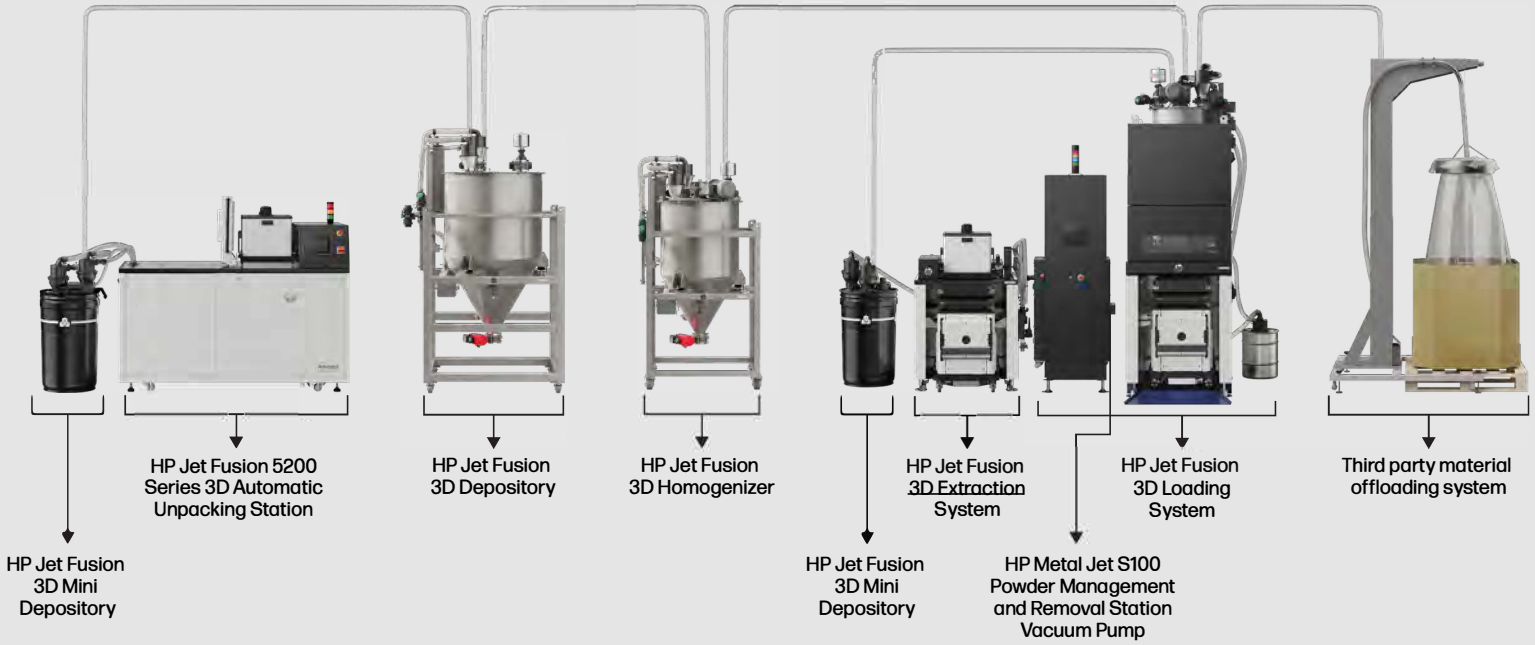
HP 3D Printing Automation

Achieve a whole new level of productivity for at-scale production-via reduced manual labor and increased operational efficiency. This is the time to experience a more predictable, controlled, and automated HP Multi Jet Fusion production solution.



HP Jet Fusion 3D Powder Handling Automation Solution[1]

Drive higher productivity, reduce manual labor, and ensure consistent material quality with the HP Jet Fusion 3D Power Handling Automation Solution.

HP Jet Fusion 3D Powder Handling Automation

Cost reduction[3]

- Reduce human labor associated with HP Multi Jet Fusion material handling processes and increased labor efficiency.[2]
- Flexibility for powder mix ratios, tailored to specific application requirements.
- Cut costs per build[4] associated with typical material usage inefficiencies and productivity loss.

Improved productivity[5]

- Shorten cycle times throughout the material handling process.
- Increase material usage efficiency by reducing material loss and waste.
- Increase your capacity through automated material handling that supports multiple HP 3D Printing Solutions.[6]

Consistent quality[7]

- Consistent material quality through a defined procedure for powder quality control.[7]
- Operational traceability material handling, to track powder flow, material lots, and powder generations.

Technical specifications

FEATURES	Automated material transport from unpacking station and fresh material supply; high-capacity recycled material storage; recycled material homogenization for consistent performance; fast automated mixing and build unit loading; automated job transfer to cooling unit; permanent monitoring of material levels; material sampling access for quality control; operator station for centralized control; API connectivity for integration with factory MES software.	
PRODUCT PERFORMANCE	Mixed material preparation[1]	17 min
	Full job build unit load[2]	6 min
	Transfer full job and prepare build unit	20 min
	Recycled material storage capacity[3]	336 Kg (741 lb)
	Recycled material homogenizer capacity[3]	170 Kg (375 lb)
	Mixer capacity[3]	47 Kg (104 lb)
	Number of MJF printers supported[4]	Up to 20 printers

1 Average preparation time with recommended modules layout and default mixing time
2 Average load time for HP 3D High Reusability PA12 at 25 °C and 50% Relative Humidity
3 For an average powder bulk density of 0.42 g/cm3
4 Working at 3 shifts, 7 days a week and using Robust Print mode

PRODUCT COMPATIBILITY	HP Jet Fusion 5200 Series 3D Printing Solutions HP Jet Fusion 5600 Series 3D Printing Solutions HP Jet Fusion 5200 Series 3D Automatic Unpacking Station
MATERIAL COMPATIBILITY	HP 3D High Reusability PA 12
POWER	Requirements: 380-415 V / 480 V, 50/60 Hz, 3 Phases Consumption: 16 A max, 7 kW

COMPRESSED AIR REQUIREMENTS	Minimum air pressure:	7 bar
	Minimum air flow:	500 liters per minute

NETWORK	Gigabit Ethernet (10/100/1000Base-T), supporting the following standards: TCP/IP, DHCP (IPv4 only), TLS/SSL

DIMENSIONS (W X D X H)	Dimensions W D H	Shipping	Operating area
HP Jet Fusion 3D Loading System	2400 x 2200 x 3260 mm (94.5 x 86.6 x 128.3 in) Includes the electrical cabinet	3800 x 1750 x 2340 mm (149.6 x 68.9 x 92.1 in)	6500 x 4650 x 3260 mm (255.9 x 183.1 x 128.3 in)
HP Jet Fusion 3D Extraction System	950 x 1400 x 1700 mm (37.4 x 55.1 x 66.9 in)	1650 x 1550 x 1710 mm (65.0 x 61.0 x 67.3 in)	
HP Metal Jet S100 Powder Management and Removal Station Vacuum Pump	1010 x 580 x 1220 mm (39.8 x 22.8 x 48.0 in)	1210 x 840 x 1480 mm (47.6 x 33.1 x 58.3 in)	
HP Jet Fusion 3D Mini Depository	1600 x 1160 x 1500 mm (63.0 x 45.7 x 59.1 in)	1695 x 1255 x 1665 mm (66.7 x 49.4 x 65.6 in)	
HP Jet Fusion 3D Depository	1400 x 1500 x 2600 mm (55.1 x 59.1 x 102.4 in)	2875 x 1610 x 1750 mm (113.2 x 63.4 x 68.9 in)	2200 x 1930 x 2700 mm (86.6 x 76 x 106.3 in)
HP Jet Fusion 3D Homogenizer	1100 x 1300 x 2350 mm (43.3 x 51.2 x 92.5 in)	1445 x 1445 x 2315 mm (56.9 x 56.9 x 91.1 in)	1920 x 1750 x 2350 mm (75.5 x 68.9 x 92.5 in)

WEIGHT	HP Jet Fusion 3D Loading System	1130 Kg (2491 lb) Includes the electrical cabinet	1674 kg (3691 lb)
	HP Jet Fusion 3D Extraction System	365 kg (805 lb)	455 kg (1003 lb)
	HP Metal Jet S100 Powder Management and Removal Station Vacuum Pump	150 kg (331 lb)	235.4 kg (519 lb)
	HP Jet Fusion 3D Mini Depository	215 kg (474 lb)	325 kg (716 lb)
	HP Jet Fusion 3D Depository	430 kg (948 lb)	710 kg (1565 lb)
	HP Jet Fusion 3D Homogenizer	390 kg (860 lb)	535 kg (1179 lb)

Certifications and statement:	Safety: EU (MD Compliant, EN 60204-1, EN ISO 12100, EN 1127-1, EN ISO 13849-1) Electromagnetic: EU (RED Directive Compliant with Class A requirements), USA (FCC rules), Canada (ICES), Korea (KCC)
Environmental ranges:	Operation temperature: 20-30°C (68-86°F) Operating humidity:30-80% without condensation
Warranty & service included:	One- year limited hardware warranty

Ordering information

DEVICE	7L4S6A	HP Jet Fusion 3D Loading System
	7L4S9A	HP Jet Fusion 3D Extraction System
	7L4S5A	HP Jet Fusion 3D Mini Depository
	6L053A	HP Metal Jet S100 Powder Management and Removal Station Vacuum Pump
	7L4S3A	HP Jet Fusion 3D Depository
	7L4S4A	HP Jet Fusion 3D Homogenizer
	7Q9X2A	HP 3D Powder Handling Automation Control Solution
	2W883A	HP Jet Fusion 5200 Series 3D Automatic Unpacking Station
	*HP Jet Fusion 3D Powder Handling Automation Solution is compatible with third party material offloading systems. Please consult with your local HP representative for recommended options.	
ACCESSORIES	U67P4E	HP Jet Fusion 3D Powder Handling Automation Uptime Kit
SERVICES	U67P5E	HP Installation Service for HP Jet Fusion 3D Powder Handling Automation Solution
	U67SBE	HP 1 year Post-Warranty Next Business Day Onsite Hardware Support with Shared Care for Jet Fusion 3D Powder Handling Automation Solution
	U67PBE	HP Jet Fusion 3D Powder Handling Automation Discovery Service
	U67P9E	HP Jet Fusion 3D Powder Quality Control and Optimization Service
	U23HNE	HP Train to Maintain Training for HP Jet Fusion 5200 Series 3D Automatic Unpacking Station
	U23HJE	HP Installation Service for HP Jet Fusion 5200 Series 3D Automatic Unpacking Station

Learn more about HP Jet Fusion 3D Powder Handling Automation Solution at: hp.com/JetFusion5600
Connect with an HP 3D Printing expert or sign up for the latest news about HP Jet Fusion 3D Printing: hp.com/go/3Dcontactus
For more information, please visit: bechtle-am.com

1. Compatible with the HP Jet Fusion 5200/5600 Series 3D Printing Solution and HP 3D High Reusability PA 12, enabled by Evonik.
2. Materials, labor, and productivity will vary depending on the specific applications and factory.
3. Compared to the HP Jet Fusion 5200 Series 3D Printing Solution with the HP Jet Fusion 5200 3D Processing Station, as of April 2023. With HP Jet Fusion 3D Powder Handling Automation, manual labor time is reduced from approximately 60 minutes to approximately 15 minutes per operator, assuming unpacking is carried out with the HP Jet Fusion 5200 Series 3D Automatic Unpacking Station and the operator is busy during the entire extraction process. These times can vary according to how the phases of extraction, cleaning, loading, unpacking, and batch powder recovery are carried out, as well as the build height, part geometry, and packing density.
4. Total cost savings will depend on the value associated with the grand total of powder that is lost due to inefficiencies. It will depend on the number of total builds, recycled versus fresh powder ratio used, and manual operations to perform the workflow.
5. Compared to the HP Jet Fusion 5200/5600 Series 3D Printing Solution, as of April 2023. Total time savings depends on the build height, part geometry, packing density, and manual time to perform the workflow. With the HP Jet Fusion 3D Powder Handling Automation Solution, there is a time savings (in cycle times) of approximately 40 minutes, assuming unpacking is carried out with the HP Jet Fusion 5200 Series 3D Automatic Unpacking Station.
6. Simulations were carried out with HP 3D High Reusability PA 12 in Robust Print Mode. Results show that the maximum number of printers that the HP Jet Fusion 3D Powder Handling Automation Solution can feed without loss of productivity is up to 20 printers.
7. Through HP 3D Powder Quality Control and Optimization services, customers will learn which powder attribute to measure, how to measure, when, how often, and with what equipment.

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