



EOS P 396
System for Additive Manufacturing of
Serial Parts and Functional Prototypes from Polymer Materials

EOS P 396 – Cost-Effective Industrial Manufacture of Components – Highly Efficient, Reproducible and Reliable

With total build size of 340 x 340 x 600 mm, the EOS P 396 covers the medium build volume range. This modular and highly productive system delivers tool-free manufacture of serial components, spare parts, functional prototypes and models directly from CAD data.

Cost-effective manufacturing

- The EOS P 396 processes thermoplastic plastics on an industrial scale.
- The, to some extent, newly developed software and hardware components make the EOS P 396 on the whole more productive. This cuts both costs per job and component costs.

Reproducible and constant component quality

- Improved temperature management permits continuous temperature control, thus reducing non-productive process times and improving process stability.

High productivity

- The build progress is on average 15% higher compared to the established EOSINT P 395 (depending on filler loading and part design). This significantly reduces the component costs.
- The new and significantly more powerful 70 W laser helps boost the build rate.

- The spot pyrometer accurately and continuously measures the temperature of the material layer to be exposed and allows non-productive time to be cut by 60 %.
- With the low-wear, high-speed coater, the material is applied faster with the same consistent precision, thus improving the build progress.

Innovative software

- Alongside proven functions, the latest 3.7 version of the PSW software contains new features that offer the best possible support during both preparation of the build job and process control in the build progress.

User-friendly

- The machine manufactures very complex plastic parts, yet is also designed for easy operation.



*Housing for a model helicopter
made from PA 2200
using the EOS P 396
(Source: Mikado Model Helicopters)*

Broad portfolio of materials, standardized product properties

- Like its predecessor, the EOS P 396 can process an extensive portfolio of materials including PA 2200 and PrimePart® PLUS. 12 EOS materials will be available in 2014.
- With the corresponding parameter sets, the EOS P 396 produces components that have defined properties, known as Part Property Profiles (PPP), in all spatial directions.

Mechanical powder handling

- In addition to could the familiar IPCM P powder handling solution, the new IPCM P plus is also now available. This integrates EOS P 396 systems in a closed and traceable powder cycle, for example, and thus ensures dust-free and ergonomic working conditions.

Sustainability

- The overall system's energy consumption has been reduced, thus also lowering the operating costs.

Integrated solutions

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

Technical Data EOS P 396

Effective building volume	340 mm x 340 mm x 600 mm (13.4 x 13.4 x 23,6 in)
Building speed (depending on material)	up to 48 mm/h (1.9 in/h)
Layer thickness	0.06 mm (0.00236 in), 0.10 mm (0.00394 in), 0.12 mm (0.00472 in), 0.15 mm (0.00591 in), 0.18 mm (0.00709 in)
Laser type	CO ₂ , 70 W
Precision optics	F-theta-lens
Scan speed during build process	up to 6 m/s (19.7 ft/s)
Power supply	32 A
Power consumption	nominal 10 kW, typical 2.4 kW
Nitrogen generator	integrated, external connection available
Compressed air supply	min. 10 m ³ /h; 5,000 hPa (13.1 yd ³ /h; 72.5 psi)

Dimensions (W x D x H)

System incl. switchgear cabinet	1,840 mm x 1,175 mm x 2,100 mm (72.4 x 46.3 x 82.7 in)
Control terminal	950 mm x 700 mm x 1,550 mm (37.4 x 27.6 x 61 in)
Powder conveying system	1,480 mm x 1,170 mm x 1,470 mm (58.3 x 46.1 x 57.9 in)
Unpacking station	1,190 mm x 620 mm x 1,500 mm (46.9 x 24.4 x 59.1 in)
Recommended installation space	min. 4.3 m x 3.9 m x 3.0 m (169.3 x 153.5 x 118.1 in)
Weight	approx. 1,060 kg (2,337 lb)

Data preparation

Software	EOS PSW, EOS RP Tools, EOSTATE
CAD interface	STL
Network	Ethernet
Certification	CE, NFPA

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