AMCM

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 [1]
- 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.) [2]
- Calibration and overlap adjustment with SmartCAL 450 x 450 mm [3]
- Consumables and options available for M 450 (building plates, recoater blades or soft recoater, etc.)
- Open software for process optimization

TECHNICAL DATA

Building volume	450 x 450 x 400 mm | 17.72 x 17.72 x 15.8 in
Laser type	Yb Fiber laser M 450-1: 1x 1kW; M 450-4: 4x 400W
Wave length	1070 nm
Precision optics	F-theta-lens
Scanner	high-speed scanner
Scanning speed	up to 7.0 m/s | 23 ft./sec
Focus diameter	approx. 100 μm | 0.004 in
Process gas cooling	additional gas cooling unit
Power supply	3 x 50 A / 400 V
Power consumption	M 450-1: max. 20 kW / typical 16 kW M 450-4: max. 45 kW / typical 22 kW
Inert gas supply	7.000 hPa; 20 m³/h | 102 psi; 706 ft³/h
Dimensions (W x D x H)	4.181 x 1.613 x 2.355 mm | 164.6 x 63.5 x 92.7 in
Recommended installation space	min. 6.5 x 6 x 3.3 m | 256 x 236 x 130 in
Weight	approx. 4.835 kg | 10,659 lb

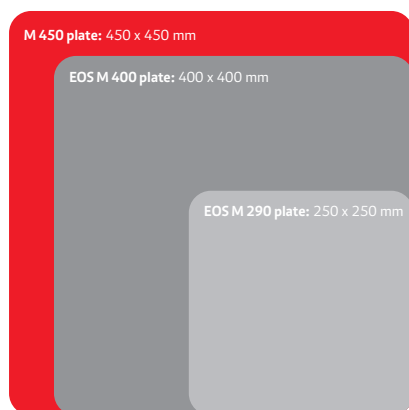**Fig 1:** Building size ratio of EOS M 290, EOS M 400 and M 450
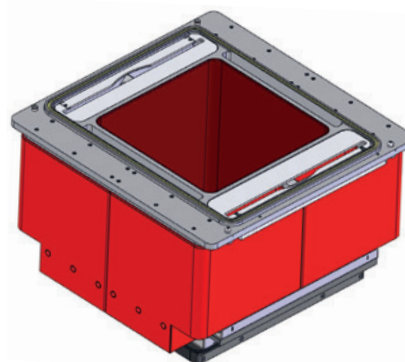

Fig 2: M 450 exchangeable frame design with extended overflow bin volume of 92 l. (fyi: M 400 overflow volume 40 l)

[1] Building height incl. build plate.
[2] 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.
[3] Overlap calibration tool for 450 x 450 mm (SmartCAL) under development.