

EOS M 400

The Additive Manufacturing System for
Industrial Production of High-Quality Large Metal Parts

EOS M 400: EOS Quality for Additive Manufacturing of Large Metal Parts – with High Productivity and Enhanced Quality Management

With a building volume of 400 x 400 x 400 mm, EOS M 400 allows the production of large metal parts on an industrial scale – directly from CAD data and with no need for tools.

Proven quality, high productivity

- EOS M 400 offers well-known and proven Additive Manufacturing quality for new metal applications.
- A 1 kW laser boosts productivity due to higher build rates and increased layer thickness.
- Recoating with powder material from both sides reduces non-productive time.
- A recirculating filter system with automated cleaning reduces filter changes and extends filter lifetime, significantly reducing filter costs.

Modular platform

- EOS M 400 consists of a Process Station and a Setup Station. This modular approach facilitates the easy integration of future innovations.

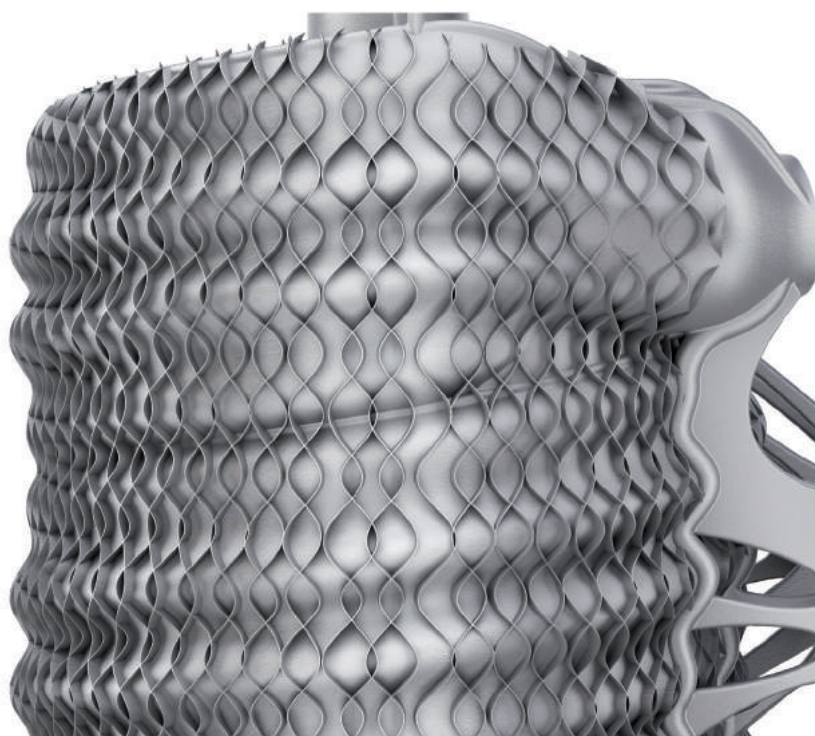
Enhanced Monitoring

- Extensive monitoring features take quality management to a new level.

- A camera integrated into the process chamber monitors the powder bed by taking single images – after recoating and after exposure.
- Parameters such as position of z axis, laser power, scanner position, humidity, temperature and pressure are monitored continuously.

Sophisticated software

- Job preparation and calculation are separated from the building process: the job file prepared at your desk is transmitted via the network, while the system focusses entirely on building parts.
- This maximizes flexibility and efficiency for application development, which can be done offline as the system remains free for building.
- The fast offline job preparation feature enables users to quickly handle complex parts and large job files.



*Oil separator for racing car
built in EOS Aluminium
AlSi10Mg
(Source: Rennteam Uni
Stuttgart, Within Labs)*

Improved usability

- EOS M 400 supports the production of complex metal parts, yet the system is extremely user-friendly.
- Based on customer input, EOS and User Interface Design GmbH (UID) have developed an intuitive graphical user interface.
- This can be operated quickly and easily via a task-based layout on the touch screen.
- The wizard guidance supports the system operator.

Broad materials portfolio

- EOS offers an increasing number of metal materials for the EOS M 400 system.
- With the corresponding ParameterSets, the system produces parts with standardized part property profiles (PPPs).
- The ParameterEditor enables you to modify parameters to meet your individual requirements.

Integrated solutions

Development of EOS systems, powder materials, process parameters, software and services go hand in hand. All elements are optimally aligned. The result: high-quality and cost-effective production of parts with first-class properties for their dedicated application.

Technical Data EOS M 400

Building volume	400 mm x 400 mm x 400* mm (15.8 x 15.8 x 15.8 in) (*including building platform typically 40 mm (1.6 in) thick)
Laser type	Yb-fibre laser; 1 kW
Precision optics	F-theta-lens
Scan speed	up to 7.0 m/s (23 ft/s)
Focus diameter	approx. 90 µm (0.0035 in)
Power supply	50 A
Power consumption	max. 20.2 kW / typical 16.2 kW
Nitrogen generator	integrated
Compressed air supply	7,000 hPa; 20 m³/h (102 psi; 706 ft³/h)

Dimensions (W x D x H; Process Station (with Periphery Station) and Setup Station)

System	4,181 mm x 1,613 mm x 2,355 mm (164.6 x 63.5 x 92.7 in)
Recommended installation space	min. 6.5 m x 6 m x 3.3 m (256 x 236 x 130 in)
Weight	approx. 4,635 kg (10,218 lb)

Data preparation

Software	EOSPRINT; EOS RP Tools; EOSTATE; Materialise Magics RP with SG+ and further modules
CAD interface	STL, optional: converter for all standard formats
Network	Ethernet

EOS GmbH
Electro Optical Systems
Corporate Headquarters
Robert-Stirling-Ring 1
82152 Krailling/Munich
Germany
Phone +49 89 893 36-0
Fax +49 89 893 36-285

Further EOS Offices

EOS France
Phone +33 437 49 76 76

EOS India
Phone +91 44 39 64 80 00

EOS Italy
Phone +39 02 33 40 16 59

EOS Korea
Phone +82 32 552 82 31

EOS Nordic & Baltic
Phone +46 31 760 46 40

EOS of North America
Phone +1 248 306 01 43

EOS Singapore
Phone +65 6430 05 50

EOS Greater China
Phone + 86 21 602307 00

EOS UK
Phone +44 1926 62 31 07

www.eos.info • info@eos.info

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