

# Figure 4® Modular

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> Temperature Humidity (RH)	24/7 operation 5-30 °C (41-86 °F) 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): 122.6 x 72.9 x 209.1 cm (48.2 x 28.7 x 82.3 in) Auxiliary printer (uncrated): 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) 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</b> (purchase separately) Figure 4 UV Cure Unit 350	Load capacity (WxDxH): 124.8 x 70.2 x 346 mm Dimensions (WxDxH): 50 x 57 x 100 cm Full light spectrum: 300-550 nm Controlled temperature for optimal curing 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 Dimensions (WxDxH): 41 x 44 x 38 cm Full light spectrum: 300-550 nm Controlled temperature for optimal curing Weight (uncrated): 22 kg Electrical: 110V/230V, 50/60 Hz, 2.6A/1.3A

## Materials

<b>Build Materials</b>	UV curable plastics: Figure 4™ TOUGH-GRY 10 – Rigid dark gray Figure 4 TOUGH-GRY 15 – Rigid gray Figure 4 FLEX-BLK 10 – Flexible black Figure 4 ELAST-BLK 10 – Elastomeric black Figure 4 TOUGH-BLK 20* – Rigid black Figure 4 MED-AMB 10* – Transparent biocompatible Figure 4 JCAST-GRN* – Jewelry casting
<b>Material Packaging</b>	2.5 kg cartridges for automated replenishment
<b>Material Mixing</b> (purchase separately)	Mixing Roller product recommendations are available upon request

## Software and Network

<b>3D Sprint® 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™ 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. 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® or AMD® 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® 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

\* Expected availability in 2019

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



Print the Future

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# Figure 4™ Materials for Figure 4® Modular

A variety of robust, industrial-grade materials for fast prototyping, casting, elastomeric application and bridge manufacturing



Figure 4 TOUGH-GRY 10



Figure 4 TOUGH-GRY 15



Figure 4 FLEX-BLK 10



Figure 4 ELAST-BLK 10

Properties	Condition	Figure 4 TOUGH-GRY 10	Figure 4 TOUGH-GRY 15	Figure 4 FLEX-BLK 10	Figure 4 ELAST-BLK 10
Description		ABS-like, high-speed	ABS-like, economical	Polypropylene-like, flexible	Design elastomer
Applications		Rapid design iteration, functional testing, short-run manufacturing, RTV molding patterns	Rapid design iteration, functional testing, short-run manufacturing, RTV molding patterns	Rapid design iteration, functional testing, short-run manufacturing, RTV molding patterns	Design verification, validation and testing of rubber parts
Color		Dark Gray	Gray	Black	Black
Viscosity (cps)	at 25 °C	490	780	2108	1200
Solid Density (g/cm <sup>3</sup> )	at 25 °C	1.11	1.12	1.15	1.13
Liquid Density (g/cm <sup>3</sup> )	at 25 °C	1.04	1.04	1.06	1.06
Package Volume		2.5 kg cartridge	2.5 kg cartridge	2.5 kg cartridge	2.5 kg cartridge
Layer Thickness (mm) Standard Mode		0.05	0.05	0.10	0.10
Vertical Build Speed Standard Mode (mm/hr)		78	41	33	47
Draft Mode (mm/hr)		104	68	55	NA
Tensile Strength, Ultimate (MPa)	ASTM D638	50	48	46	3.6
Tensile Strength, at Yield (MPa)	ASTM D638	50	48	37	NA
Tensile Modulus (MPa)	ASTM D638	2180	2120	1400	3.6
Elongation at Break	ASTM D638	25%	35%	104%	83%
Elongation at Yield	ASTM D638	4%	4%	6%	NA
Flexural Strength (MPa)	ASTM D790	75	73	37	NA
Flexural Modulus (MPa)	ASTM D790	2070	1960	990	NA
Notched Izod Impact Strength (J/m)	ASTM D256	29	32	55	NA
Unnotched Izod Impact Strength (J/m)	ASTM D4812	598	599	Did not break	NA
Heat Deflection Temperature at 0.45 MPa	ASTM D648	59 °C	59 °C	52 °C	NA
at 1.82 MPa		51 °C	51 °C	43 °C	NA
Coefficient of Thermal Expansion (ppm/°C) < Tg	ASTM E831	93	96	91	NA
> Tg		165	158	138	NA
Tear Strength (kN/m)	ASTM D624	NA	NA	NA	11
Compression Set	ASTM D395	NA	NA	NA	0.87%
Glass Transition (Tg)	DMA, E''	58 °C	55 °C	18 °C	-26 °C
Hardness, Shore	ASTM D2240	81D	82D	76D	65A
Water Absorption	ASTM D570	0.34%	0.37%	1.40%	1.40%

Warranty/Disclaimer: The performance characteristics of these products may vary according to product application, operating conditions, material combined with, or with end use. 3D Systems makes no warranties of any type, express or implied, including, but not limited to, the warranties of merchantability or fitness for a particular use.