



RenAM 500 Flex additive manufacturing system

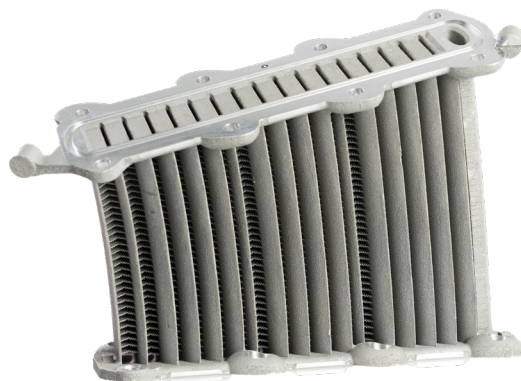
The RenAM 500 Flex is Renishaw's metal additive manufacturing (AM) system specifically optimised for material flexibility, short run production and R&D applications. It uses the same laser powder bed fusion (LPBF) technology featured in the RenAM 500 series, with one, two or four full-field lasers and industry-leading gas flow, within a compact frame.

The RenAM 500 Flex features a gravity-fed, open powder-handling system. New powder enters through the top-mounted hopper, is used during the printing process and is then directed into overflow hoppers for external sieving and reuse. The system's flexibility in powder choice accelerates the qualification of material properties and process parameters, enhancing the part design process.

The simplicity of the system's powder pathway maximises raw material recovery, making the RenAM 500 Flex ideal for applications involving high-value or limited-quantity materials, such as precious metals and novel alloys.

Product features:

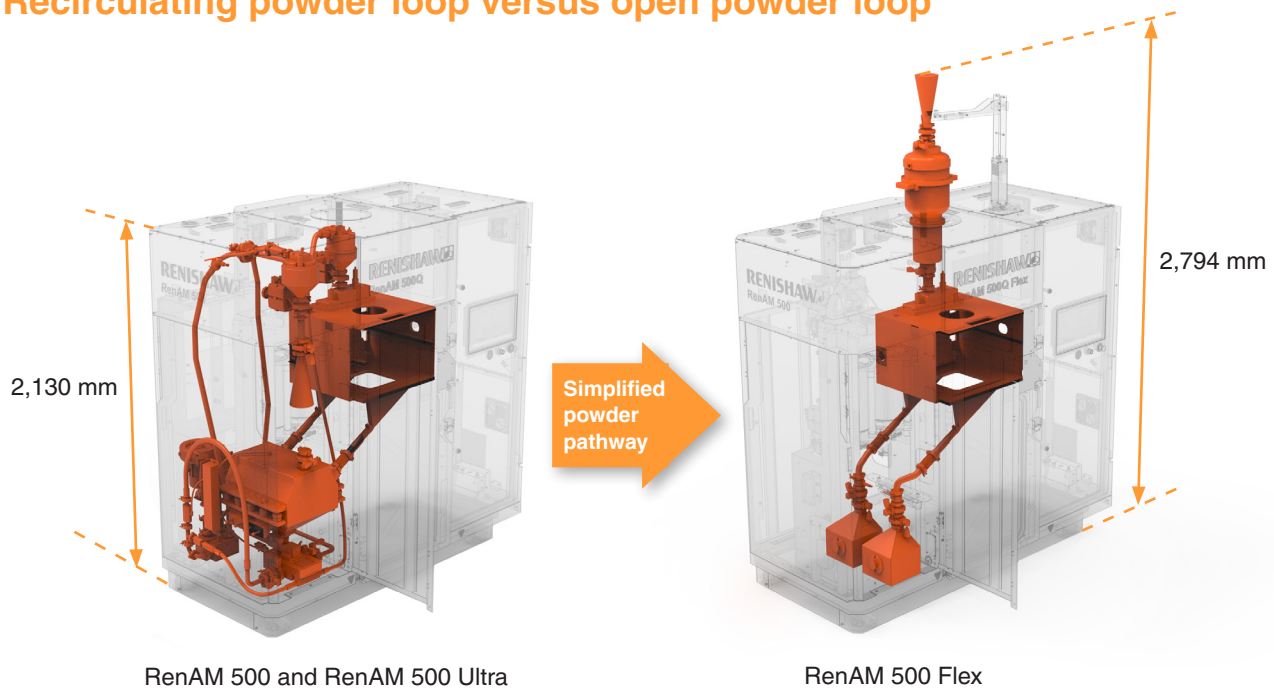
- Reliable, gravity-fed powder system
- Optimised gas flow system
- High precision laser control
- Exceptional metallurgical performance
- Compatible with smart manufacturing software
- All parts of the powder system can be accessed, cleaned and/or replaced if necessary
- Upgradable to a recirculating powder system



Machine information

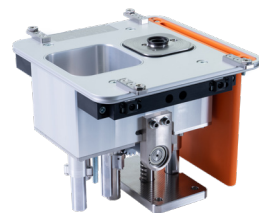
Laser configuration	1x (500S), 2x (500D) or 4x (500Q) 500 W ytterbium fibre laser(s)			
Beam focus diameter	80 µm with dynamic focus			
Build volume (X × Y × Z)	250 mm × 250 mm × 350 mm			
Machine size (length x width x height)	2,165 mm x 1,236 mm x 2,794 mm			
Compatible software	QuantAM, InfiniAM Camera, InfiniAM Spectral, Renishaw Central			
Hopper sizes	Small	Medium	Large	Extra flask
	10.2L	13.6L	24.8L	+1.7L

Recirculating powder loop versus open powder loop



Materials development

For the ultimate in research and development, combine a RenAM 500 Flex with a Reduced Build Volume (RBV) kit. With the RBV accessory installed, you can conduct material prove-outs using as little as 0.25 litres of powder, while maintaining the same processing environment and optics as the full-scale production system.



Transfer and upgrade

Once you've completed part development, transferring laser parameters to other models in the RenAM 500 series for full-scale production is seamless due to the common platform architecture. You can also upgrade the system to use a closed loop powder recirculation system to better suit future serial production applications.

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#renishaw

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