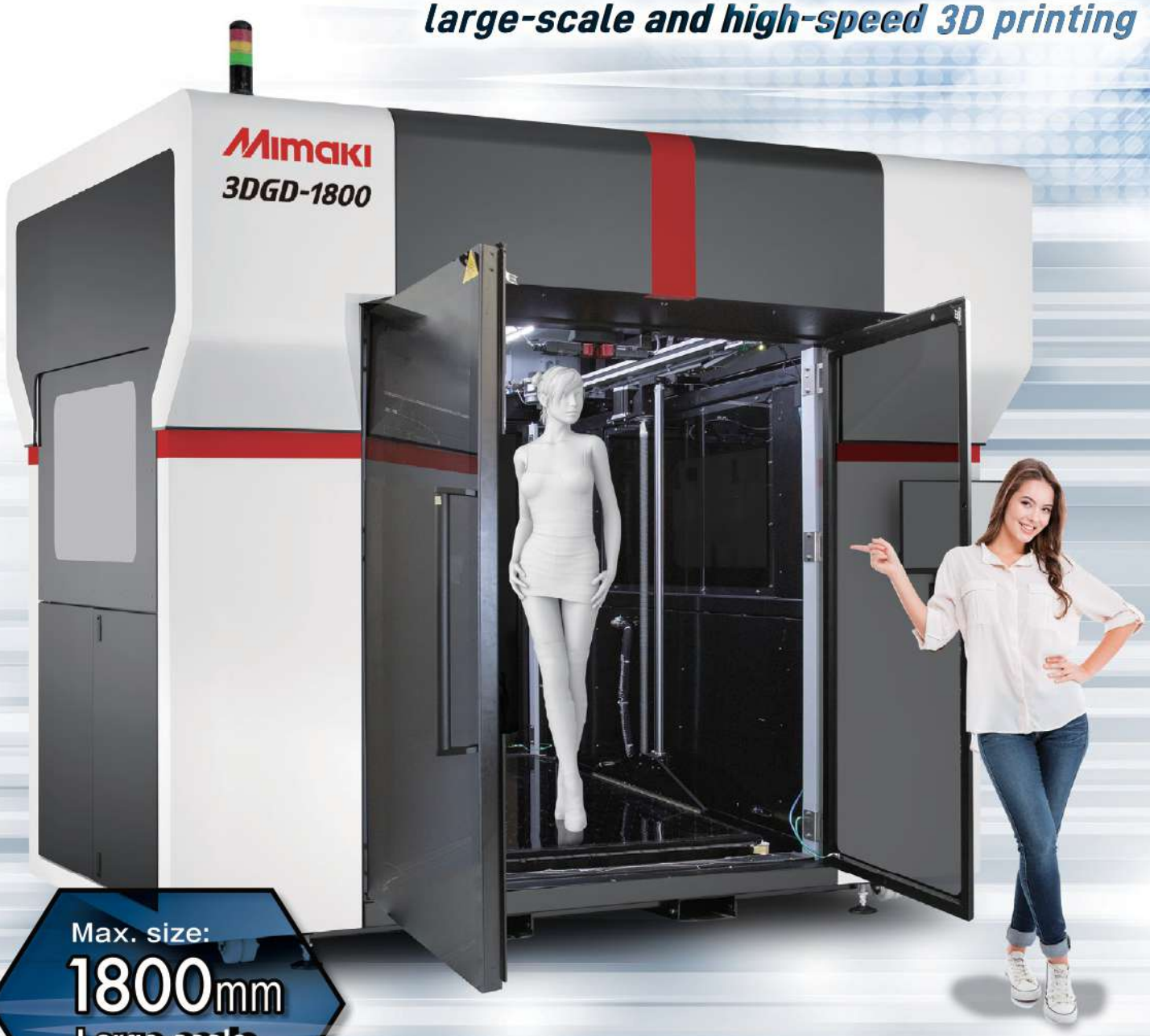
GDP (Gel Dispensing Printing) method 3D printer

3DGD-1800

Innovating sign graphics creation with large-scale and high-speed 3D printing



Max. size: 1800mm Large-scale 3D print

Unparalleled printing speed

High-speed 3D printer builds objects at 350 vertical mm/hour

Utilization of 3D data broadens the potential for application

Hollow objects allowing easy processing

A life-size* 3D object can be completed in 7 hours.

*object size W x L x H : 600 x 600 x 1,800 (mm)

Easily print large-sized 3D objects

Objects up to 1,800mm in height can be printed. Assembling multiple prints allows for the creation of extra-large objects, exceeding the printable area.

Unparalleled printing speed

The product adopts the "Gel Dispensing Printing" technology which extrudes a UV curable gel-type resin lineally, fusing layers by instantly curing the resin with ultraviolet irradiation. Unlike 3D fused deposition modeling (FDM) involving the thermal treatment of resin, the product is capable of creating objects swiftly. It also allows the production of two different objects simultaneously using dual print-heads. The 3D printer can create 3D objects in about 1/3 the time of conventional handcrafting, allowing much faster production than manual methods and significantly reducing the production time when 3D data is available.

A life-size object is printed in 7 hours!

Hollow objects allowing easy processing

The printed 3D objects are extremely light in spite of their large size because they are hollow. It is also possible to increase the strength by adding armatures and reinforcement materials to the hollowed-out interior. As the printed objects are white in color and translucent, you can also create internally illuminated signage housing LED modules and other light sources.

Channel letters

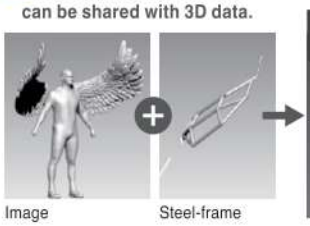
Internally illuminated signage

Utilization of 3D data broadens the potential for application

If you have 3D data, you can create objects in varying sizes. Unlike handcrafting, 3D printing allows you to use a 3D data to share an image of the object and its installation with the customer from the design stage.

■With 3D data, objects can be printed in various sizes.

■Image of the object and installation can be shared with 3D data.



Combination with Mimaki inkjet printers further expands the power of expression

Utilizing inkjet printers to apply decorative finishes to 3D objects or combining outputs of both technologies enables the production of an object with higher impact that can be used for large three-dimensional signboards, life-sized displays, creative art etc. Furthermore, combining the 3DGD-1800 with a 3D scanner, it is possible to create 3D copies of an existing object. Utilization of digital 3D data opens up the possibilities of expression.

■Production processes of 3DGD-1800 and post-processing (example)

Create 3D data → Create job data (3DGD Slicer) → Print → Post-processing *1 (Polishing/coating/ assembly and reinforcement/surface decoration) → Installation

*1: Post-processing equipment sold separately

■Surface imaging using Mimaki printers

What's more...

Combination of scanner and printer*2

●Applications using a copy of an actual object with Scan & Print

Making copies of existing physical objects and reproducing in various sizes

Large => Small (Reduced copy)

Full-body 3D scanner ▶3DUJ-553

Small => Large (Enlarged copy)

Compact scanner ▶3DGD-1800

*2: A 3D scanner is separately required as the 3DGD-1800 does not have a scan function.

■Specifications

3DGD-1800							
3D printing method	Gel Dispensing Printing / Dual print		Nozzle size (dia.)	1.8 mm / 2.6 mm (Replaceable)	Operating specifications	Power	3 x 25A, 380-400 VAC ±10%, 50 / 60Hz
Print head	2		Printing speed	Height 350 mm/h (13.8 in/h)		Air pressure	600 to 800 kPa
Max. printing size	W x D x H	1,450x1,110x1,800 mm (57.1x43.7x70.9 in)	Printing material	MG-100W (White UV curable resin)		Power consumption	10kW (Printing)
	Weight	150 kg (330.7 lb)	3D data format	stl, obj, 3ds, ply, blend		Temperature	16 to 30 degC. 60.8 to 86 degF.
Layer pitch	Normal	1.3 mm	Slicer software	3DGD Slicer	Outside dimensions	W x D x H	3,000x2,200x2,800 mm (118.1x86.6x110.2 in)
	Quality	1.0 mm	Interface	Ethernet	Weight	2,500 kg (5,511.5 lb)	
	High resolution	0.8 mm					

■Software, Suppliesions

Item	Code	Remark
3DGD Slicer	(TBD)	Slicer software
3D printer ink MG100	MG100-W-BS-1-RA	19 kg bottle

⚠ Precautions for 3D objects

•Please make sure to execute an advanced evaluation regarding the physical property (strength, weather resistance, safety etc.) for estimated applications.

⚠ Safety notice

Ultraviolet (UV) irradiation equipment is mounted on this product. You are dealing with UV light sources that may harm your health. Please follow below guidelines strictly.

•Do not look directly into the UV light source nor place your hand, or expose your skin directly to the UV light source.
•Please make sure the room is well ventilated due to smells partially accompanying with 3D modeling.
•In acilition, please be sure to read the instructions and guidelines of the manual carefully to follow.

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