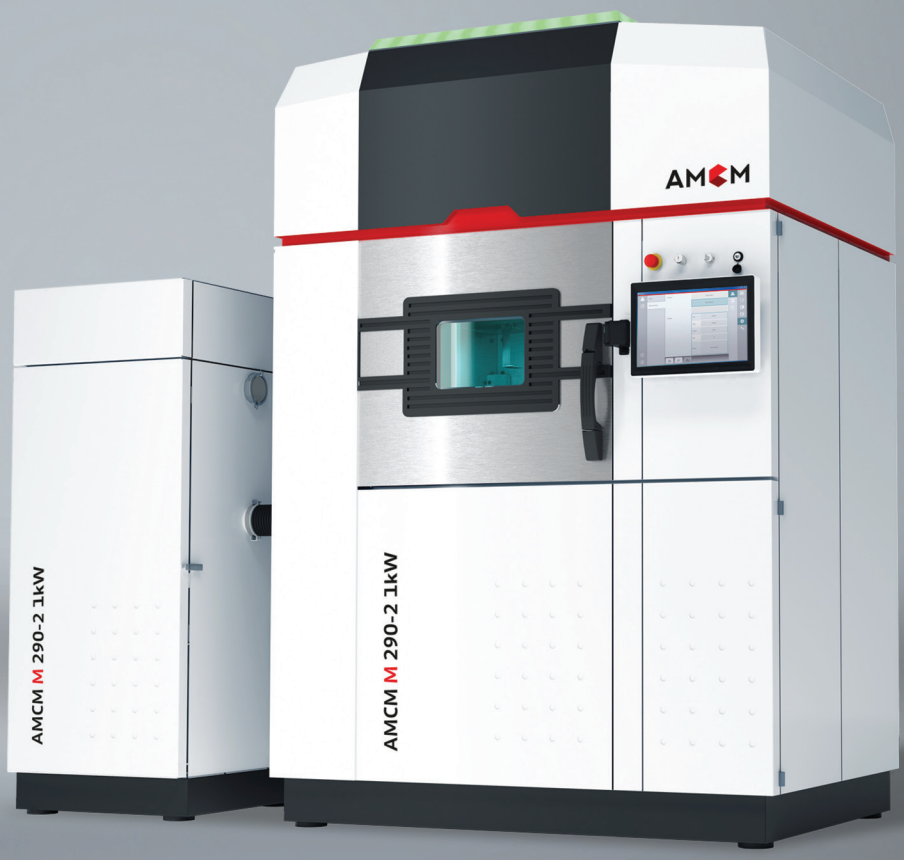
Additive Manufacturing
Customized Machines

AMCM M 290

As 400 W system with FDR –
fine detail resolution or kilowatt
system with dual laser setup.

Optimized for your applications.



AMCM M 290

Benefits

AMCM M 290-2 FDR
configuration with 2 x 400 W and FDR (fine detail resolution):

- For demanding applications with finest structures down to 100 µm
- Open software for process optimization
- High productivity due to dual laser setup

AMCM M 290-2 1kW
configuration with up to 2 x 1 kW lasers:

- Compatible with legacy EOS M 290 (400 W) process parameter sets (same focus, beam quality, etc.) [1]
- Increased productivity for multiple materials (e.g. Al and Cu)
- Excellent part properties (e.g. Cu density, electrical conductivity)
- Ability to pre-develop 1 kW processes on a mid-size platform for later transfer to other single or multi-laser platforms (e.g. AMCM M 450-4 1kW or AMCM M 4K-x)
- Process gas cooling for constant process conditions
- Open software for process optimization for high laser power
- Single or dual laser setup with full field overlap
- Can be equipped with various modules if the system is prepared accordingly: building volume reduction, cooling and 500°C heating

Technical Data

	AMCM M 290-2 FDR	AMCM M 290-2 1kW
Building volume	250 x 220 x 325 mm | 9.85 x 8.65 x 12.8 in (height incl. build plate)	250 x 250 x 325 mm | 9.85 x 9.85 x 12.8 in (height incl. build plate)
Laser type	Yb Fiber laser	
Nominal power	2 x 400 W	2 x 1 kW
Wave length	1070 nm	
Precision optics	F-theta-lens	
Scanner	digital scanner with active cooling	
Scanning speed	up to 7.0 m/s | 23 ft./sec	
Focus diameter	approx. 40 µm | 0.0016 in	approx. 85 µm | 0.003 in
Process gas cooling	–	x
Power supply	32 A / 400 V	
Power consumption	15 kW	17 kW
Inert gas supply	7,000 hPa; 20 m^3/h | 102 psi; 706 ft^3/h	
Dimensions (W x D x H)	2,680 x 2,120 x 2,400 mm | 105.5 x 83.5 x 94.5 in	
Recommended installation space	min. 4,800 x 3,600 x 3,500 mm | 189 x 142 x 138 in	
Weight	approx. 1,350 kg | 2,756 lb	

[1] Processes must all be re-qualified by customer.
Consulting for parameter set transfer from EOS M 290 (400 W) to AMCM M 290-1 1 kW on request.

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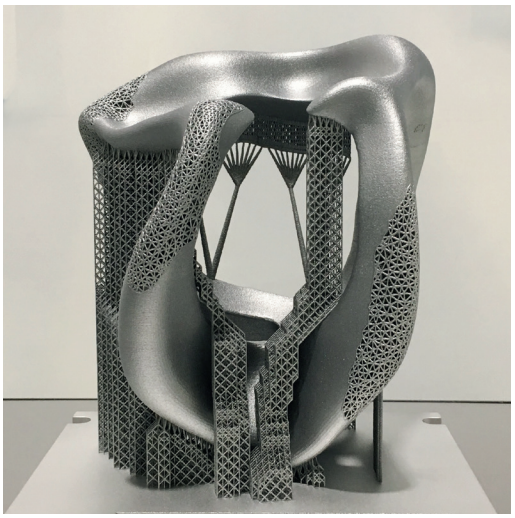

Fig 1: AlSi10Mg demo part manufactured in segments with dynamic adaptive parameter sets (AMCM M 290-2 1kW).
Volume rate: 24 up to 64 mm³/s
Source: EOS Innovation Center Düsseldorf

Fig 2: CuCP demo part (AMCM M 290-2 1kW).
Source: Conflux technology

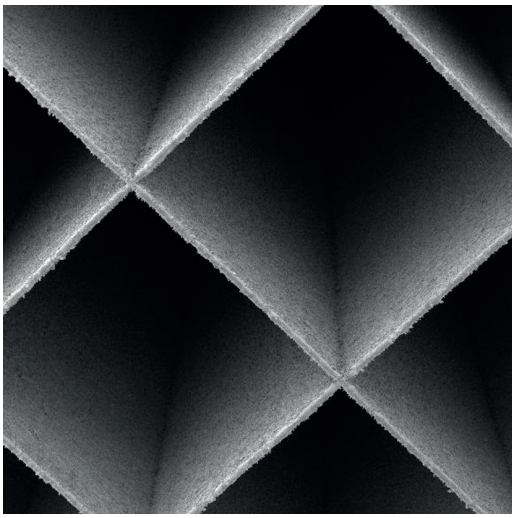

Fig 3: Tungsten anti-scatter-grid with 100 µm wall thickness made possible with fine detail resolution (AMCM M 290-2 FDR).

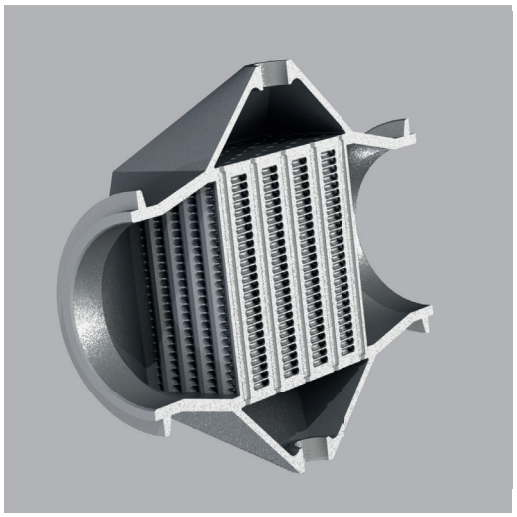

Fig 4: AlSi10Mg gas cooler for process gas cooling built into AMCM M 290 systems – 3D printed on AMCM M 290-2 1kW.

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