



Additive Manufacturing  
Customized Machines



# AMCM M 290 1kW

Increased productivity for demanding AM materials.

**Enable new materials.**

# AMCM M 290 1kW

## BENEFITS

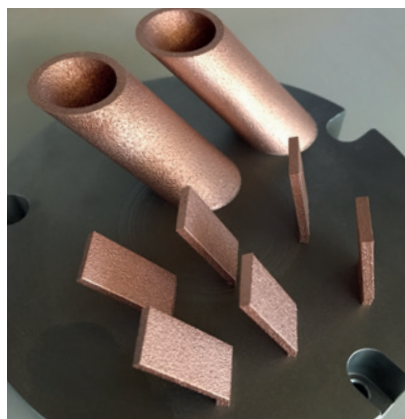
- Increased productivity for multiple materials (e.g. Al and Cu)
- Excellent part properties (e.g. Cu density, electrical conductivity)
- Compatible with legacy M 290 400W process parameter sets (same focus, beam quality, etc.)<sup>(1)</sup>
- Ability to pre-develop 1 kW processes on a mid-size platform (M 290 1kW) for later transfer to other single or multi-laser platforms (e.g. M 450 or M 4K)
- M 290 1kW available as new system or upgrade (upgrade can be performed on-site)
- Process gas cooling for constant process conditions
- Open software for process optimization with power high laser

## TECHNICAL DATA

<b>Building volume</b>	250 x 250 x 325 mm   9.85 x 9.85 x 12.8 in (height incl. build plate)
<b>Laser type</b>	Yb Fiber laser 1 kW nominal power
<b>Wave length</b>	1070 nm
<b>Precision optics</b>	F-theta-lens
<b>Scanner</b>	new high-speed scanner with active cooling
<b>Scanning speed</b>	up to 7,0 m/s   23 ft./sec
<b>Focus diameter</b>	approx. 100 µm   0.004 in
<b>Process gas cooling</b>	additional gas cooling unit
<b>Power supply</b>	32 A / 400 V
<b>Power consumption</b>	max. 13,6 kW / average 2,4 kW / with platform heating up to 3,2 kW
<b>Inert gas supply</b>	7.000 hPa; 20 m³/h   102 psi; 706 ft³/h
<b>Dimensions (W x D x H)</b>	2.500 x 1.300 x 2.190 mm   98.4 x 51.2 x 86.2 in
<b>Recommended installation space</b>	min. 4.800 x 3.600 x 2.900 mm   189 x 142 x 114 in
<b>Weight</b>	approx. 1.250 kg   2,756 lb



**Fig 1:** AlSi10Mg demo part manufactured in segments with dynamic adaptive parameter sets. Volume rate: 12 up to 32 mm³/s  
Source: EOS Innovation Center Düsseldorf



**Fig 2:** Cu\_cp demo part  
Source: AMCM GmbH



**Fig 3:** Cu\_cp demo part  
Source: Conflux Technology

<sup>(1)</sup> Processes must all be re-qualified by customer.

Consulting for parameter set transfer from M 290 400W to M 290 1kW on request.