middle east
3D PRINTING THE FUTURE

3D SYSTEMS
Additive Manufacturing Solutions

# Figure 4® Jewelry

## Ultra-fast and affordable 3D printing solution for jewelry design and manufacturing workflows


Part of 3D Systems' scalable, fully integrated Figure 4 technology platform, Figure 4 Jewelry is an affordable solution optimized for jewelry design and manufacturing workflows, delivering unparalleled speed, productivity, ultra-fine detail and smooth surface finish.

# Digital Manufacturing With Figure 4 Technology

## Integrated Solution to Address Jewelry-Specific Production Workflows

Figure 4 Jewelry uses the high accuracy, fine feature detail, speed and smooth surface finish of Figure 4 technology with optimized print build styles in the 3D Sprint® software for jewelry, along with specific materials to enable three jewelry production workflows:

### JEWELRY CASTING PATTERNS

3D print highly accurate jewelry casting patterns for intricate, detail rich feature pieces. With Figure 4's fast print speed and MicroPoint™ support structure, Figure 4 Jewelry offers superior casting quality and patterns ready for casting in hours for customized pieces manufacturing and short-run production.

- Manufacturing of high-end customized jewelry
- Short-run jewelry production
- Optimized casting material yields minimal ash and residue after burnout for easy casting
- No commitment to design or sunk investment in tooling

### MASTER PATTERNS FOR MOLDS*

Produce 3D printed master patterns for RTV/silicone molds used in high volume, mass-production jewelry casting workflows such as accessories and costume jewelry.

### PROTOTYPING/FIT-CHECK MODELS*

Create accurate, fine detail prototypes of jewelry designs for fittings and try-on, as well as to ensure the accuracy of stone settings.

# Figure 4 Jewelry

## Ultra-fast and affordable jewelry 3D printer

Capable of creating prints ready for casting or molding in hours, Figure 4 Jewelry enables jewelry manufacturers to accelerate time-to-market and quickly respond to market demands for custom jewelry or short-run production at low per piece cost.

A fast, digital workflow is responsive to any design modification, whether minor or drastic, so new designs can be delivered within very short timeframes, enabling unparalleled flexibility.

### FAST TURNAROUND, COST EFFECTIVE JEWELRY PRODUCTION

Print algorithms developed specifically for jewelry workflows enable Figure 4 Jewelry to print at 16mm/hr at 30µm layer—up to four times faster than comparable printing systems for a full platform of rings.

### HIGH QUALITY JEWELRY PATTERNS

Produce superior jewelry prints with best-in-class surface finish. Figure 4's non-contact membrane technology, combined with exclusive MicroPoint support structures, minimizes part-to-support interaction, resulting in the smoothest sidewalls and finest resolution for jewelry applications.

### ULTRA-FINE DETAIL

Proprietary print build styles developed specifically for jewelry, both for thin, delicate geometries, as well as thicker geometries, enable optimized jewelry prints with detail for settings, sharp prongs, fine mesh and more.

### REDUCED PRODUCTION LABOR COSTS

MicroPoint ultra-fine tip support structures enable both easy support removal and smoother surface finish, reducing downstream labor costs and production time by minimizing polishing of support intersection points.

* Expected availability first half 2020.

# Jewelry Design and Manufacturing Workflows with Figure 4™ Materials

3D Systems' Material Design Center has over 30 years of proven R&D experience and process development expertise. Designed for the jewelry manufacturing professionals, Figure 4 materials for Figure 4 Jewelry are optimized for jewelry design and production workflows.

### JEWELRY PATTERNS FOR DIRECT CASTING

Figure 4 JCAST-GRN 10 produces accurate, reproducible, and highly detailed patterns for jewelry casting. This high contrast green material is easy to cast with minimal ash and residue, producing high quality jewelry pieces rapidly.

### MASTER PATTERNS FOR MOLDS*

Print detailed, fine featured master patterns in a material optimized to withstand the heat and pressure of the mold making process used in high volume jewelry casting workflows.

### JEWELRY PROTOTYPING/FIT CHECK*

This high-contrast prototyping material is being developed to show fine detail in design for concept models and try-ons, with the accuracy and fidelity to ensure final fit of stone settings.

## Accessories

### LC-3DPRINT BOX UV POST-CURING UNIT

The optional LC-3DPrint Box post-curing unit is available for UV-curing parts, required to obtain the final material properties, and is the recommended UV-curing unit for Figure 4 print materials. The LC-3DPrint Box is a revolutionary UV light box equipped with 12 UV light bulbs strategically placed inside to ensure a product is illuminated from all sides, which results in a quick and uniform curing cycle. This light-based UV curing process takes minutes versus hours with heat-based curing processes.

### LC-3DMIXER FROM 3D SYSTEMS

The optional LC-3DMixer keeps your Figure 4 materials ready for use at any time at an optimum consistency. The LC-3DMixer is a roller/tilting stirring device for mixing 3D printing materials.

# Figure 4® Jewelry

## PRINTER HARDWARE

| | |
|---|---|
| **Build Volume** (xyz) | 124.8 x 70.2 x 196 mm (4.9 x 2.8 x 7.7 in) |
| **Resolution** | 1920 x 1080 pixel |
| **Pixel Pitch** | 65 microns (0.0025 in) (390.8 effective PPI) |
| **Wavelength** | 405 nm |
| **Operating Environment** | |
| Temperature | 18-28 °C (64-82 °F) |
| Humidity (RH) | 20-80% |
| **Electrical** | 100-240 VAC, 50/60 Hz, Single Phase, 4.0A |
| **Dimensions** (WxDxH) | |
| 3D Printer crated | 73.66 x 68.58 x 129.54 cm (29 x 27 x 51 in) |
| 3D Printer uncrated | 42.6 x 48.9 x 97.1 cm (16.7 x 19.25 x 38.22 in) |
| **Weight** | |
| 3D Printer crated | 59 kg (130 lbs) |
| 3D Printer uncrated | 34.5 kg (76 lbs) |
| **Certifications** | FCC, CE, EMC |

## OPTIONAL ACCESSORIES

| | |
|---|---|
| **Post-Processing** | Includes part finishing tools accessory kit; Requires optional 3D Systems LC-3DPrint Box UV post-curing unit or other UV-curing unit |
| LC-3DPrint Box | Load capacity (WxDxH): 260 x 260 x 195 mm<br>Dimensions (WxDxH): 41 x 44 x 38 cm<br>Full light spectrum: 300-550 nm<br>Controlled temperature for optimal curing<br>Weight (uncrated): 22 kg<br>Electrical: 110V/230V, 50/60 Hz, 2.6A/1.3A |
| **LC-3DMixer** (for mixing materials) | Dimensions (WxDxH): 410 x 270 x 100 mm<br>Weight (uncrated): 4 kg<br>Electrical: 100-240 V, 50/60 Hz |
| **Pedestal** | |
| Pedestal crated | 82.55 x 79.375 x 55.245 cm (32.5 x 31.25 x 21.75 in); 26.3 kg (58 lbs) |
| 3D Printer + Pedestal uncrated | 68.1 x 70.4 x 135.6 cm (26.8 x 27.71 x 53.38 in); 54.4 kg (120 lbs) |

## MATERIALS

| | |
|---|---|
| **Build Materials** | Figure 4 JCAST-GRN 10 for jewelry investment casting patterns.<br><br>Expected materials availability for Master Patterns Molding and Prototyping/Fit Check workflows first half of 2020. |
| **Material Packaging** | 1kg bottles for manual pour |

## SOFTWARE AND NETWORK

| | |
|---|---|
| **3D Sprint® Software** | Easy build job set-up, submission and job queue management; Automatic part placement and build optimization tools; Part nesting capability; part editing tools; Automatic support generation; Job statistics |
| **3D Connect™ Software Capable** | 3D Connect Service provides a secure cloud-based connection to 3D Systems service teams for proactive and preventative support. |
| **Connectivity** | 0/100/1000 Ethernet Interface |
| **Client Hardware Recommendation** | • 3 GHz multiple core processor (2 GHz Intel® or AMD® processor mini) with 8 GB RAM or more (4 GB mini)<br>• OpenGL 3.2 and GLSL 1.50 support (OpenGL 2.1 and GLSL 1.20 mini), 1 GB video RAM or more, 1280 x 1024 (1280 x 960 mini) screen resolution or higher<br>• SSD or 10,000 RPM hard disk drive (minimum requirement of 7 GB of available hard-disk space, additional 3 GB free disk space for cache)<br>• Google Chrome or Internet Explorer 11 (Internet Explorer 9 mini)<br>• Other: 3 button mouse with scroll, keyboard, Microsoft .NET Framework 4.6.1 installed with application |
| **Client Operating System** | Windows® 7 and newer (64-bit OS) |
| **Input File Formats Supported** | STL, CTL, OBJ, PLY, ZPR, ZBD, AMF, WRL, 3DS, FBX, IGES, IGS, STEP, STP and X_T |

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

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