MJP 300W Jewelry Wax Pattern 3D Printer

Groundbreaking resolution, flexibility and reliability with next generation of gold standard wax MultiJet Printing for high throughput production of 100% wax jewelry casting patterns

3D Systems' comprehensive MultiJet Printing solution for jewelry casting includes the MJP 300W 3D Printer, software, and materials to quickly and consistently generate micro-detail, precision, 100% wax sacrificial casting patterns for high capacity jewelry production. Eliminate tooling time, cost or geometric limitations, and deliver reliable and repeatable direct casting efficiency.

Jewelry Wax Pattern MultiJet Printing

Patterns 3D printing solution for direct lost wax casting

The MJP 300W 3D printer employs MultiJet Printing technology to consistently produce high fidelity, true-to-CAD wax sacrificial patterns, for precision lost wax casting of jewelry.

GET MORE PATTERNS FASTER

Streamline your file-to-pattern workflow with the advanced 3D Sprint® software capabilities, fast and versatile MJP print speeds and batch support removal to deliver high quality, ready-to-cast patterns.

MANUFACTURING AGILITY

From fast turnaround prototypes and mass custom manufacturing, to high-throughput production, gain unprecedented levels of agility with ease-ofuse and quality at any scale.

CONSISTENT QUALITY, PROVEN RELIABILITY

Quality printed parts ensure fine details, accuracy, high fidelity, smooth surfaces, and repeatability for consistent results through your manufacturing workflow. Our reliable, industrial, end-to-end 3D printing solutions provide consistent uptime, low operating costs, and improved efficiency.

UNLIMITED DESIGN FREEDOM

Increase geometric freedom without the limitations of hand crafting or tooling to create complex, precision patterns that cannot be made traditionally. MJP hands-free post-processing provides complete removal of supports from the tightest spaces without damaging fine feature details.

The MJP 300W

The MJP 300W is an affordable 100% wax pattern 3D printer that adjusts to your workflow, delivering from several short run batches a day to next day for larger builds. These highly accurate, fine wax patterns are directly printed, without the time, costs and geometric limitations of tooling.

HIGH PRODUCTIVITY

From fast short runs to high throughput, combine fast print speeds and large build volume capacity with rapid single lane printing for high productivity of 100% wax precision jewelry casting patterns with an affordable 3D printer. Achieve production flexibility by having four print mode options to choose from to match the level of speed, geometric complexity and surface quality your designs require.

Print crisp details on small features and micro-pave settings and achieve the highest level of precision and repeatability.

HIGH QUALITY PATTERNS

Print sharp edges, crisp details, fine mesh or filigree designs, and smooth surfaces with high fidelity. Superior resolution and dissolvable and meltable supports result in excellent surface quality for reduced finishing labor and polishing of costly precious metals, enabling greater design freedom where geometries make surfaces inaccessible to polishing

Groundbreaking vertical resolution up to 3200 DPI for superior surface finish.

EASE-OF-USE AND LOWER COSTS

Optimize part and labor costs with MJP ease-of-use, automated and efficient process—from file to finished direct casting pattern. With large volume capacity and 24/7 operation, the MJP 300W 3D printer allows fast amortization and a high return on your investment.

VisiJet® 100% Wax Materials

Best casting reliability

The MJP 300W utilizes VisiJet 100% wax materials to produce flexible and durable, high-quality jewelry patterns. These materials are designed to ensure reliable performance and consistent results when used with existing lost-wax casting processes and equipment.

Ideal for the sharp edges and smooth surfaces required for larger, bolder designs, VisiJet M2 CAST melts like standard casting waxes, with zero ash content for defect free castings.

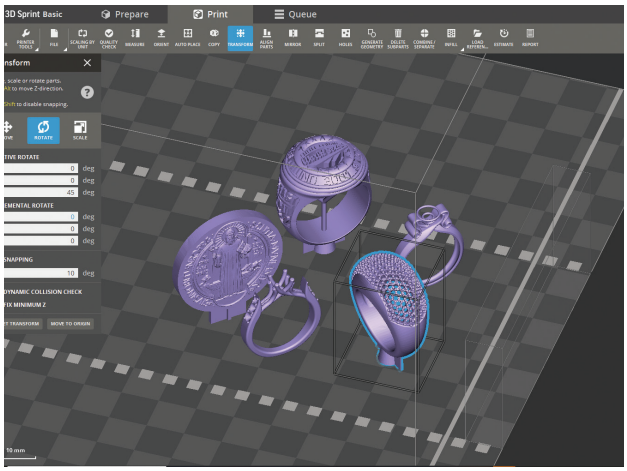
More flexible, VisiJet Wax Jewel Red is made for the production of the most intricate designs, especially for features such as lightweight filigree and thin wire mesh designs.

VisiJet Wax Jewel Ruby is a medium hardness wax, stable in high ambient temperatures and better for presetting stones.

3D Sprint®

End-to-end software solution for MultiJet Printing workflows

MultiJet Printers use 3D Sprint, 3D Systems' advanced software for file preparation, editing, printing and management from a single, intuitive interface. 3D Sprint enables the customer to significantly decrease cost of ownership of their 3D printers by reducing the need for costly software seats by third party vendors. A distinguishing feature of 3D Sprint software is its ease of use with automated part placement, support generation and tools to modify pattern geometry without the need to go back to a CAD program.



Properties	Condition	VisiJet Wax Jewel Ruby	VisiJet Wax Jewel Red	VisiJet M2 CAST	VisiJet M2 SUW
Composition		100% Wax	100% Wax	100% Wax	Wax Support Material
Color		Dark Red	Brilliant Red	Deep Purple	White
Bottle Quantity		1.5 kg	1.5 kg	1.5kg	1.6 kg
Density @ 80 °C (liquid)	ASTM D3505	0.79 g/cm³	0.79 g/cm³	0.80 g/cm³	0.87 g/cm³
Melting Point		61-63°C	62-63°C	61-66 °C	55-65 °C
Softening Point		45-47°C	43-47°C	40-48 °C	N/A
Volumetric Shrinkage	40 °C to 23°C	1.5%	1.7%	1.6%	N/A
Linear Shrinkage	40 °C to 23°C	0.50%	0.58%	0.52%	N/A
Coefficient of Thermal Expansion		267 µm/m °C	340 µm/m °C	300 µm/m °C	N/A
Needle Penetration Hardness	ASTM D1321	12	14	12	N/A
Ash Content	ASTM D5630-13A	0.00%	0.00%	0.05%	N/A
Description		Medium hardness wax	Flexible casting wax	Durable casting wax	Eco friendly, dissolvable wax

* DISCLAIMER: It is the responsibility of each customer to determine that its use of any VisiJet material is safe, lawful and technically suitable to the customer's intended applications. The values presented here are for reference only and may vary. Customers should conduct their own testing to ensure suitability for their intended application.

MJP 300W Jewelry Wax Pattern 3D Printer

The MJP 300W enables high throughput production of pure wax jewelry patterns for lost wax casting

MJP 300W PRINTER HARDWARE	
Dimensions (WxDxH)	
3D Printer Crated	1397 x 927 x 1314 mm (55 x 36.5 x 51.7 in)
3D Printer Uncrated	1120 x 740 x 1070 mm (44.1 x 29.1 x 42.1 in)
Weight	
3D Printer Crated	325 kg (716 lb)
3D Printer Uncrated	211 kg (465 lb)
Electrical	100-127 VAC, 50/60 Hz, single-phase, 15A 200-240 VAC, 50 Hz, single-phase, 10A Single C14 receptacle
Operating Temperature Range	18-28 °C (64-82 °F), reduced print speed at > 25 °C (77 °F)
Operating Humidity	30-70 % relative humidity
Noise	< 65 dBa estimated (at medium fan setting)
Certifications	CE

PRINTING SPECIFICATIONS	
Net Build Volume (xyz)[1]	294 x 211 x 144 mm (11.6 x 8.3 x 5.6 in)
Accuracy (typical)[2]	±0.0508 mm/25.4 mm (±0.002 in/in) of part dimension typical for any single printer ±0.1016 mm/25.4 mm (±0.004 in/in) of part dimension across printer population

PRINTING MODES	UHD (DRAFT)	XHD	ZHD	QHD
Resolution, DPI	1200 x 1200 x 1000	1200 x 1200 x 1600	1200 x 1200 x 3200	2000 x 1800 x 2900
Layer thickness, µm	25	16	8	8.8
Single Lane Build				
Productivity, cm^3/hr (in^3/hr)	240 (14.6)	147 (9)	75 (4.6)	27.3 (1.7)
Time for 1 in/2.54 cm height	2.7 hr	4 hr	8 hr	22 hr
Two Lane Build				
Productivity, cm^3/hr (in^3/hr)	230.4 (14.1)	141 (8.6)	72 (4.4)	37.2 (2.3)
Time for 1 in/2.54 cm height	5.3 hr	8 hr	16 hr	31 hr
Three Lane Build				
Productivity, cm^3/hr (in^3/hr)	220.8 (13.5)	134 (8.2)	69 (4.2)	41.4 (2.5)
Time for 1 in/2.54 cm height	8 hr	12 hr	24 hr	40 hr

[1] Maximum part size is dependent on geometry, among other factors.
[2] Accuracy may vary depending on build parameters, part geometry and size, part orientation, and post-processing.
[3] For Windows 10, make sure you have applied the most recent Windows updates for the application to run correctly.

MATERIALS	
Build Materials	VisiJet M2 CAST, VisiJet Wax Jewel Red, VisiJet Wax Jewel Ruby
Support Material	VisiJet M2 SUW
Post-Processing Fluid	VisiJet Support Wax Remover (VSWR)
Material Packaging	
Build Material	In clean 1.5 kg bottles (printer holds up to 2 with auto-switching)
Support Material	In clean 1.6 kg bottles (printer holds up to 2 with auto-switching)
Post-Processing Fluid	7.2 kg (2 gallons) cubitainer

SOFTWARE AND NETWORK	
3D Sprint® Software	Easy build job set-up, submission and job queue management; Automatic part placement and build optimization tools; Part stacking and nesting capability; Extensive part editing tools; Automatic support generation; Job statistics reporting tools
Client Hardware Minimum Specifications	• Intel® or AMD® processor with a minimum of 2.0GHz and 4GB RAM • OpenGL 2.1 and GLSL 1.20 enabled graphics car; screen resolution 1280x960 • Dedicated Graphics Card: Nvidia GeForce GTX 285, Quadro 1000, AMD Radeon HD 6450, or newer • 10GB of available hard-disk space; additional space may be red for cache. Temporary file cache requires about 3GB free disk space for every 100 million points. • Internet Explorer 9 or newer • Other: 3 button mouse with scroll, keyboard, Microsoft .NET Framework 4.8 installed with application
3D Connect™ Capable	3D Connect Service provides a secure cloud-based connection to 3D Systems service teams for support.
E-mail Notice Capability	Yes
Internal Hard Drive Capacity	500 Gb minimum
Connectivity	Network ready with 10/100/1000 base ethernet interface; USB port
Client Operating System	Windows 8.1 ~ Windows 11 (64-bit)
Input Data File Formats Supported	STL, CTL, OBJ, PLY, ZPR, ZBD, AMF, WRL, 3DS, FBX, IGES, IGS, STEP, STP, MJPDDD

Note: Not all products and materials are available in all countries – please consult your local sales representative for availability

3D SYSTEMS