

# DATA SHEET



## INTRODUCING THE

# microArch® D1025 Hybrid Resolution Series

Powered by PμSL and based on BMF's new hybrid resolution technology, the microArch D1025 prints in either 10μm or 25μm resolution, or in hybrid mode with both resolutions in the same print layer or in different layers.

With improved built-in automation, this capability enables greater efficiency – saving time, resources and cost. Delivering the same ultra-high resolution, accuracy and precision BMF is known for, the new D1025 will revolutionize the prototyping and production of parts requiring micron-level precision and repeatability.

### Resolution × Accuracy × Precision

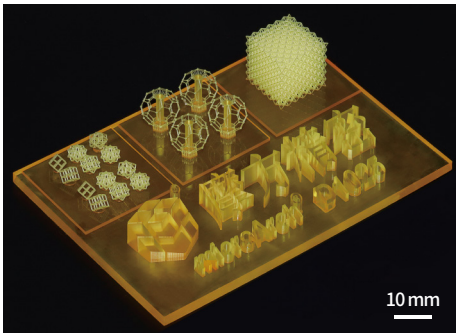
The microArch D1025 is an ideal choice for researchers and manufacturers seeking versatility with the ability to print at two different resolutions. This flexibility enhances efficiency and is complemented by advanced built-in automation features.

### Features

- **10μm and 25μm automatic switching:** Intelligently identify the fine features of complex structures, and realize automatic precision switching within and between layers to ensure accurate production of every single detail
- **Improved DLP projection:** Two different resolutions with larger projection zones resulting in faster print times while still producing high-precision parts
- **Automatic calibration system:** Quickly and automatically calibrate the level of the platform, membrane, and roller, decreasing printer turnover time
- **Automatic printing parameters:** Print settings for roller frequency and resin leveling delay times are automatically set according to the printing area and material viscosity when using automatic mode. Users still have full manual control if desired
- **Automatic resin adjustment:** Automatically and accurately adjust resin (viscosity < 500 cPs) amount in vat to achieve a suitable resin level height
- **Magnetic platform:** Easy to install and remove printing platform for quicker production turnaround time
- **Side-shifting membrane:** No need to remove or reinstall the membrane in between builds, which increases uptime
- **Scraper and roller:** Eliminate air bubbles and reduce leveling time
- **Resin VAT heating system:** Suitable for more complex environments and diverse materials

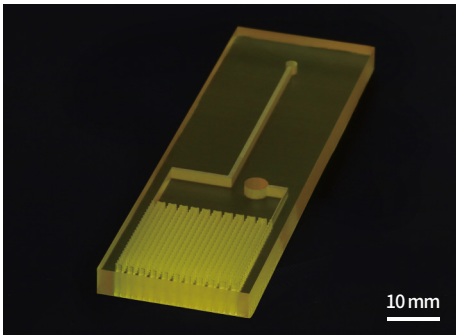


System	DIMENSIONS	1350 x 900 x 1950mm
	WEIGHT	500KG
Performance	PRINTING MATERIAL	Photosensitive resin, Ceramic slurry
	XY RESOLUTION	10μm and 25μm
	XY POSITIONAL ACCURACY	±1μm
	LAYER THICKNESS	10–50μm
	BUILD SIZE	Mode 1: single exposure: -10μm: 27.16 mm(L)×16 mm(W)×50 mm(H) -25μm: 67.9 mm(L)×40 mm(W)×50 mm(H) Mode 2: stitching exposure: 100 mm(L)×100 mm(W)×50 mm(H) Mode 3: micro array: 100 mm(L)×100 mm(W)×50 mm(H)
	SURFACE FINISH	0.4-0.8μm Ra (top) 1.5-2.5μm Ra (side)
	POWER SUPPLY	2000w
Facility	ELECTRICAL REQUIREMENT	120 VAC, 50-60Hz, Single Phase, 10 Amps 220 – 240 VAC, 50-60Hz, Single Phase, 5 Amps
	CERTIFICATIONS	CE



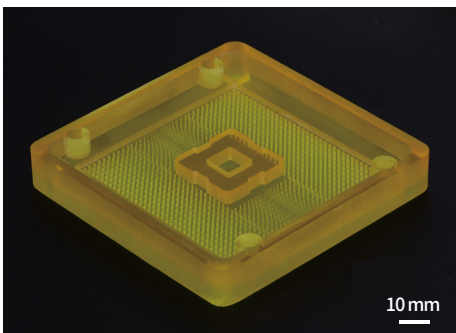
## D1025 Demo part

- Sample size:  $85 \times 60 \times 17 \text{ mm}^3$
- $10 \mu\text{m}$  and  $25 \mu\text{m}$  automatic switching: Bucky balls and Lattices ( $10 \mu\text{m}$  resolution), Baseplate ( $25 \mu\text{m}$  resolution)
- Diameter of rods: Bucky ball  $150 \mu\text{m}$ , Mechanical Lattice  $200 \mu\text{m}$



## Microfluidics Chip

- Application fields: Microfluidics, Drug Screening, Biological Detection
- Sample size:  $25 \times 82 \times 4.5 \text{ mm}^3$
- 5 layers of porous microchannels, each layer is arranged in circles and rectangles at intervals
- Circular diameter:  $500 \mu\text{m}$ , rectangle diameter:  $200 \mu\text{m}$
- 20% higher printing efficiency than  $10 \mu\text{m}$  resolution system



## Chip Array Socket

- Application fields: Electronics
- Sample size:  $90 \times 90 \times 14 \text{ mm}^3$
- The hole diameter increases at equal intervals of  $50 \mu\text{m}$  from the inside to the outside
- Minimum diameter:  $100 \mu\text{m}$ , tolerance:  $\pm 20 \mu\text{m}$
- 50% higher printing efficiency than  $10 \mu\text{m}$  resolution system