Powder 3D Printer

PB-600 / PB-400

Specifications

Model		PB-600	PB-400
Build Technology		Binder Jetting Method	
XY Resolution (dots per inch)		600 x 600 dpi	
Layer Pitch		0.1 mm (0.0039 in.)	
Build Speed		35 seconds/layer	45 seconds/layer
Build Size	Width	Max. 595 mm (23.4 in.)	Max. 390 mm (15.4 in.)
	Depth	Max. 600 mm (23.6 in.)	Max. 290 mm (11.4 in.)
	Height	Max. 250 mm (9.8 in.)	Max. 200 mm (7.9 in.)
Powder Materials		Ceramic Powder	
Binder		Water-Based Liquid Binder	
Environment	During operation	Temperature: 20°C to 24°C (68°F to 75.2 °F), Humidity: Max. 50%RH (no condensation) 20°C (68°F), and small temperature changes are recommended	
	Not operating *	Temperature: 5°C to 40 °C (41°F to 104 °F), Humidity: 20% RH to 80% RH (no condensation)	
Distance Accuracy (with correction)		Error of less than ±0.3% of distance travelled or ±0.5 mm (0.0196 in.), whichever is greater	
Dimensions (Width x Depth x Height)		3,150 mm × 1,344 mm × 1,900 mm (124.0 in. × 52.9 in. × 74.8 in.) excluding PC arm stand	1,709 mm × 970 mm × 1,382 mm (67.3 in. × 38.2 in. × 54.4 in.) excluding PC arm stand
Weight		1,200 kg (2,645 lb.)	430 kg (947 lb.)
Power Supply		AC 230V Single Phase 16A	
Included items		User's Manual, Slice Software, PC for Printer Control Software and Monitor, etc.	

* The condition during operation is applied when powder is filled.

Options

Model	PM-14C	PL-20C
Description	Ceramic powder, 14 kg	Liquid binder, 20L Bottle

System requirements for Slice Software

Operating system	Windows 10/11
Processor	Core i5 Generation 8 or more
Memory (RAM)	8 GB or more
Video card and monitor	NVIDIA GeforceRTX 3060 or more (Pro graphics card not supported)

General workflow and main ancillary equipment

Making 3D Data ▸ Printing ▸ Cleaning ▸ Impregnation ▸ Firing ▸ Glazing ▸ Firing ▸ Finishing

Software: 3D CAD/3D software, such as Rhinoceros 3D that can generate STL files.
Depowdering machine/facilities: Equipment that blows off ceramic powder.
Dedicated room: For the Powder 3D Printer and powder removal.
Vacuum Impregnation machine: Decompression equipment to saturate impregnant.
Firing furnace: Firing furnace to solidify objects at high temperature.
Dust collector: To collect powder materials from the molding tank and remove dust from inside and outside the product.

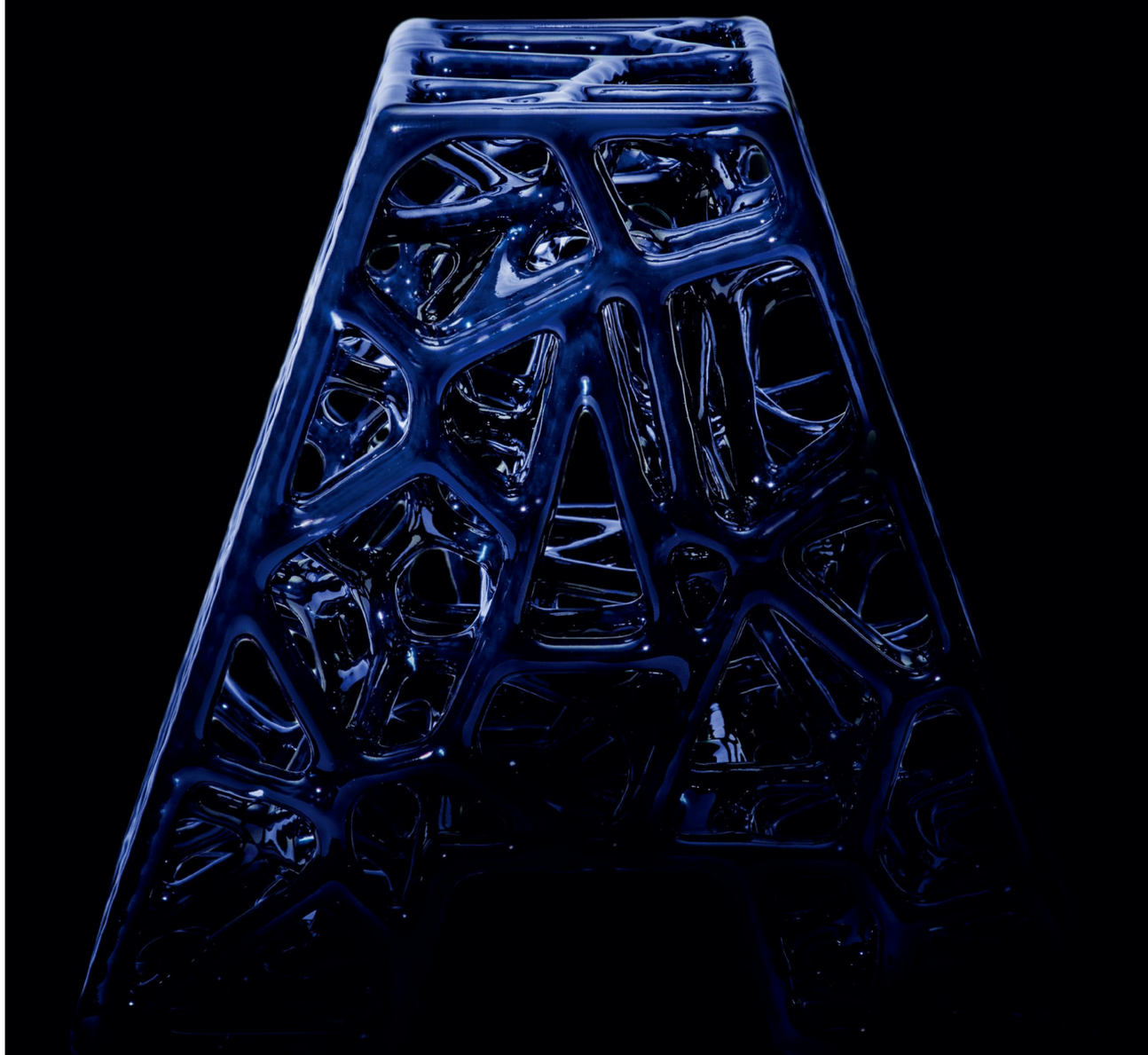
Imagine. Roland

AUTHORIZED DEALER:

January, 2025

global.rolanddg.com

Roland

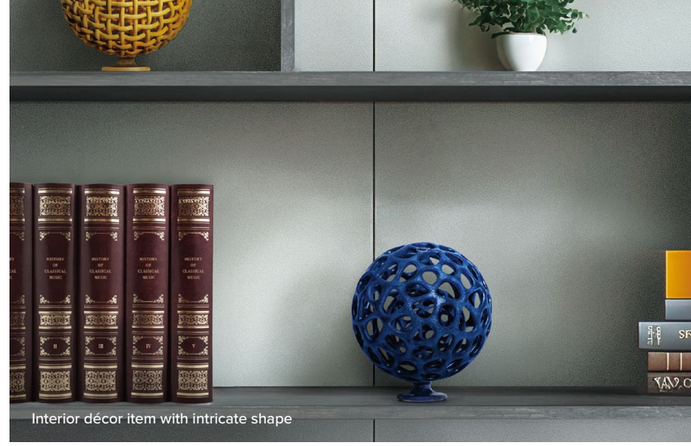


Powder 3D Printer

PB-600 / PB-400

Eye-catching wall decoration


Impressive modern stone pagoda


Interior décor item with intricate shape


Incense burner for a serene space


One-of-a-kind vases


Creative objects d'art combined with natural objects

Ceramic Expression Beyond Imagination

The PB-600/PB-400 binder jet Powder 3D Printer series produces creative and complex three-dimensional objects in high definition beautifully and efficiently. Its artistic and elaborate expressive power expands creative possibilities and brings innovation to the manufacturing process of ceramic products.

Powder 3D Printer
PB-600 / PB-400

CREATIVITY

The PB series is a binder jet type 3D printer that produces 3D objects by ejecting liquid binders from the print head and layering ceramic powder while fixing it layer by layer. It enables anyone to easily produce difficult shapes that could previously only be created by craftsmen, as well as complex models that cannot be manufactured by hand or with milling machines.

PRODUCTIVITY

The PB-600 has a maximum work size of 595 (W) x 600 (D) x 250 (H) mm, while the PB-400 has a maximum work size of 390 (W) x 290 (D) x 200 (H) mm. By laying out several different modeling objects, a large object or several smaller ones can be produced at once. Powder material remaining in the main unit after output can be reused for the next modeling task for low-cost operation.

PRECISION

Brightorb, a special ceramic powder, consists of fine particles to produce excellent performance with less than 1% shrinkage during firing, which is essential for ceramic modeling. In addition, the PB series layers the fine material at the optimum thickness to create complex objects with high precision and a beautifully smooth finish.

OPERATION

The printer includes slicing software that converts 3D data created with 3D CAD or 3D CG software into output data. It can also be operated intuitively from a monitor attached to the product itself, making it easy even for first-time users.