# **HP Jet Fusion 3D Printing Solution**

# Reinventing prototyping and manufacturing





### Superior, consistent part quality

- Get extreme dimensional accuracy and fine detail,<sup>3</sup> thanks to HP's unique Multi-Agent printing process
- Produce truly functional parts with optimal mechanical properties,<sup>4</sup> faster<sup>1</sup>
- Obtain predictable, reliable final printed parts that match your design<sup>5</sup>
- Access new future materials and uncover new applications thanks to the HP Multi Jet Fusion Open Platform

# **Breakthrough productivity**

- Produce more parts per day with continuous printing and fast cooling<sup>1</sup>
- Streamline your workflow with HP's automated materials preparation and post-processing station
- Cleaner experience with an enclosed Processing Station and materials not classified as hazardous<sup>6</sup>
- Rely on HP's world-class Technical Services and Support to maximize uptime and productivity
- Choose your ideal end-to-end solution from a range of printing and processing options

### Lowest cost-per-part<sup>2</sup>

- Achieve lowest cost-per-part<sup>2</sup> and reduce operational costs, opening your doors to short-run manufacturing
- Benefit from a competitively-priced 3D printing solution<sup>2</sup>
- Optimize cost and part quality, with costefficient materials that offer industry-leading reusability<sup>7</sup>
- Plan production times more accurately and predictably, to increase your overall operational efficiency

For more information, please visit hp.com/go/JetFusion3Dsolutions

# **HP Jet Fusion 3D 4200/3200 Printing Solution**

**Easy-to-use solution** that scales with your business. Integrated **end-to-end process** that delivers both functional prototypes and final parts



Breakthrough speed up to 10 times faster¹ thanks to HP's proprietary printing technologies with 30 million drops per second across each inch of the working area



**HP fusing and detailing agents** work with HP Multi Jet Fusion technology and materials to deliver fine details

and dimensional accuracy<sup>3</sup>



**Accurate thermal control** of every layer enables predictive corrections voxel by voxel for optimal mechanical properties<sup>4</sup>



**In-printer quality checks** reported via a touchscreen help minimize errors and enable easy and accurate job progress tracking



HP Jet Fusion 3D 4200/3200 Printer



Image may differ from actual produc

**HP SmartStream 3D Build Manager and Command Centre:** complete, easy-to-use in-box software solutions that streamline your workflow from design to final part



**HP Technical Services and Support** stand behind your business to maximize your uptime and productivity, with next-business-day onsite support<sup>8</sup> and spare parts availability<sup>9</sup>





**Automated material mixing and loading systems** 

help streamline your workflow and reduce labor time



No additional room for parts removal needed with **enclosed unpacking and material collection system,** including a laminar hood

HP Jet Fusion 3D Processing Station with Fast Cooling<sup>1</sup>





The **HP Jet Fusion 3D Build Unit**—included within the printer—is moved on for cooling right after job completion allowing a **continuous printing** process and maximizing productivity<sup>1</sup>



The HP Jet Fusion 3D Fast Cooling Module<sup>1</sup> reduces cooling time resulting in faster<sup>1</sup> time-to-part and more parts ready within the same day



Lowest cost-per-part<sup>2</sup> and minimal powder wastage with **HP 3D High Reusability PA12**—a strong, multi-purpose thermoplastic that optimizes cost and part quality<sup>7</sup>



Accelerated **materials innovation** to drive new, high-performance materials thanks to **HP's Open Platform** 

## **Ordering information**

<u> </u>					
	HP Jet Fusion 3D 4200 printing solution		HP Jet Fusion 3D 3200 printing solution		
Product	M0P44A	HP Jet Fusion 3D 4200 Printer	M0P41A	HP Jet Fusion 3D 3200 Printer	
Accessories	M0P49A	HP Jet Fusion 3D Processing Station with Fast Cooling <sup>1</sup>	M0P42A	HP Jet Fusion 3D Processing Station	
	M0P45A	HP Jet Fusion 3D Build Unit	M0P45A	HP Jet Fusion 3D Build Unit	
Original HP Printheads	F9K08A	HP 3D600 Printhead	F9K08A	HP 3D600 Printhead	
Original HP Agents	V1Q60A	HP 3D600 Fusing Agent 3L	V1Q60A	HP 3D600 Fusing Agent 3L	
	V1Q61A	HP 3D600 Detailing Agent 3L	V1Q61A	HP 3D600 Detailing Agent 3L	
Other supplies	V1Q66A	HP 3D600 Cleaning Roll	V1Q66A	HP 3D600 Cleaning Roll	
Original HP 3D materials	V1R10A	HP 3D High Reusability PA12 30L <sup>10</sup> (13 kg)	V1R10A	HP 3D High Reusability PA12 30L <sup>10</sup> (13 kg)	
Service and support	U9EK5E	HP Installation and Introduction to Basic Operation	U9EJ8E	HP Installation and Introduction to Basic Operation	
	HP Support Contracts (Next Business Day Onsite, Annual)		HP Suppor	t Contracts (Next Business Day Onsite, Annual)	
	U9EK4E	HP 3 year HP Next Business Day Onsite Support	U9EJ7E	HP 3 year HP Next Business Day Onsite Support	
	U9EK7E	HP Operator Training	U9EK0E	HP Operator Training	

# Technical specifications<sup>11</sup>

# HP Jet Fusion 3D 4200 Printer HP Jet Fusion 3D 3200 Printer

Printer	Technology	HP Multi Jet Fusion technology		
performance	Effective building volume	406 x 305x 406 mm (16 x 12 x 16 in)		
	Building speed	<b>3200 Printer:</b> 3500 cm <sup>3</sup> /hr (215 in <sup>3</sup> /hr) <sup>12</sup> <b>4200 Printer:</b> 4500 cm <sup>3</sup> /hr (275 in <sup>3</sup> /hr) <sup>13</sup>		
	Layer thickness	<b>3200 Printer:</b> 0.08 to 0.10 mm (0.003 to 0.004 in) <b>4200 Printer:</b> 0.07 to 0.12 mm (0.0025 to 0.005 in)		
	Print resolution (x, y)	1200 dpi		
Dimensions (w x d x h)	Printer	2178 x 1238 x 1448 mm (85.7 x 48.7 x 57 in)		
	Shipping	2300 x 1325 x 1983 mm (91 x 52 x 78 in)		
	Operating area	3700 x 3700 mm (146 x 146 in)		
Weight	Printer	730 kg (1609 lb)		
	Shipping	900 kg (1984 lb)		
Network	Gigabit Ethernet (10/100/1000Base-T), supporting the following standards: TCP/IP, DHCP (IPv4 only), TLS/SSL			
Hard disk	2 TB (AES-128 encrypted, FIPS 140, disk wipe DoD 5220M)			
Software	Included software	HP SmartStream 3D Build Manager, HP SmartStream 3D Command Center		
	Supported file formats	3mf, stl		
	Certified third-party software	Autodesk® Netfabb® Engine for HP, Materialise Magics with Materialise Build Processor for HP Multi Jet Fusion		
Power	Consumption	9 to 11 kW (typical)		
	Requirements	Input voltage three phase 380 to 415 V (line-to-line), 30 A max, 50/60 Hz / 200 to 240 V (line-to-line), 48 A max, 50/60Hz		
Certification	Safety	IEC 60950-1+A1+A2 compliant; United States and Canada (UL listed); EU (LVD and MD compliant, EN60950-1, EN12100-1, EN60204-1, and EN1010)		
	Electromagnetic	Compliant with Class A requirements, including: USA (FCC rules), Canada (ICES), EU (EMC Directive), Australia (ACMA), New Zealand (RSM)		
	Environmental	REACH		
Warranty		One-year Services and Support coverage <sup>14</sup>		

#### **Eco Highlights**



- Powders or agents and are not classified as hazardous<sup>6</sup>
- Enclosed printing system and automated powder management, including post-processing, for a cleaner and more comfortable environment<sup>6</sup>
- Minimum waste thanks to high reusability of powder<sup>7</sup>
- Take back program for PHs15

Find out more about HP sustainable solutions at hp.com/ecosolutions

#### For more information, please visit

hp.com/go/JetFusion3Dsolutions

- 1. Fast Cooling enabled by HP Jet Fusion 3D Processing Station with Fast Cooling, available in April 2017. HP Post Processing Station with Fast Cooling accelerates parts cooling time versus recommended manufacturer time by SLS printer solutions from \$100,000 USD to \$300,000 USD, as tested in April 2016. FDM not applicable. Continuous printing requires an additional HP Jet Fusion 3D Build Unit (standard printer configuration includes one HP Jet Fusion 3D Build Unit). Based on internal testing and simulation, HP Jet Fusion 3D average printing time is up to 10x faster than FDM & SLS printer solutions from \$100,000 USD to \$300,000 USD on market as of April 2016. Testing variables: Part Quantity-1 full build chamber of parts from HP Jet Fusion 3D at 20% of packing density vs same number of parts on above-mentioned competitive devices; Part Size 30 g; Layer thickness: 0.1 mm/0.004 inches.
- 2. Based on internal testing and public data, HP Jet Fusion 3D average printing cost-per-part is half the cost of comparable FDM and SLS printer solutions from \$100,000 USD to \$300,000 USD on market as of April 2016. Cost analysis based on: standard solution configuration price, supplies price, and maintenance costs recommended by manufacturer. Cost criteria: printing 1-2 build chambers per day/ 5 days per week over 1 year of 30-gram parts at 10% packing density using the powder reusability ratio recommended by manufacturer.
- Based on dimensional accuracy of ±0.2 mm/0.008 inches, measured after sand blasting. See hp.com/go/3Dmaterials for more information on materials specifications.
- Based on the following mechanical properties: Tensile strength at 50 Mpa (XYZ), Modulus 1900
  Mpa (XYZ). ASTM standard tests with PA12 material. See <a href="https://px.ncbi.nlm.nc
- 5. Within allowable margin of error. Based on dimensional accuracy of  $\pm 0.2$  mm/0.008 inches,

### HP Jet Fusion Processing Station with Fast Cooling<sup>1</sup> HP Jet Fusion Processing Station

Features	<b>Processing Station</b> (Only compatible with the HP Jet Fusion 3200 Printer)	Automated mixing, sieving, and loading manual unpacking	
	Processing Station with Fast Cooling¹ (Compatible with the HP Jet Fusion 3200 and 4200 Printers)	Automated mixing, sieving, and loading; semi-manual unpacking; fast cooling; external storage tank; compatible with high-capacity material cartridges	
Dimensions (w x d x h)	Processing Station	1926 x 1245 x 2400 mm (75.8 x 49 x 94.5 in)	
	Processing Station with Fast Cooling <sup>1</sup>	3121 x 1571 x 2400 mm (122.9 x 61.9 x 94.5 in)	
	Shipping		
	Processing Station	2304 x 1176 x 2180 mm (90.7 x 46.3 x 85.8 in)	
	Processing Station with Fast Cooling <sup>1</sup>	3499 x 1176 x 2180 mm (137.8 x 46.3 x 85.8 in)	
	Operating area		
	Processing Station	2126 x 2745 mm (83.7 x 108.1 in)	
	Processing Station with Fast Cooling <sup>1</sup>	3321 x 3071 mm (130.7 x 120.9 in)	
Weight	Processing station	450 kg (992 lb)	
	Processing station (loaded)	700 kg (1543 lb)	
	Processing Station with Fast Cooling <sup>1</sup>	480 kg (1058 lb)	
	Processing Station with Fast Cooling <sup>1</sup> (loaded)	810 kg (1786 lb)	
	Shipping		
	Processing Station:	600 kg (1323 lb)	
	Processing Station with Fast Cooling <sup>1</sup>	620 kg (1367 lb)	
Certification	Safety	IEC 60950-1+A1+A2 compliant; United States and Canada (UL listed); EU (LVD and MD compliant, EN60950-1, EN12100-1, EN60204-1, and EN1010)	
	Electromagnetic	Compliant with Class A requirements, including: USA (FCC rules), Canada (ICES) EU (EMC Directive), Australia (ACMA), New Zealand (RSM)	
	Environmental	REACH	
Warranty		One-year Services and Support coverage <sup>14</sup>	











- measured after sand blasting. See  $\underline{\text{hp.com/go/3Dmaterials}}$  for more information on materials specifications.
- The term "cleaner" does not refer to any indoor air quality requirements and/or consider related air quality regulations or testing that may be applicable. The HP powder and agents do not meet the criteria for classification as hazardous according to Regulation (EC) 1272/2008 as amended.
- 7. HP Jet Fusion 3D print solution with HP 3D High Reusability PA12 has the highest post-production surplus powder reusability with 80% reusability vs any other powder based 3DP technology using PA12 material. Consistent performance with only 20% powder refresh rate.
- 8. Within warranty or Care Pack coverage.
- 9. Next-business-day parts availability in most countries.
- 10.30L refers to the materials container size and not the actual materials volume.
- 11. For latest technical specifications, please visit <a href="https://pecs.precipies.org/lever.12">hp.com/go/3Dprint</a>
  12. Based on 0.08-mm (0.003-in) layer thickness and 10 sec/layer.
- 12. Based on 0.08-mm (0.003-in) layer thickness and 10 sec/lay
- 13. Based on 0.1-mm (0.004-in) layer thickness and 8 sec/layer.
- 14. Only available in certain countries and subject to Terms and Conditions of HP Limited Warranty and/or Service Agreement. Please consult with your local sales representatives for further details.
- 15. Printing supplies eligible for recycling vary by printer. Visit <u>hp.com/recycle</u> to see how to participate and for HP Planet Partners program availability; program may not be available in your area. Where this program is not available, and for other consumables not included in the program, consult your local waste authorities on appropriate disposal.

