Jewelry Wax Pattern MultiJet 3D Printing

The ProJet MJP 2500W Plus enables high throughput production of pure wax jewelry patterns for lost wax casting

3D Systems' comprehensive MultiJet Printing solution for jewelry casting includes the ProJet MJP 2500W Plus 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.

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Patterns 3D printing solution for direct lost wax casting

The ProJet MJP 2500W Plus 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.

RESULTS YOU CAN TRUST

Produce true-to-CAD patterns with exact, razor-sharp edge and fine feature definition for results you can rely on. Smooth surface and sidewall quality means less expensive hand work and a faster pattern-to-finished piece workflow. VisiJet® 100% wax materials melt like standard casting waxes, with zero ash content for defect free castings.

MANUFACTURING AGILITY

MultiJet Printing provides more flexibility and throughput to develop your business and access the digital manufacturing world of customized pieces and series production. ProJet MJP 2500W jewelry printer makes production methods faster, easier and more effective, dramatically reducing lead times and costs.

UNLOCK YOUR CREATIVITY

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 ProJet MJP 2500W Plus

The ProJet MJP 2500W Plus 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 THROUGHPUT

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. Improve the casting room efficiency and thereby the productivity, precision and possibilities of direct lost wax jewelry casting.

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.

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 ProJet MJP 2500W Plus printer allows fast amortization and a high return on your investment.

Print crisp details on small features and micro-pave settings. Consistently achieve the highest level of precision and repeatability by adopting a digital foundry workflow for jewelry manufacturing.

Produce series or custom jewelry for all design styles without the constraint of tooling imitations. Our precision wax pattern 3D printer makes production methods faster, easier and more effective, dramatically reducing lead times.

VisiJet® 100% Wax Materials

Best casting reliability

VisiJet 100% wax 3D printing materials for the ProJet MJP 2500W Plus printer deliver durable, high quality patterns for reliable performance and results throughout 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. Patterns produced in this material withstand handling through the entire lost wax casting process, especially for features such as lightweight filigree and thin wire mesh designs.

Sp 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.

Co 3D Connect™

A new level of management in 3D production

3D Connect Service provides a secure cloud-based connection to 3D Systems service teams for proactive and preventative support to improve uptime and deliver production assurance for your system.

Properties	Condition	VisiJet Wax Jewel Red	VisiJet M2 CAST	VisiJet M2 SUP
Composition		100% Wax	100% Wax	Wax Support Material
Color		Brilliant Red	Deep Purple	White
Bottle Quantity		1.17 kg	1.17 kg	1.3 kg
Density @ 80 °C (liquid)	ASTM D3505	0.79 g/cm³	0.80 g/cm³	0.87 g/cm³
Melting Point		62-63°C	61-66 °C	55-65 °C
Softening Point		43-47°C	40-48 °C	N/A
Volumetric Shrinkage, from 40 °C to 23°C		1.7%	1.6%	N/A
Linear Shrinkage, from 40 °C to 23°C		0.58%	0.52%	N/A
Coefficient of Thermal Expansion		340 µm/m °C	300 µm/m °C	N/A
Needle Penetration Hardness	ASTM D1321	14	12	N/A
Ash Content	ASTM D5630-13A	0.00%	0.05%	N/A
Description		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.

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PROJET® MJP 2500W 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

PRINTING MODES	XHD	ZHD
Resolution, DPI	1200 x 1200 x 1600	1200 x 1200 x3200
Layer thickness, µm	16	8
Single Lane Build		
Productivity, cm³/hr (in³/hr)	147 (9)	75 (4.6)
Time for 1 in/2.54 cm height, hr	4	8
Two Lane Build		
Productivity, cm³/hr (in³/hr)	141 (8.6)	72 (4.4)
Time for 1 in/2.54 cm height, hr	8	16
Three Lane Build		
Productivity, cm³/hr (in³/hr)	134 (8.2)	69 (4.2)
Time for 1 in/2.54 cm height, hr	12	24

MATERIALS

Build Materials	VisiJet M2 CAST, VisiJet Wax Jewel Red
Support Material	VisiJet M2 SUW
Post-Processing Fluid	VisiJet Support Wax Remover (VSWR)
Material Packaging	
Build Material	In clean 1.17 kg (2.58 lbs) bottles (printer holds up to 2 with auto-switching)
Support Material	In clean 1.3 kg (2.87 lbs) 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
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® 7, Windows 8 or Windows 8.1 (Service Pack), Windows 10[3]
Input Data File Formats Supported	STL, CTL, OBJ, PLY, ZPR, ZBD, AMF, WRL, 3DS, FBX, IGES, IGS, STEP, STP, MJPDDD

[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.

3D SYSTEMS