

# ExAM 255

Multi-material printer for prototyping and small-scale production



The ExAM 255 is the world's first industrial multi-material 3D printer, which uses the so-called CEM (composite extrusion modeling) process to produce components.

The process enables the use of well-established, cost-efficient and worldwide available pellets which are commonly used for injection molding.

This offers a large range of materials, meaning that prototypes and small-scale production series can be produced out of plastics, fiberglass-reinforced plastics, steels, carbides and ceramics.

One advantage is particularly interesting when using carbides or steels: Due to the fact that the molding and melting processes are decoupled, it is possible to rework the unmelted component, the so-called green body.

This leads to a considerable reduction of tool and machine costs.

After the subsequent debinding and sintering of the green bodies, a solid metal part is obtained. The CEM process thus offers an alternative to conventional metal injection molding. Hence, already existing solutions for the debinding and sintering processes can be used.

## Features and technical data

<b>General:</b>	Printing technology	Composite extrusion modeling (comparable to fused filament fabrication (FFF))
	Safety features	Thermal cutoff, door lock and optional extraction
<b>Process:</b>	Material	Standard pellets for metal or ceramic injection molding (MIM/CIM)
	Material feed	Via integrated material hopper
	Build rate	20-40 cm <sup>3</sup> /h with a 0.4 mm nozzle
	Layer height	Depends on the desired printing time and component quality (25 - 250 µm with 0,4 mm nozzle)
	Levelling of the construction area	manually
	Repeatability	X-Y-axis 20 µm; Z-axis 10 µm
	Max. component weight	20 kg
<b>Operation:</b>	Software	Open system (recommended: Simplify 3D)
	Supported data formats	STL, AMF, CBJ, 3MF
	Network connection	USB
<b>Mechanical:</b>	Size	H 1830 x W 1051 x D 828 mm
	Build space	255 x 255 x 255 mm (10 x 10 x 10 inch)
	Weight	400 kg (net)
	Temperature of the assembly space	Indirectly heatable up to 60°C
	Temperature of the heating plate	Heatable up to 140°C
	Extruder	two quick-change extruder (up to 290 °C)
	Nozzle diameter	0.25 mm, 0.4 mm, 0.6 mm, 0.8 mm
<b>Supply:</b>	Voltage	Connected load 2.4 kW 90-264 VAC 47-63 Hz
	Compressed air	5 bar