HP Metal Jet. Reinvent opportunities.

Take on new jobs and unlock new revenue streams. Produce complex parts and new applications, in cost-effective high-volume runs.

HP Metal Jet printing process

- Spread powder
- Print agent
- Evaporation and binding
- Cure the bed
- Decaking
- Sintering and finishing

Up to 50X more productive

- Binder jetting build size for high volumes, large parts
- Save time—no tooling
- Produce complex, functional parts on-demand
- Multiple design iterations in just days
- Consolidate parts, simplify assembly
- Fewer steps—no debinding required

Each printhead produces a 108-mm (4.25-inch) print swath with two independent columns of 5,280 nozzles that are spaced 1,200/\text{inch} in each column. There are two independent supply ports for HP Binding Agent, and two built-in pressure regulators.

HP Thermal Inkjet printheads—printhead and nozzle arrangement

- HP Binding Agent supply ports (2)
- Pressure regulators (2)

Printhead arrangement on print carriage

- 320 mm (12.6 in)
- 200 mm (7.9 in)
- 430 mm (16.9 in)
- 320 mm (12.6 in)

Four nozzles print in the same 1/1200-inch dot row

- 4X nozzle redundancy: up to four different nozzles can print HP Binding Agent in the same 1200 dpi grid point on the powder bed

HP Binding Agent: Key enabler for higher quality and productivity

A time-consuming debinding process is unnecessary with HP Metal Jet. With HP Metal Jet, the green part can be up to 99% metal by weight. In metal injection molding (MIM), feedstocks are typically less than 93%. MIM requires a debinding process to remove the wax that can add up to 20 hours to the MIM workflow. HP Binding Agent also allows thicker-walled parts to be produced faster as HP Metal Jet’s low polymer loading effectively decomposes more rapidly than the higher load of MIM polymers under sintering temperatures.

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1. Based on comparable competitive binder jetting and selective laser melting (SLM) metals 3D printing solutions available as of July 31, 2018. Productivity claim based on: 1) up to 50 times more productive, on average, based on print speed for serial production up to 100,000 parts, and 2) solution acquisition cost.
2. Low cost based on comparable competitive binder jetting and selective laser melting (SLM) metals 3D printing solutions available as of July 31, 2018.
3. Compared to selective laser melting (SLM) and based on internal testing of HP Metal Jet technology, as of September 2018.

For more information visit hp.com/go/3Dmetals

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