# **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 cost-efficient materials that offer industryleading 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/3DPrint

# **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 faster<sup>1</sup> thanks to HP's proprietary printing technologies with 30 million drops per second across each inch of the working area



**HP Jet Fusion 3D** 4200/3200 Printer

**HP fusing and detailing agents** work with HP Multi Jet Fusion technology and materials to deliver fine details and dimensional accuracy3



**Accurate thermal control** of every layer enables predictive corrections voxel by voxel for optimal mechanical properties4



PRINTER



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



Stay connected8: The HP Jet Fusion 3D printing solution collects data to provide a better customer and support experience. Connectivity also drives both higher uptime and remote monitoring of your HP system from anywhere



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



Lowest cost-per-part<sup>2</sup> and minimal powder wastage with HP 3D High Reusability PA 12a strong, multi-purpose thermoplastic that optimizes cost and part quality7



Possibility to print using different materials. The HP Jet Fusion 3D External Tank allows the extraction of recycled material from the Processing Station so it can be replaced by a different material



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



**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



6

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 Module¹ reduces cooling time resulting in

faster<sup>1</sup> time-to-part and more parts ready within the same day





#### **HP Technical Services and Support**

stand behind your business to maximize your uptime and productivity, with next-business-day onsite support9 and spare parts availability9

## **Ordering information**

	HP Jet Fusion 3D 4200 Printing Solution		HP Jet Fusion 3D 3200 Printing Solution	
Printer	M0P44B	HP Jet Fusion 3D 4200 Printer	MOP41A	HP Jet Fusion 3D 3200 Printer
Accessories	M0P49B	HP Jet Fusion 3D 4200 Processing Station with Fast Cooling <sup>1</sup>	MOP50A	HP Jet Fusion 3D 3200 Processing Station with Fast Cooling <sup>1</sup>
	M0P45B	HP Jet Fusion 3D Build Unit	M0P45B	HP Jet Fusion 3D Build Unit
	M0P54B	HP Jet Fusion 3D External Tank 5 units Bundle	M0P54B	HP Jet Fusion 3D External Tank 5 units Bundle
	M0P54A	HP Jet Fusion 3D External Tank Starter kit	MOP54A	HP Jet Fusion 3D External Tank Starter kit
Original HP Printheads	F9K08A	HP 3D600 Printhead	F9K08A	HP 3D600 Printhead
Original HP Agents	V1Q60A	HP 3D600 3L Fusing Agent	V1Q60A	HP 3D600 3L Fusing Agent
	V1Q61A	HP 3D600 3L Detailing Agent	V1Q61A	HP 3D600 3L Detailing Agent
	V1Q63A	HP 3D700 5L Fusing Agent	n/a	n/a
	V1Q64A	HP 3D700 5L Detailing Agent	n/a	n/a
Other supplies	V1Q66A	HP 3D600 Cleaning Roll	V1Q66A	HP 3D600 Cleaning Roll
Original HP 3D materials	V1R10A V1R15A	HP 3D High Reusability PA 12 30L <sup>10</sup> (13 kg) HP 3D High Reusability PA 12 Bundle 12 units 360L (156 kg) <sup>11</sup>	V1R10A	HP 3D High Reusability PA 12 30L <sup>10</sup> (13 kg)
Certified HP 3D materials	V1R14A	VESTOSINT® 3D Z2773 PA 12 30L <sup>10</sup> (14 kg), Certified for HP Jet Fusion 3D printers	V1R14A	VESTOSINT® 3D Z2773 PA 12 30L <sup>10</sup> (14 kg), Certified for HP Jet Fusion 3D printer
Service and Support	U9EJ8E	HP Printer Installation w/Introduction to Basic Operation Service	U9EJ8E	HP Printer Installation w/Introduction to Basic Operation Service
	U9EL9E	HP Processing Station Installation Service	U9EL9E	HP Processing Station Installation Service
	U9EK4E	HP 3 Year NBD* Onsite Hardware Support with DMR**	U9QQ9E	HP 3 Year NBD* Onsite Hardware Support with DMR**
	U9EQ8E	HP 3 year NBD* Onsite Build Unit Support	U9EQ8E	HP 3 year NBD* Onsite Build Unit Support
	U9EM5E	HP 3 year NBD* Onsite Processing Station Support	U9EM5E	HP 3 year NBD* Onsite Processing Station Support
	U9EK7E	HP Advanced Operation Training Service for Jet Fusion 3D Printing Solution	U9EK7E	HP Advanced Operation Training Service for Jet Fusion 3D Printing Solution
	1MZ23A	HP Jet Fusion 3D Printer Initial Maintenance Kit	1MZ23A	HP Jet Fusion 3D Printer Initial Maintenance Kit
	1MZ24A	HP Jet Fusion 3D Printer Yearly Maintenance Kit	1MZ24A	HP Jet Fusion 3D Printer Yearly Maintenance Kit
	1MZ25A	HP Jet Fusion 3D Processing Station Maintenance Kit	1MZ25A	HP Jet Fusion 3D Processing Station Maintenance Kit

## Technical specifications<sup>12</sup>

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

Printer	Technology	HP Multi Jet Fusion technology		
performance	Effective building volume	380 x 284 x 380 mm (15 x 11.2 x 15 in)		
	Building speed	<b>3200 Printer:</b> 2800 cm <sup>3</sup> /hr (170 in <sup>3</sup> /hr) <sup>13</sup> <b>4200 Printer:</b> 4000 cm <sup>3</sup> /hr (244 in <sup>3</sup> /hr) <sup>14</sup>		
	Layer thickness	<b>3200 Printer:</b> 0.08 mm (0.003 in) <b>4200 Printer:</b> 0.07 to 0.08 mm (0.0027 to 0.0031 in)		
	Print resolution (x, y)	1200 dpi		
Dimensions (w x d x h)	Printer	2210 x 1200 x 1448 mm (87 x 47 x 57 in)		
	Shipping	2300 x 1325 x 2068 mm (91 x 52 x 81 in)		
	Operating area	3700 x 3700 x 2500 mm (146 x 146 x 99 in)		
Weight	Printer	750 kg (1653 lb)		
	Shipping	945 kg (2083 lb)		
Network <sup>15</sup>	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	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, Siemens NX AM for HP Multi Jet Fusion		
Power	Consumption	9 to 11 kW (typical)		
	Requirements	Input voltage three phase 380-415 V (line-to-line), 30 A max, 50/60 Hz / 200-240 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 & Service coverage included	One-year limited hardware wa	rranty		

### HP Jet Fusion 4200/3200 Processing Station with Fast Cooling<sup>1</sup>

Features	semi-manual unpacking; fast cooling; external acity material cartridges		
Dimensions (w x d x h)	Processing Station with Fast Cooling <sup>1</sup>	3121 x 1571 x 2400 mm (122.9 x 61.9 x 94.5 in)	
	Shipping	3499 x 1176 x 2180 mm (137.8 x 46.3 x 85.8 in)	
	Operating area	3321 x 3071 x 2500 mm (130.7 x 120.9 x 99 in)	
Weight	Processing Station with Fast Cooling <sup>1</sup>	480 kg (1058 lb)	
	Loaded	810 kg (1786 lb)	
	Shipping	620 kg (1367 lb)	
Power	Consumption	2.6 kW (typical)	
	Requirements	Input voltage single phase 200-240 V (line-to-line), 19 A max, 50/60Hz or 220 -240 V (line-to-neutral), 14 A max, 50Hz	
Certification	Safety	UL 2011, UL508A, NFPA, C22.2 NO. 13-14 compliant; United States and Canada (UL listed); EU (MD compliant, EN 60204-1, EN 12100-1 and EN 1010)	
	Electromagnetic	Compliant with Class A requirements, including: USA (FCC rules), Canada (ICES), EU (EMC Directive), Australia (ACMA), New Zealand (RSM)	
	Environmental	REACH	
Warranty & Service coverage included	One-year limited hardware warranty		

## 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 Printheads<sup>16</sup>

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

#### For more information, please visit

hp.com/go/3DPrint















- 1. Based on internal testing and simulation, HP Jet Fusion 3D average printing time is up to 10x faster than average printing time of comparable FDM & SLS printer solutions from \$100,000 USD to \$300,000 USD to 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 versus same number of parts on abovementioned competitive devices; Part Size 30 g; Layer thickness: 0.1 mm/0.004 inches.
  Fast Cooling enabled by HP Jet Fusion 3D Processing Station with Fast Cooling, available in July 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 HI Jet Fusion 3D Build Unit (standard printer configuration includes one HP Jet Fusion 3D Build Unit).
- 2. Based on internal testing and public data, HP Jet Fusion 3D average printing cost-per-part is half the average cost of comparable FDM & 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 build chamber per day/5 days per week over 1 year of 30-gram parts at 10% packing density using HP 3D High Reusability PA 12 material, and the powder reusability ratio recommended by manufacturer.
- Based on dimensional accuracy of ±0.2 mm/0.008 inches, measured after sand blasting with HP 3D High Reusability PA 12 material. See <a href="hp.com/go/3Dmaterials">hp.com/go/3Dmaterials</a> for more information on materials specifications.
- Based on the following mechanical properties: Tensile strength at 48 MPa (XYZ), Modulus at 1700-1800 MPa (XYZ). ASTM standard tests with HP 3D High Reusability PA 12 material. See <u>hp.com/go/3Dmaterials</u> for more information on materials specifications.
- 5. Within allowable margin of error. Based on dimensional accuracy of ±0.2 mm/0.008 inches,

- measured after sand blasting with HP 3D High Reusability PA 12 material. See <u>hp.com/</u>
- go/3Dmaterials for more information on materials specifications.

  6. 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 PA 12 has the highest post-production surplus powder reusability with 80% reusability vs any other powder based 3DP technology using PA 12 material. Consistent performance with only 20% powder refresh rate.
- 8. For advanced data features charges may apply in the future.
- Available in most countries, subject to Terms & Conditions of HP Limited Warranty and/or Service Agreement. Please consult your local sales representatives for further details.
- $10.\,30L\,refers\,to\,the\,materials\,container\,size\,and\,not\,the\,actual\,materials\,volume.$
- 11. Only available until September 2017.
- 12. For latest technical specifications, please visit hp.com/go/3Dprint
- 13. Based on 0.08-mm (0.003-in) layer thickness and 10.9 sec/layer.
- 14. Based on 0.1-mm (0.004-in) layer thickness and 9 sec/layer.
- 15. The HP Jet Fusion 3D Printing Solution should be connected to the HP Cloud in order to guarantee the correct functioning of the printer and to offer better support.
- 16. Printing supplies eligible for recycling vary by printer. Visit hp.com/recycle 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.

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