FABRX
pharmaceutical 3D printing

M3DIMAKER

Pharmaceutical 3D printers for personalised medicine

Who We are

Established in 2014, FabRx are leaders in the pharmaceutical 3D printing field for personalised medicine. We carried out the world's first clinical trial in 2018 and are starting four more in 2022.
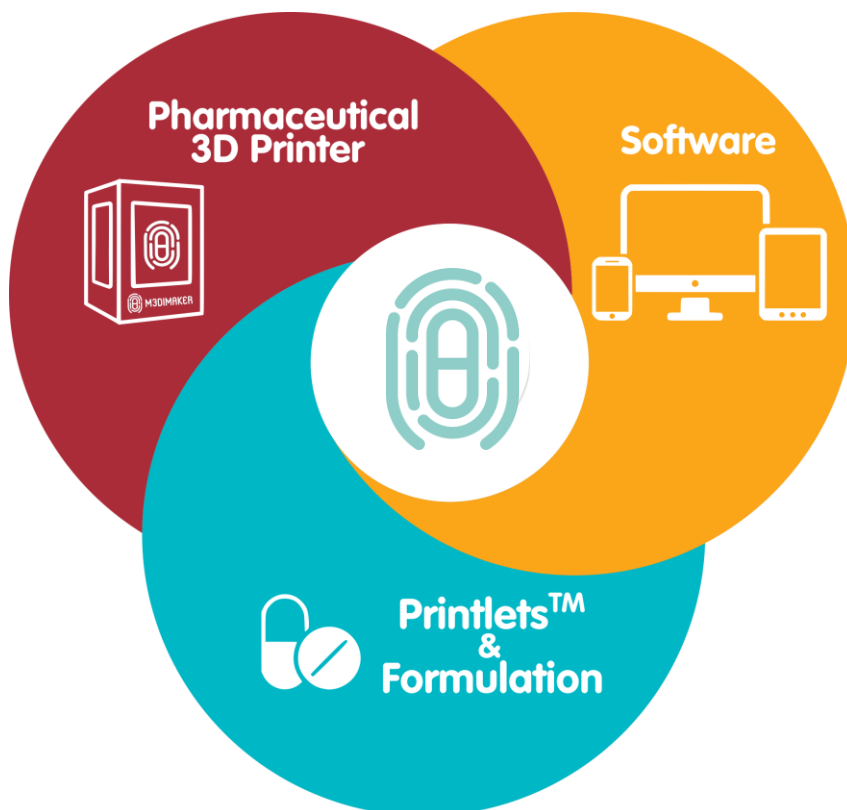
We believe in a world where medical treatment can be personalised at the point of care to the individual needs of each patient, improving their treatment outcomes and well-being while reducing healthcare costs.

What We Offer

Using our patented technologies, we provide novel and flexible platforms for the production of personalised dosage forms and medical implants, revolutionising medical treatment for patients around the world.

We also improve clinical trial efficiency, allowing for the rapid production of small batches of medication on demand.

Pharmaceutical 3D Printer

Software

Printlets™ & Formulation

M3DIMAKER
Pharmaceutical 3D Printers

Our printers are GMP-ready and CE marked with stainless steel parts that can be taken apart easily for efficient cleaning. The printheads are exchangeable, meaning you only need one printer for multiple technologies and printheads can be exchanged for cleaning to allow for continuous printing.

- GMP Ready
- Exchangeable Printheads
- Fully Autonomous Printing
- Auto Levelling Build Plate
- Print Cost Calculation
- Multi-Device compatibility
- In-Built Camera
- In-built Security Measures
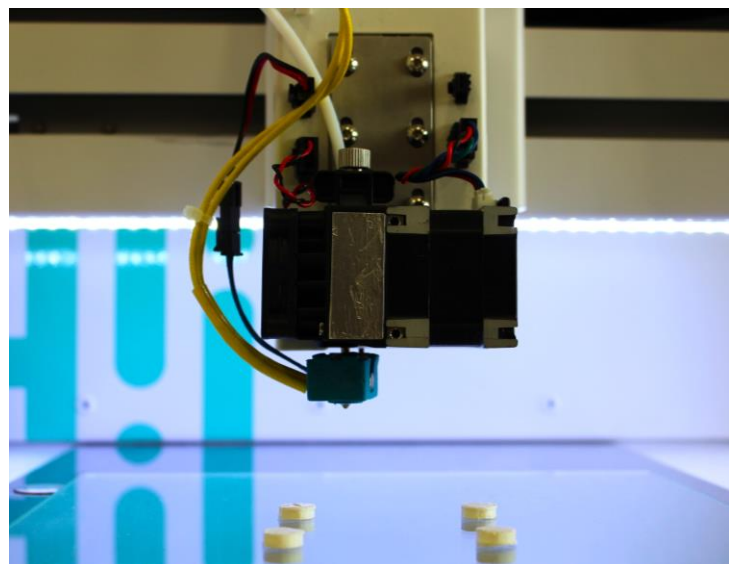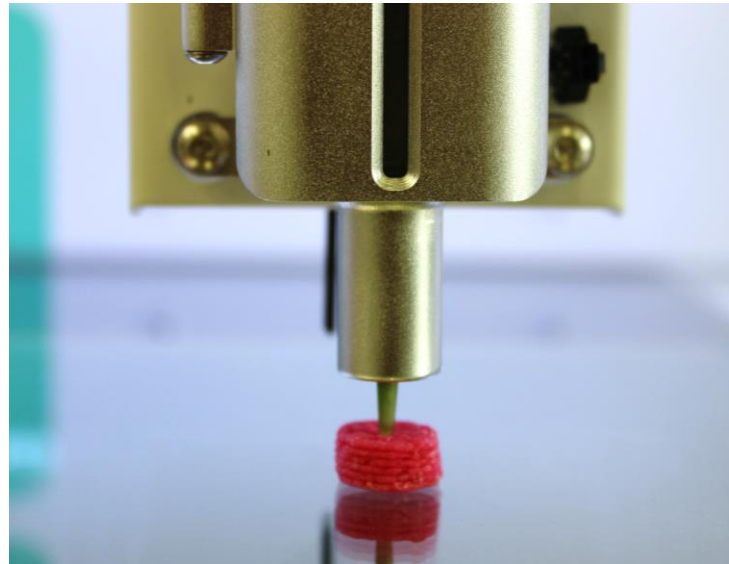- Multi-file Type Support
- Internal Storage and Management of Multiple Projects
- Minimum 1 Year Warranty
- Upgrade Compatible

M3DIMAKER 1

The M3DIMAKER 1 is our single printhead pharmaceutical 3D printer, perfect for research and small batch manufacture of personalised medicines and medical devices.

The printer comes with a fully enclosing lid (not shown here), and with our patented exchangeable **printhead** technology, you can choose from our **printhead** range on page 7.
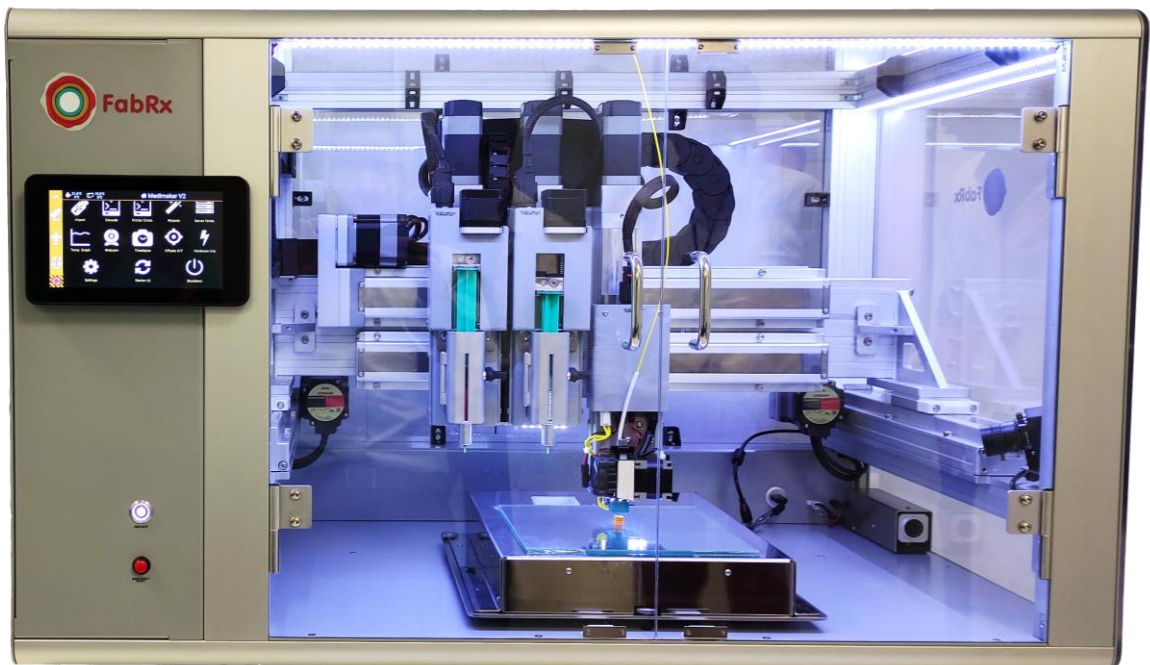
M3DIMAKER 2

The M3DIMAKER 2 is our multi-printhead pharmaceutical 3D printer capable of rapid polypill manufacture.

This printer has 3 printhead attachments, perfect for higher throughput, larger batch manufacture of personalised medicines and medical devices.

With our patented exchangeable printhead technology, you can choose from our printhead range from page 7. We are also developing M3DIMAKER 2 specific upgrades for higher throughput manufacture, more information on page 9.
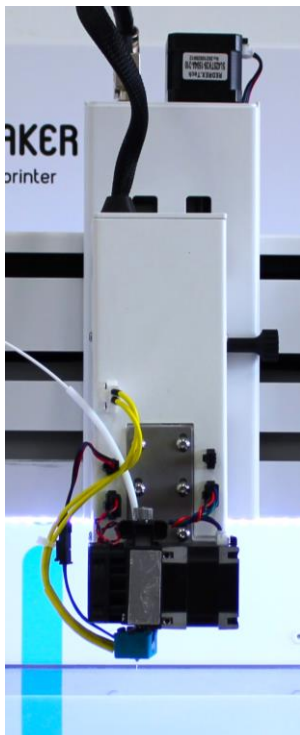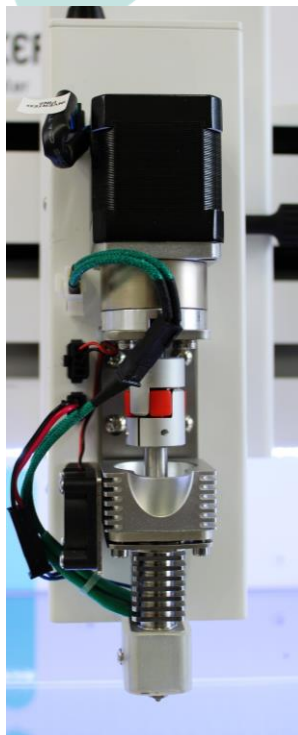
M3DIMAKER
Exchangeable Printhead System

With our exchangeable printhead system, you can use multiple technologies with one printer or have multiple printheads to switch out for cleaning.

Our printheads are easily switchable, with a slide on and plug in system.
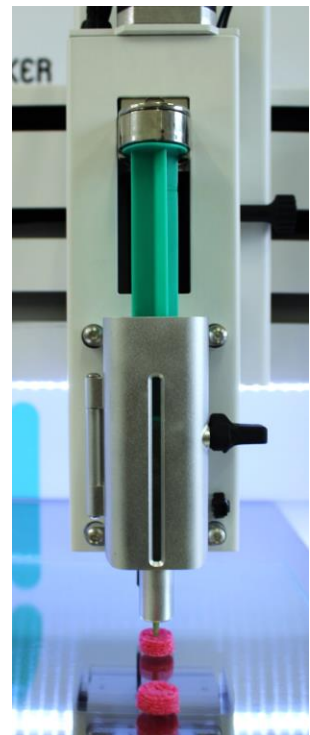
We currently have Fused Deposition Modelling (FDM), Direct Powder Extrusion (DPE) and Semi-Solid Extrusion (SSE) printheads available.
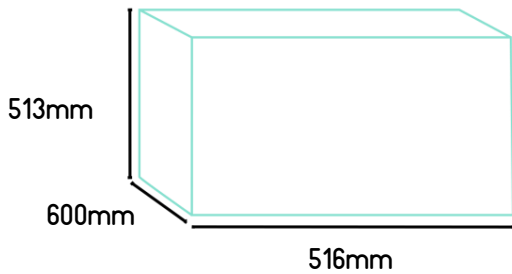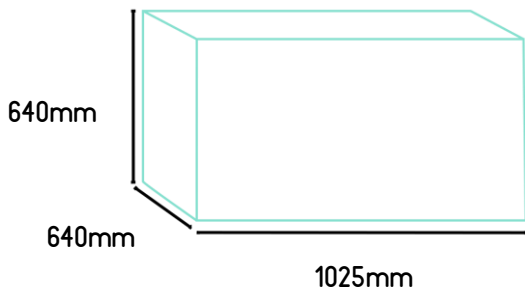

FDM

DPE

SSE

M3DIMAKER
Specifications

M3DIMAKER 1

513mm
600mm
516mm

Number of Printhead Slots	1
Weight	Approx. 35kg
Power	100 – 240V AC, max. 1100VA, F 50/60Hz
Axis speed	0.1 – 200mm/s
Total construction volume (X/Y/Z)	200 x 200 x 100mm
Resolution	0.010mm

M3DIMAKER 2

640mm
640mm
1025mm

Number of Printhead Slots	3
Weight	Approx. 65kg
Power	220 – 240V AC, max. 1600VA, F 50/60Hz (optional 100–125V AC or 100–240V AC)
Axis speed	Up to 300mm/s (18000mm/m)
Total construction volume (X/Y/Z)	225 x 225 x 90mm
Resolution	0.010mm
Total Axis Displacement (X/Y/Z)	400 x 225 x 100mm

Exchangeable Printheads

Specifications	FDM	DPE	SSE
Speed (formulation dependent)	Approx. 3 minutes per printlet	Approx. 3 minutes per printlet	Approx. 8 minutes per 28 printlets
Temperature Range	Up to 250°C	Up to 230°C	Up to 100°C
Printhead Specific	Filament diameter: 1.75 or 2.85mm Nozzle diameter: 0.4 and 0.8mm	Single Screw Extruder, approx. 12mL hopper volume, nozzle diameter: 0.4 and 0.8mm	Handles 20mL syringes (20cc PE cartridges)

M3DIMAKER
Optional Upgrades

Upgrade your printer with these additional extras for more versatile formulation development and printlet manufacture.

PC and Monitor
Includes keyboard, mouse and wires. Only available in limited country specific formats. Available fanless for clean room use

Heated Build Plate
Heating up to 80°C

SSE UV Printhead
Semi-Solid Extrusion printhead with in-built UV Curing capabilities. Wavelengths 365nm or 405nm, Visible light laser λ=365nm or 405nm +/- 10nm

SSE Laguna Printhead
Semi-Solid Extrusion Printhead with an in-built pressure sensor. Capable of pressure and air bubble detection every 50ms, with real-time flowrate corrections. Currently only available with the M3DIMAKER 1 printer
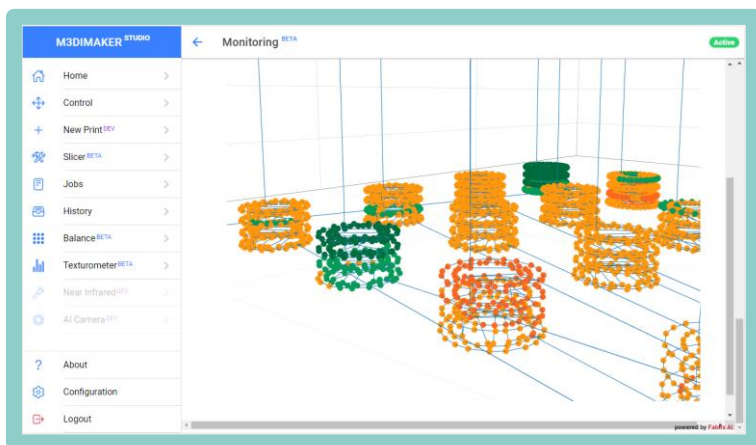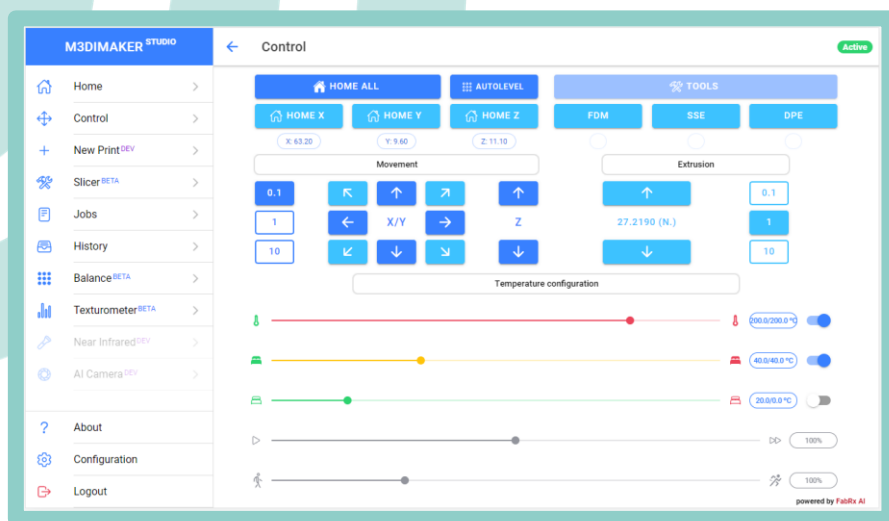
Additional upgrades in development

Software

We have a range of software packages to use alongside our printing systems.

M3DIMAKER Studio:
M3DIMAKER Studio can be used to 3D model your print, slice and control the printer. This software is non-restrictive, allowing you to print to your projects specifications freely.

M3DIMAKER Studio can also be used alongside our inbuilt camera and quality control upgrades for real-time analysis. *Beta version*

M3DISEEN
Prediction Software:
Available online for free at m3diseen.com, this website helps you develop your formulations faster. After inputting your excipients and active ingredients, it predicts 3D printability, which 3D printing parameters you should try first and dissolution. This software is for hot melt extrusion and fused deposition modelling only.
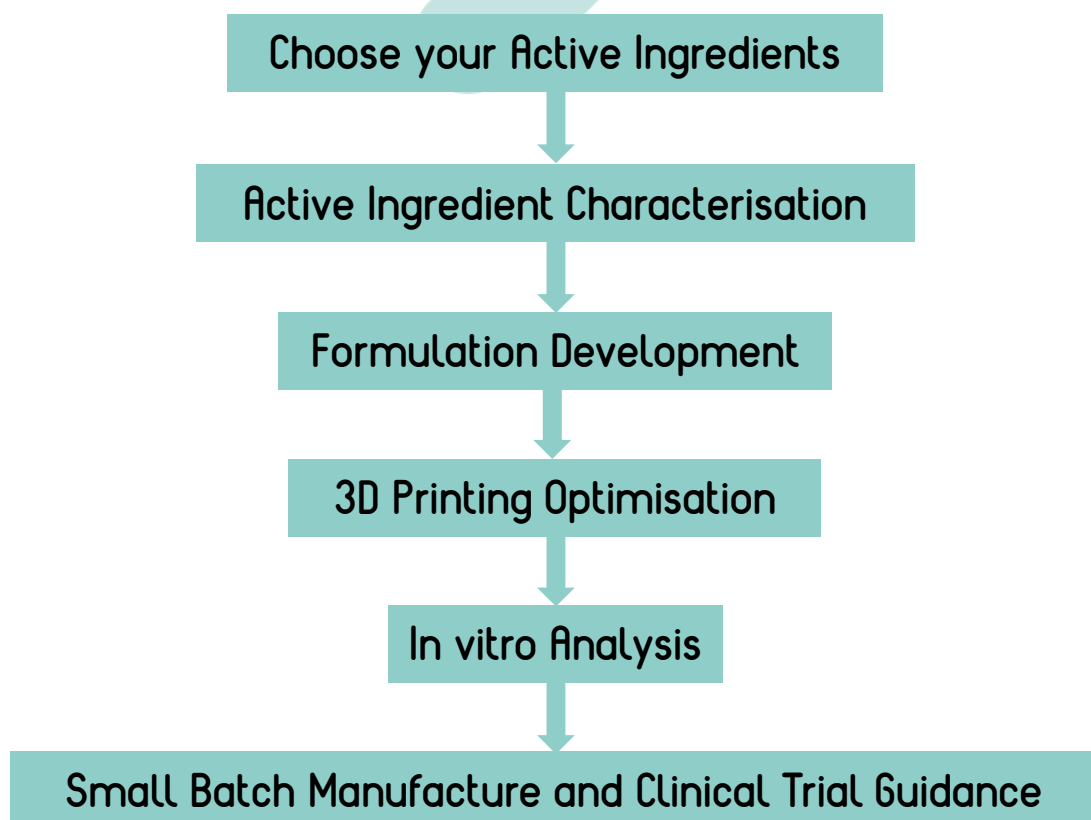
M3DIFE3DBACK
Patient Feedback App:
Carrying out a clinical trial? Use our easy to use app to gather patient and carer feedback. *Beta version*

Formulation Development Services

We offer flexible services to help you develop and optimise your 3D printable formulations. From a quick video meeting consultation to full formulation development and analysis, our world leading team can help you.

Our Formulation Development Pathway

Choose your Active Ingredients

↓

Active Ingredient Characterisation

↓

Formulation Development

↓

3D Printing Optimisation

↓

In vitro Analysis

↓

Small Batch Manufacture and Clinical Trial Guidance

M3DIMAKER
Purchasing and Rental Options

You can purchase our equipment or sign up to our all inclusive rental plan.

What's Available With Our Rental Packages:

Formulation Development and 3D printing Consultation
(Equivalent of 2 hours per month, online unless travel and expenses are covered by the client)

M3DIMAKER Printer (1 or 2) plus 3 Exchangeable Printheads

All Hardware Upgrades

M3DIMAKER Studios Software

3 Days Installation and Training
(Online unless travel and expenses are covered by the client)

Export Box

PC and Monitor

Regular Maintenance

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