	CE, UKCA
DEVICE MEASUREMENT	100 X 80 X 190CM – 320KG
POWER REQUIREMENT	400V/16A 3-PHASE

OUR TECHNOLOGY IS TRUSTED BY



ALSTOM



SAFRAN

SKF



ACC
AUTOMOTIVE CELLS Co



PERMASCAND

KIMYA
Additive Manufacturing by A.B. 3D-COM



SME
Elektro-Group

UNIVERSITY OF
EXETER

ANLAUF
FABRIK

XAMK
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