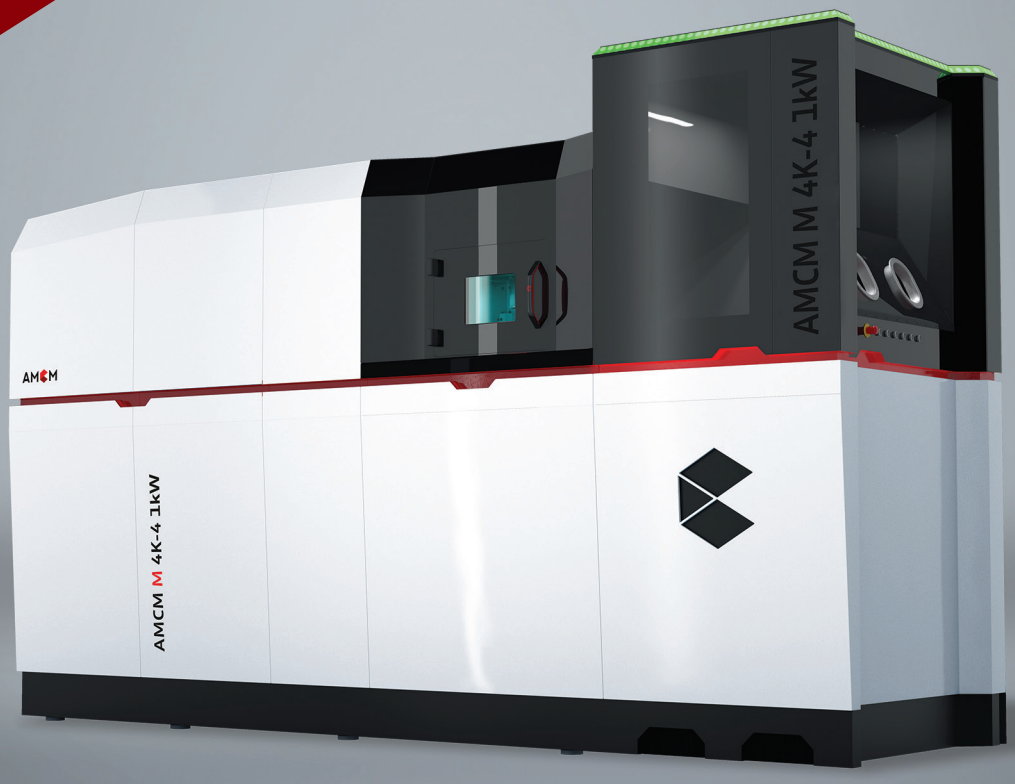
AMCM

Additive Manufacturing
Customized Machines

AMCM M 4K

Large scale, high productivity system
for demanding AM applications.
1 meter building height with up to
4 x 1.2 kW laser power.

Think big.



AMCM M 4K

Benefits

- Compatible with legacy EOS M 400-4 process parameter sets (same focus, beam quality, etc.) [1]
- Large building volume of 450 x 450 x 1,000 mm
- Quattro optical setups available with 400 W, 1 kW or 1.2 kW nLIGHT laser
- Optimized gas flow nozzle for larger build volume
- Powder handling option for semi-automatic (open loop) or full-automatic (closed loop) operation
- Robust welded machine frame design
- Calibration and overlap adjustment with SmartCAL
- Open software for process optimization
- Exposure OT, Smart Fusion and PowderBed monitoring available
- 1.2 kW AFX nLIGHT laser with beam shaping can be integrated (AMCM M 4K-4 FLX)

Technical Data

	AMCM M 4K-4 1kW	AMCM M 4K-4 FLX
Building volume	450 x 450 x 1,000 mm | 17.72 x 17.72 x 39.37 in	
Laser type	Yb Fiber laser	
Nominal power	4 x 1 kW	4 x 1.2 kW
Wave length	1,070 nm	
Precision optics	F-theta-lens	
Scanner	high-speed scanner with active cooling	
Scanning speed	up to 7.0 m/s | 23 ft./sec	
Focus diameter	approx. 85 µm | 0.003 in	85 - 210 µm | 0.003 - 0.008 in
Process gas cooling	gas cooling unit	
Power supply	63 A / 400 V	
Power consumption	35 kW	40 kW
Inert gas supply	7,000 hPa; 20 m³/h | 102 psi; 706 ft³/h	
Dimensions with conveyer (W x D x H)	6,340 x 3,450 x 3,900 mm | 250 x 136 x 154 in	
Recommended installation space	~90m²	
Weight	approx. 9,300 kg | 20,503 lb	

Fig 1: AlSi10Mg demo part
1,000 mm height, Ø 380 mm
Build time: ~ 73 hours
system: AMCM M 4K-1 1kW

Fig 2: CuCrZr demo part.
The first ever 1,000 mm
CuCrZr AM part.
system: AMCM M 4K-1 1kW

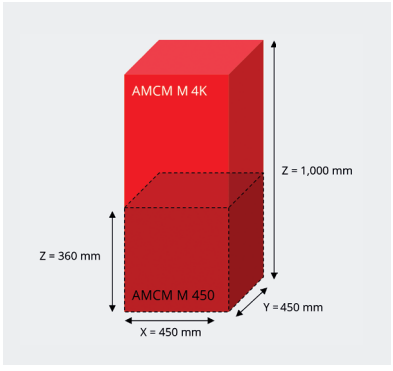


Fig 3: Building volume ratio AMCM M 450
and AMCM M 4K.

[1] Processes must all be re-qualified by customer.
Consulting for parameter set transfer, e.g. from EOS M 400-x to AMCM M 4K-x on request.

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