

# Figure 4<sup>®</sup> Modular

Scalable, semi-automated 3D manufacturing solution designed to grow with your prototyping and production needs



Figure 4 Modular is a scalable, semi-automated 3D production solution that grows with your business, enabling capacity to meet your present and future needs, up to 10,000 parts per month, for unprecedented manufacturing agility.

# Figure 4® Modular

## Scalable solution for same-day prototyping and direct 3D production

With expandable capacity up to 24 print engines, automated job management and queuing, automated material delivery, and centralized post-processing, Figure 4 Modular's end-to-end digital manufacturing workflow is ideal for low to mid volume production and bridge manufacturing. In addition, each printer can run different materials and different jobs as part of a single high throughput line serving a multitude of parts being produced.



### MODULAR SCALABILITY

The base configuration of Figure 4 Modular is comprised of a single printer and a central controller. This can be easily scaled to up to 24 printer modules on a single controller, with layout configuration flexibility, empowering production to rapidly multiply without disruption to the shop floor.

### END-TO-END PRODUCTIVITY

Fast and easy print jobs preparation with 3D Sprint advanced software, ultra-fast print speeds, post-curing in minutes instead of hours, and proactive and preventative support through 3D Connect Service, ensure high parts throughput with high accuracy and repeatability.

### LOW TOTAL COST OF OPERATIONS

Figure 4 Modular enables companies to move directly into manufacturing from a digital CAD file, bypassing tooling costs and delays to start delivering final parts immediately.

This semi-automated solution reduces labor through automated job management and queuing, and an automated material feed system.

### UNPARALLELED FLEXIBILITY

Figure 4 Modular's individual printers enable simultaneous production of a wide variety of part sizes and shapes, in multiple materials for a diverse range of parts for production and prototyping.

\* UV curing is a required step for finishing parts, and 3D Systems has two light-based UV curing units available.

### SPEED, ACCURACY AND REPEATABILITY THROUGH FIGURE 4 TECHNOLOGY

Our versatile Figure 4 solutions use projector-based imaging to quickly form each layer in a single image, combined with non-contact membrane Figure 4 technology for ultra-fast print speeds up to 100 mm/hour. Throughput and time-to-part is further enhanced with a light-based UV curing process that takes minutes versus hours with heat-based curing processes, enabling same day print and ship.

Your designs go from CAD to prototyping to manufacturing using a common technology to accelerate and simplify your manufacturing process and time-to-market. Digital molding reduces development costs, increases productivity and eliminates tooling requirements. These systems also deliver repeatable, true-to-CAD part accuracy with six sigma repeatability.



## Wide Range of Materials for Application Diversity

3D Systems' Material Design Center has over 30 years of proven R&D experience and process development expertise. The broad and expanding range of materials available for Figure 4 Modular addresses a wide variety of applications needs, for functional prototyping, direct production of end-use parts, molding and casting.

### RIGID MATERIALS

Figure 4 rigid materials produce durable plastic parts with the look and feel of cast or injection molded parts, with features that include fast print speeds, high elongation, exceptional impact strength, humidity/moisture resistance, long-term environmental stability and more.

### ELASTOMERIC MATERIALS

Figure 4 elastomeric materials are ideal for the production of functional rubber-like parts with excellent shape recovery, high tear strength, great for compressive applications and material malleability.

### HIGH TEMPERATURE MATERIAL

With heat deflection temperatures up to over 300° C with no additional thermal post-cure required, Figure 4 heat resistant material offers high rigidity and exceptional stability under extreme conditions.

### SPECIALTY MATERIALS

Choose from Figure 4 specialty materials for sacrificial tooling, medical applications requiring biocompatibility and/or sterilization, and more.

## Post-Processing Accessories

Centralized UV curing post-processing units are available as part of the overall solution. UV curing is a required step for finishing parts and obtaining the final material properties. Figure 4 materials use a light-based curing process which takes minutes versus hours for heat-based curing processes. 3D Systems has two optional light-based curing units available:

### FIGURE 4 UV CURE UNIT 350

Equipped with 12 UV light bulbs placed inside of the four walls, the Figure 4 UV Cure Unit 350 achieves highly efficient and uniform curing of parts printed in Figure 4 materials. The interior allows you to place products on multiple layers to cure more parts at once, and is optimized for Figure 4 Modular parts at the maximum build height of 346 mm.

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

The LC-3DPrint Box is available for UV-curing parts and is the recommended UV-curing unit for Figure 4 Modular print materials for parts under 195 mm. 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.

Figure 4 UV  
Cure Unit 350

LC-3DPrint Box UV  
Post-Curing Unit



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A scalable 3D manufacturing solution for prototyping and production

| PRINTER HARDWARE               |   |
|--------------------------------|---|
| <b>Build Volume (xyz)</b>      | 124.8 x 70.2 x 346 mm (4.9 x 2.8 x 13.6 in)   |
| <b>Minimum Layer Thickness</b> | 0.01 mm (0.0004 in)   |
| <b>Resolution</b>              | 1920 x 1080 pixel   |
| <b>Pixel Pitch</b>             | 65 microns (0.0025 in) (390.8 effective PPI)  |
| <b>Wavelength</b>              | 405 nm  |
| <b>Operating Environment</b>   | 24/7 operation  |
| Temperature                    | 5-30 °C (41-86 °F)  |
| Humidity (RH)                  | 30-70%  |
| <b>Electrical</b>              | 100-240 VAC, 50/60 Hz, Single Phase, 15A/7.5A   |
| <b>Compressed Air</b>          | Minimum pressure of 4.83 bar (70 psig) of dry air. 9.5 mm or 6.4 mm (0.38 or 0.25 in) OD tubing. Connections external to machine not supplied by 3D Systems   |
| <b>Configurations</b>          | Base unit (controller and a printer), scalable to 24 auxiliary printers   |
| <b>Dimensions (WxDxH)</b>      | Base unit (uncrated):<br>122.6 x 72.9 x 209.1 cm (48.2 x 28.7 x 82.3 in)<br><br>Auxiliary printer (uncrated):<br>66.1 x 72.9 x 209.1 cm (26 x 28.7 x 82.3 in) |
| <b>Weight</b>                  | Controller (uncrated): 98.5kg (217.2 lbs)<br>Printer (uncrated): 190.5kg (420 lbs)  |
| <b>Certifications</b>          | FCC, CE, EMC, UL  |

| POST-PROCESSING ACCESSORIES  |  |
|--|--|
| <b>Post-Processing</b>   | Cleaning, drying and curing  |
| <b>Cleaning Solvents</b>   | IPA, Easy Rinse C, TPM   |
| <b>Curing Accessories (purchase separately)</b>                        |  |
| Figure 4 UV Cure Unit 350  | Load capacity (WxDxH): 124.8 x 70.2 x 346 mm<br>Dimensions (WxDxH): 50 x 57 x 100 cm<br>Full light spectrum: 300-550 nm<br>Controlled temperature for optimal curing<br>Weight (uncrated): 77.1 kg   |
| LC-3DPrint Box (for curing printed parts with a Z height up to 195 mm) | 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 |

| MATERIALS                 |   |
|---------------------------|---|
| <b>Build Materials</b>    | See material selector guide and individual material datasheets for specifications on available materials. |
| <b>Material Packaging</b> | 2.5 kg cartridges for automated replenishment   |

| SOFTWARE AND NETWORK                           |  |
|--|--|
| <b>3D Sprint<sup>®</sup> Software</b>          | 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   |
| <b>3D Connect<sup>™</sup> Software Capable</b> | 3D Connect Service provides a secure cloud-based connection to 3D Systems service teams for proactive and preventative support.  |
| <b>Connectivity</b>                            | RJ45 Ethernet interface.<br>Network hub and cabling not provided   |
| <b>Client Hardware Recommendation</b>          | <ul style="list-style-type: none"> <li>3 GHz multiple core processor (2 GHz Intel<sup>®</sup> or AMD<sup>®</sup> processor minimum) with 8 GB RAM or more (4 GB minimum)</li> <li>OpenGL 3.2 and GLSL 1.50 support (OpenGL 2.1 and GLSL 1.20 minimum), 1 GB video RAM or more, 1280 x 1024 (1280 x 960 minimum) screen resolution or higher</li> <li>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)</li> <li>Google Chrome or Internet Explorer 11 (Internet Explorer 9 minimum)</li> <li>Other: 3 button mouse with scroll, keyboard, Microsoft .NET Framework 4.6.1 installed with application</li> </ul> |
| <b>Client Operating System</b>                 | Windows <sup>®</sup> 7 and newer (64-bit OS)   |
| <b>Input File Formats Supported</b>            | 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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