



Additive Manufacturing  
Customized Machines



# AMCM M 450-1 and M 450-4

25% more building volume compared to EOS M 400.

**Expand your applications.**

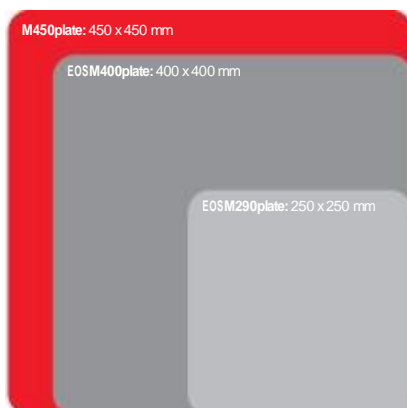
# AMCM M 450-1 and M 450-4

## BENEFITS

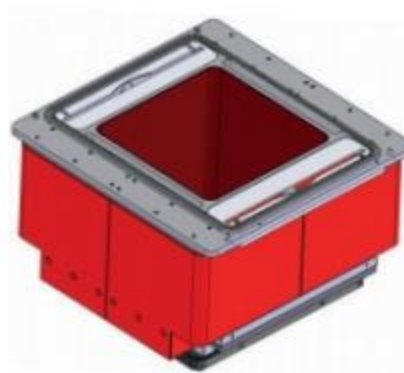
- Larger building envelope of 450 x 450 x 400 mm<sup>(1)</sup>
- Upgrade on site: available for EOS M 400-1 to M 450-1
- As new system: new optical setup for M 450-4 now covering full 450 x 450 mm area
- Compatible with legacy M 400 process parameter sets (same focus, beam quality, etc.)<sup>(2)</sup>
- Calibration and overlap adjustment with SmartCAL 450 x 450 mm<sup>(3)</sup>
- Consumables and options available for M 450 (building plates, recoater blades or soft recoater, etc.)
- Open software for process optimization

## TECHNICAL DATA

<b>Building volume</b>	450 x 450 x 400 mm   17.72 x 17.72 x 15.8 in
<b>Lasertype</b>	Yb Fiber laser M 450-1: 1x 1kW; M 450-4: 4x 400W
<b>Wave length</b>	1070 nm
<b>Precision optics</b>	F-theta-lens
<b>Scanner</b>	high-speed scanner
<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>	3 x 50 A / 400 V
<b>Power consumption</b>	M 450-1: max. 20 kW / typical 16 kW M 450-4: max. 45 kW / typical 22 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>	4.181 x 1.613 x 2.355 mm   164.6 x 63.5 x 92.7 in
<b>Recommended installation space</b>	min. 6.5 x 6 x 3.3 m   256 x 236 x 130 in
<b>Weight</b>	approx. 4.835 kg   10,659 lb



**Fig 1:** Building size ratio of EOS M 290, EOS M 400 and M 450



**Fig 2:** M 450 exchangeable frame design with extended overflow bin volume of 92 l. (fy: M 400 overflow volume 40 l)

<sup>(1)</sup> Building height incl. build plate.

<sup>(2)</sup> Processes must all be re-qualified by customer.

Consulting for parameter set transfer, e.g. from M 400-4 to M 450-4 on request.

<sup>(3)</sup> Overlap calibration tool for 450 x 450 mm (SmartCAL) under development.