Figure 4® Production

Industry's first customizable, fully-integrated factory solution for direct digital production


Figure 4 Production combines the design flexibility of additive manufacturing in configurable, in-line production cells to deliver a customizable and automated direct 3D production solution.

Figure 4® Production

Customizable, fully-integrated solution for direct 3D production of 1 million+ parts per year

Figure 4 Production is the industry's first scalable, fully integrated additive manufacturing solution with ultra-fast speed enabling throughput improvement up to 15 times over other 3D printing systems and up to 20 percent lower parts cost compared to traditionally manufactured parts and operations*. Features like automated printing and material delivery streamline operations and lower total ownership costs.

Control Cell   Print Engine Cells
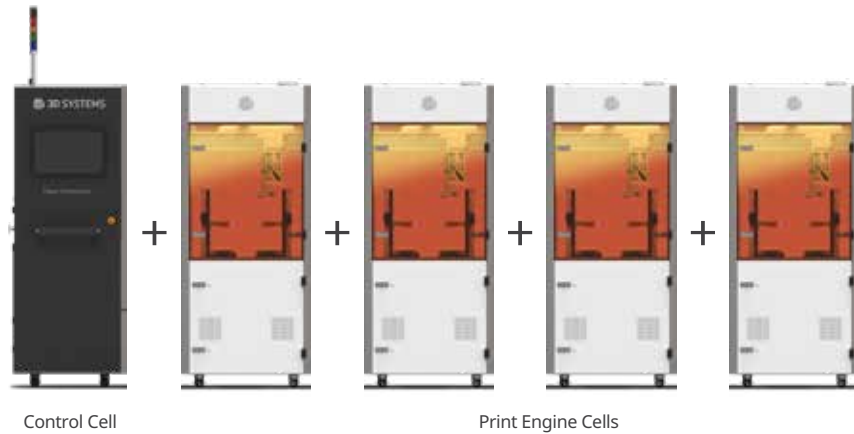
LEADING THROUGHPUT

Recent data highlights Figure 4 Production part print speeds up to 65 mm/hour, and prototyping speeds of up to 100 mm/hour. The combination of print automation and light-based UV curing transforms parts production, yielding the world's fastest additive manufacturing throughput, with time-to-part in minutes. In contrast, heat-based curing specialty systems require hours of post-processing in order to achieve a desired part characteristic.

FLEXIBILITY

Figure 4 Production's scalability and customized configurations enable capacity to meet your present and future needs for unprecedented manufacturing agility. The discrete cells can be placed into automated assembly lines and integrated with secondary processes, including washing, drying and curing.

AUTOMATION

Figure 4 Production is a customized, integrated digital manufacturing solution with an end-to-end digital printing workflow supported by 3D Systems software. Figure 4 Production features up to 15 times faster print speeds than other 3D printing technologies* and automated material handling. The combination of automation and part accuracy offers Six Sigma production printing repeatability across all materials.

* Throughput improvement compared other 3D printing systems based on various use cases on Figure 4 Production; parts cost compared to traditionally manufactured parts and operations at a volume of 500 parts on Figure 4 Production

FIGURE 4 PRODUCTION RIVALS INJECTION MOLDED PART QUALITY WITH TOOL-LESS DIGITAL PRODUCTION TO DELIVER:
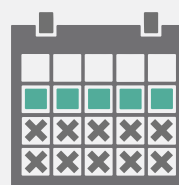

FLEXIBILITY:
Customize product configurations and materials by application

AUTOMATION:
High productivity with minimal hands-on processes

SPEED:
Fast throughput speed for accelerated "parts-in-hand" delivery

TOTAL COST OF OPERATIONS (TCO):
Up to 20% lower part cost* with no time of money lost to tooling

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 Figure 4™ materials addresses a wide variety of applications needs, for functional prototyping, direct production of end-use parts, molding and casting. Figure 4 Production customers also have the option of collaborating with 3D Systems' engineers to create unique materials specifically designed for their application.

RIGID MATERIALS

Figure 4 rigid materials produce durable plastic parts with the look and feel of cast urethane 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

Figure 4 Production is compatible with 3D Systems' entire portfolio of NextDent® materials to facilitate full customization of dental devices. You can also choose from Figure 4 specialty materials for sacrificial tooling, jewelry casting, medical applications requiring biocompatibity and/or sterilization, and more.

See material selector guide and individual material datasheets for specifications on available materials.

Sp 3D Sprint®

End-to-end software solution for Figure 4 workflows

Figure 4 solutions 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. 3D Sprint automatically generates exceptionally efficient supports requiring far less material, which can lead to significant savings.

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 enable better service, improve uptime and deliver production assurance for your system.

Tall parts can be printed with Figure 4 Production

Figure 4® Production

A customizable, fully-integrated solution for direct 3D production

PRINTER HARDWARE

Build Volume (xyz)	124.8 x 70.2 x 346 mm (4.9 x 2.8 x 13.6 in)
Throughput	Up to 1 print job per minute (part geometry dependent)
Resolution	1920 x 1080 pixel
Pixel Pitch	65 microns (0.0025 in) (390.8 effective PPI)
Wavelength	405 nm
Operating Environment Temperature Humidity (RH)	24/7 operation design 18-28 °C (64-82 °F) 20-80%
Electrical	208/120 Vac, 3-phase Y, 60 Hz; 60A (max)
Compressed Air	90 psi min, 2 cfm, dry air
Dimensions (WxDxH) Control Cell crated Control Cell uncrated 4-Print Engine Cell crated 4-Print Engine Cell uncrated	116.8 x 121.9 x 233.7 cm (46 x 48 x 92 in) 76.2 x 132 x 210.8 cm (30 x 52 x 83 in) 116.8 x 121.9 x 233.7 cm (46 x 48 x 92 in) 88.9 x 91.4 x 210.8 cm (35 x 36 x 83 in)
Weight Control Cell crated / uncrated 4-Print Engine Cell crated / uncrated	430.9 kg (950 lbs) / 363 kg (800 lbs) 408.2 kg (900 lbs) / 340 kg (750 lbs)

MATERIALS

Build Materials	See material selector guide and individual material datasheets for specifications on available materials.
Material Packaging	10 kg click-in cartridges for automated replenishment; 2 per printer quad

SOFTWARE AND NETWORK

System Interface	Ethernet, USB host
Native File Format	PXL native via 3D Sprint
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.
Client Hardware Recommendation	• 3 GHz multiple core processor (2 GHz Intel® or AMD® processor mini) with 8 GB RAM or more (4 GB mini) • 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 • 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) • Google Chrome or Internet Explorer 11 (Internet Explorer 9 mini) • 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.

3D SYSTEMS®

Additive Manufacturing Solutions