



EOS M 290

The Additive Manufacturing System for the Production of Serial Components,
Spare Parts and Functional Prototypes Directly in Metal

EOS M 290: The Benchmark for the Additive Manufacturing of High-Quality Metal Parts - with Enhanced Quality Management Features

With a building volume of 250 x 250 x 325 mm, the EOS M 290 allows a fast, flexible and cost-effective production of metal parts directly from CAD data.

Proven quality

- The EOS M 290 is an enhancement of the well-known EOSINT M 280, the leading system on the market for the tool-free manufacture of serial components, spare parts and functional prototypes directly in metal.

Modular Components

- The system is equipped with a 400-watt fibre laser. This type of laser provides an exceptionally high beam quality combined with performance stability.

- The EOS M 290 operates in protective nitrogen as well as argon atmospheres. This allows the system to process a wide range of materials.

Enhanced Monitoring

- Extensive monitoring features take quality management to a new level and comply with the requirements of industrial production.
- EOSTATE PowderBed: A camera integrated in the process chamber monitors the powder bed by taking single images after recoating and after exposure.

- EOSTATE Base: Parameters such as position of z-axis, laser power, scanner position, humidity, temperature and pressure are monitored continuously.
- EOSTATE Laser Monitoring: measures the laser power throughout the entire build time.

Optimized process gas management

- A recirculating filter system with automated self-cleaning allows for fewer filter changes and longer lifetime. This significantly reduces filter costs.

Intuitive software

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



Demonstration part of a nacelle hinge bracket for an Airbus A320 with optimized topology; built in titanium by using an EOS M 290 (Source: Airbus Group Innovations).

Improved Usability

- The system can be operated easily via touch screen. The intuitive, task-based graphical user interface was specifically developed for a production environment.
- The wizard guidance supports the system operator.

Broad materials portfolio

- EOS M 290 supports processing for a wide range of materials: from light metals to stainless and tool steel to superalloys.
- With the EOS ParameterSets, the system manufactures parts with standardized Part Property Profiles (PPPs) for a broad range of applications.
- The ParameterEditor enables you to modify parameters to meet your individual requirements.

Extensive Equipment

- The solution portfolio is completed by software tools for data preparation, equipment for part handling and post-processing, as well as by extensive services.

Integrated Solutions

The 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 290

Building volume	250 mm x 250 mm x 325 mm (9.85 x 9.85 x 12.8 in)
Laser type	Yb-fibre laser; 400 W
Precision optics	F-theta-lens; high-speed scanner
Scan speed	up to 7.0 m/s (23 ft./sec)
Focus diameter	100 µm (0.004 in)
Power supply	32 A
Power consumption	max. 8.5 kW / typical 3.2 kW
Nitrogen generator	integrated
Compressed air supply	7,000 hPa; 20 m³/h (102 psi; 706 ft³/h)

Dimensions (W x D x H)

System	2,500 mm x 1,300 mm x 2,190 mm (98.4 x 51.2 x 86.2 in)
Recommended installation space	min. 4,800 mm x 3,600 mm x 2,900 mm (189 x 142 x 114 in)
Weight	approx. 1,250 kg (2,756 lb)

Data preparation

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

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