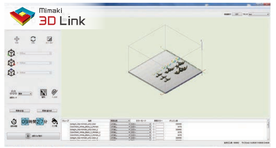
Combining Mimaki's best technologies
Photorealistic objects with fine detail in full, highly accurate color

By combining the best technologies of Mimaki, a leader in inkjet printer manufacturing for the Sign Graphics, Industrial Products, and Textile & Apparel markets, the 3DUJ-553 is able to provide innovative competitive power in any business.

Software

<Provided as standard>

■ Layout software “Mimaki 3D Link”



For 3D print job layout and transmission to the printer

Procedure

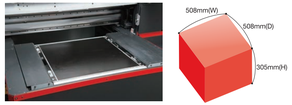
1. Data Import
   Compatible formats: STL, OBJ, VRML, PLY, 3MF
2. Data layout
   Rotate, zoom-in/out, move and copy
3. Modeling mode selection
   Select modeling quality and issue job to the 3D printer control software, Mimaki Printer Driver

*1 Clear ink modeling settings are also possible
*2 Estimation function is for calculation of modeling time and ink consumption

■ Print control software “Mimaki Printer Driver”

A large touch screen connected to the body is used to operate the printer.
Start modeling, check the print history, change settings, and perform operations such as nozzle check and cleaning.

Modeling area



Specifications

Item		3DUJ-553	
Modeling method		UV curable inkjet	
Colors		Full color / More than 10 million different colors	
Print head		On-demand piezoelectric print head　8 head inline	
Ink	Type	Modeling ink MH-100 (C,M,Y,K, White, Clear) Modeling ink MH-110 (Pure Clear) Support material ink SW-100	
	Tank volume	C,M,Y,K :5L White, Clear, Pure Clear, Support material :5L	
	Supply	C,M,Y,K : 1L bottle White, Clear, Pure Clear, Support material :4.8L bottle	
Available modeling area (WxLxH) Load capacity (Max. model weight) (Including support materials) *1		508×508×305mm (20x20x12in) 70 kg (154 lb) or less	
Minimum layer thickness		20 μm	
3D data format		STL,OBJ,VRML,PLY,3MF	
Software (standard accessories)		Layout software [Mimaki 3D Link]	
Interface		Ethernet 1000BASE-TX	
Power		Single-phase 100-120/220-240 VAC ±10%, 50/60Hz ±1Hz x3 (Unit/x1 / Monitor x1 / External PC x 1)	
Power consumption		Printer	1300W or less
		External PC	300W or less
		Touch panel	30W or less
Safety standards		VCCI Class A/FCC Class A/ Compliant with UL60950, ETL / CE Marking (EMC, Low Voltage Directive) / CB Report/ RoHS/REACH	
Installation environment		Usage temperature range	15 °C to 35 °C (59°F to 95°F)
		Relative humidity	35 to 60% Rh (No condensation)
		Recommended operational temperature range	20°C to 25°C (68°F to 77°F)
		Dust	Places with minimal dust (Dust amount 0.15mg / m³ or less) *2
External dimensions (W×D×H)		2,250×1,500×1,550mm (88.6x59.1x61.0in)	
Weight		Weight 600 kg (1,322.8 lb.)	

*1: The maximum modeling size should be within the available modeling area and below the max. model weight.
*2: 0.15mg/m³ or less...The numerical value of the dust quantity equivalent to the office specified by the Building Standards Act of Japan.

Supplies

Product name		Item code	Remarks
MH-100	Cyan	MH100-C-BA	1L bottle
	Magenta	MH100-M-BA	
	Yellow	MH100-Y-BA	
	Black	MH100-K-BA	
	White	MH100-W-BD	4.8L bottle
	Clear	MH100-CL-BD	
MH-110	Pure Clear	MH110-PCL-BD	
SW-100	Support material	SW100-Z-BD	

Options

Item	Item Code
PCL support kit	OPT-J0510

⚠ Precautions for 3D objects

- Please make sure to execute an advanced evaluation regarding the physical property (strength, weather resistance, safety etc.) for estimated applications.
- Depending on the application, post processing may be necessary (top coating or cleaning with ethanol) after removal of support material.

⚠ Safety notice

Ultraviolet (UV) irradiation equipment is mounted on this product. UV light sources can be harmful to one's health. Please adhere to the following

- 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.
- Please use the included goggles and gloves when removing an object or handling support material after modeling.
- In addition, please be sure to read and follow the instructions and guidelines in the user manual.

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DB20300-06

Mimaki 3D Printer

UV Curable Inkjet System 3D Printer

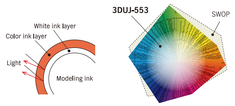
3DUJ-553

Photorealistic Color Accuracy

The world's first*1 3D printer utilizing over 10 million colors

Covering 84% of the FOGRA39L and 90% of the SWOP color gamuts

The 3DUJ modeling method with a full color ink set (CMYK, White, Clear) can reproduce 84% of the FOGRA and 90% of the SWOP color gamuts. Modeling with highly transparent color ink and a white core allows light to pass through the color layer and reflect from the white core, resulting in beautiful accurate colors.



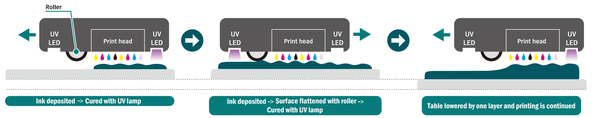
Broadening design possibilities with clear ink

Mimaki Pure Clear ink (MH110-PCL) can be used to express glass-like transparency as well as translucent colors by combining color ink with clear. Furthermore, by combining opaque models with Pure Clear ink (through Color "in" Pure Clear or Color "+" Pure Clear), it is possible to create models with truly clear expressions, for applications such as the visualization of internal structures. There are a wide variety of applications in a range of fields, allowing the freedom of creation to product designers and artists. It is also a vital tool to be used within medical and architectural models to promote deep comprehension through concrete visualization.

*1 Survey as of August 2017 by Mimaki Engineering
*2 Please install the "MH-110 Pure Clear ink (MH110-PCL)" for pure clear 3D modeling.
*3 Simultaneous installation of MH-100 Clear ink (MH100-CL) is required for modeling with MH-110 Pure Clear.

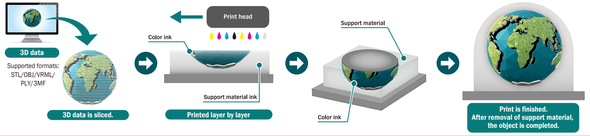
Utilizing the UV inkjet system

UV ink is cured by irradiation with UV (Ultraviolet) light.
The Mimaki 3DUJ series utilizes this modeling method by printing and curing ink layer by layer.

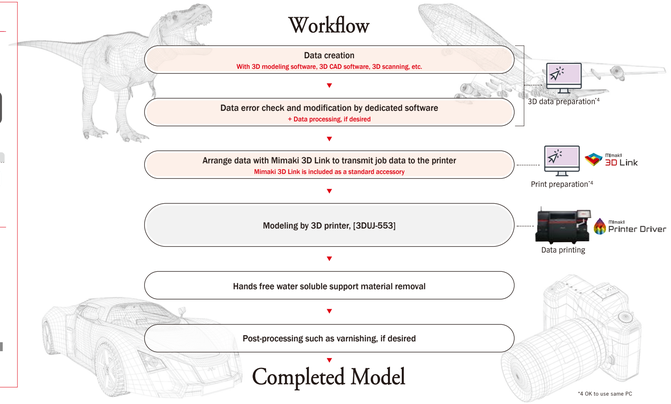


Layering & Coloring method

Simultaneous printing of color and support ink, layer by layer



Workflow



High definition modeling quality

Technology only available through Mimaki

High definition print technology Long term development of professional 2D inkjet printers with strict quality requirements has allowed Mimaki to transfer its proprietary waveform control and precision discharge technology to the 3DUJ, achieving pinpoint ink droplet accuracy. This allows for models with highly elaborate colors and designs.

Variable dot function The variable dot function allows ink droplets to be ejected in three different sizes, reducing graininess and allowing for beautiful gradation in highly accurate full color.

Advantages of 3DUJ's modeled objects

Broadening applications with post-processing

Modeling materials
Acrylic resin compounds in the UV ink create models with material strength similar to ABS.

Anchoring
By installing an anchor, the modeled object can bear up to 5kg in weight.

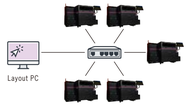
Overcoating
Overcoating to further smooth the object, create weather resistance, and change the surface appearance is possible.

Water resistance
There is no color loss or damage to the object if it gets wet.

Network connection

Easily connect multiple units

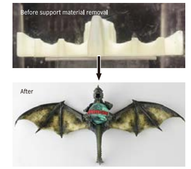
Multi-system management through Ethernet Simply connect the layout PC and printer with an Ethernet cable. A maximum of 20 printers can be connected to one layout PC. Software updates are possible with an internet connection.



Usability

Less labor, higher quality

Water-soluble support material
Hands-free removal for efficient post-processing
The 3DUJ uses water-soluble support material. It can be removed by placing it in water, instead of labor-intensive manual processes such as cutting or water jets, preventing damage to intricate models.



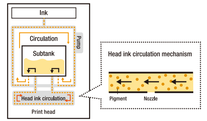
Cured with UV LEDs
The 3DUJ-553 uses UV irradiation to cure the modeling material. The equipped UV LEDs exert a very low amount of heat and have no warm-up time, resulting in power savings and lowered running cost.

Internal camera
A camera is mounted internally to remotely monitor operation and modelling, minimizing the chance of print failure.

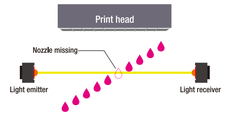
Functionality to reduce down time

Production efficiency

Equipped with ink circulation technology to reduce nozzle clogging The world's first*1 inkjet 3D printer equipped with ink circulation technology. Circulating ink prevents pigment sediment from blocking discharge nozzles, which may result in printing errors. It also eliminates air bubbles, helping to maintain optimal ink jetting operation.



NCU (Nozzle Check Unit) for automatic self-recovery of clogged nozzles The world's first*1 3D printer equipped with an NCU for auto detection of ink misfiring due to clogged nozzles. When a missing droplet is detected, the head moves into auto cleaning for recovery. Detection frequency can be set by time or day, preventing possible modeling errors.



*5 Survey as of August,2017 by Mimaki Engineering