

Roboze one +400

BREAKING THE BOUNDARIES OF
HIGHTHERMOPLASTICS 3D PRINTING



Roboze

12 technical polymers, including PEEK and PEI,
in **real** 50 micron resolution



- Extruders over 400°C
- PEEK, PEI, CARBON PA, ABS ESD and 8 others techno-polymers
- New firmware and controls
- Roboze Beltless System
- Real 50 microns resolution
- Build plate up to 150°C
- Functional prototypes

ROBOZE ONE

Roboze One+400 features a patented mechatronic movement system without belts, which is more accurate and works as fast as standard belt based movement systems.

The new device is equipped with two extruders that can reach temperatures of over 400°C and are therefore able to print materials such as PEEK, PEI or CARBON PA.

Roboze One+400 the printer is able to manage a total of 12 different technical polymers.

EXTRUDERS OVER 400°C

The new dual extruder can reach temperatures over 400 °C, allowing printing with two polymers at the same time, or using the second extruder for printing soluble support or break-away material.

The extruder has been redesigned and optimized for heat dissipation, and equipped with an air cooling system.

Roboze designed the extruder for the Roboze One + 400 according to thermodynamics and material engineering; aluminum 6082 where needed for heat conduction, and AISI 303 where heat dissipation is needed instead.



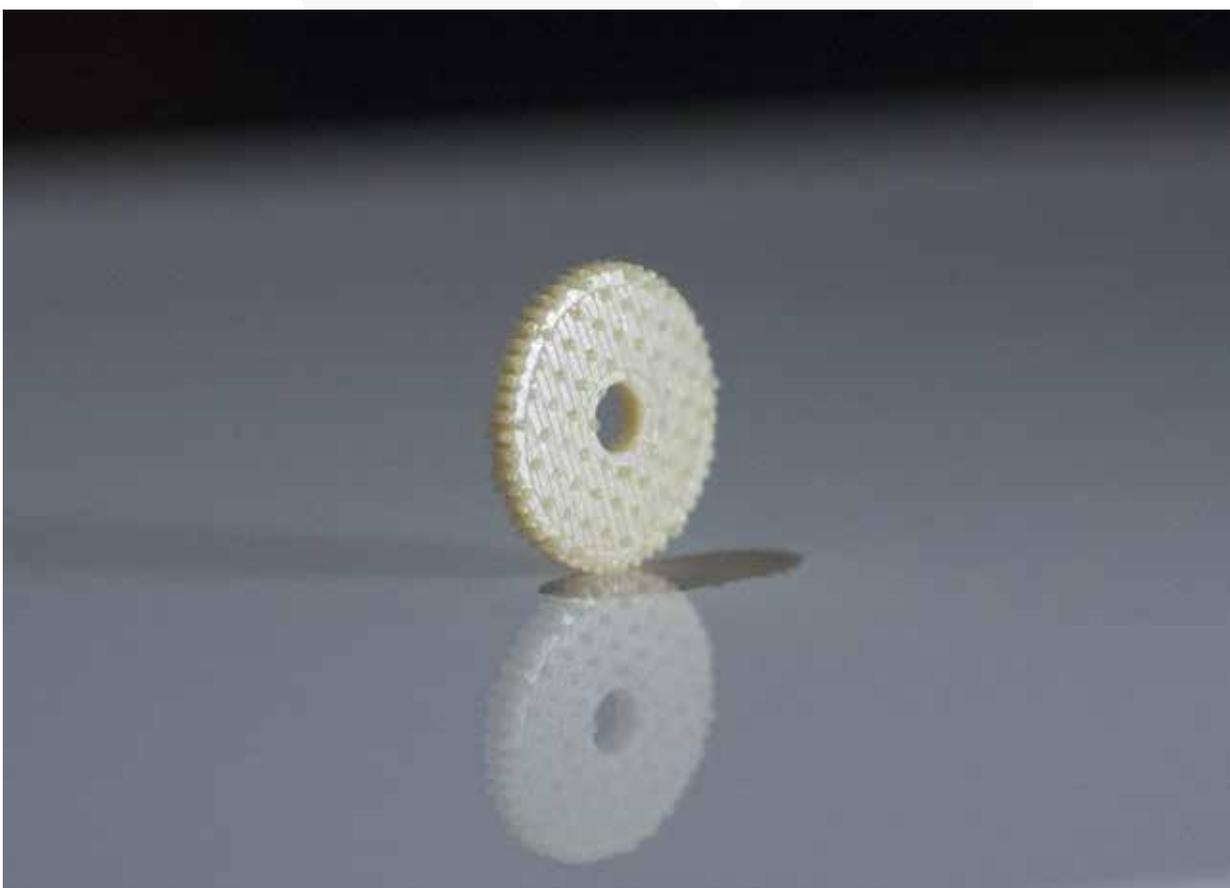


12 TECHNICAL MATERIALS

A wide range of material enables you to work on your prototypes or realize small series in the best way suitable for your needs.

PEEK, PEI, CARBON PA, ABS EDS and 8 others techno-polymer engineering plastics with excellent mechanical and thermic properties.

Find the most suitable for your project.



NEW FIRMWARE AND CONTROLS

The Roboze One+400 is equipped with proprietary firmware and electronics designed to express full mechatronic potential and safely reach very high extrusion temperatures.

Easy-to-use and intuitive, thanks to the new color 3.5-inch touch screen.

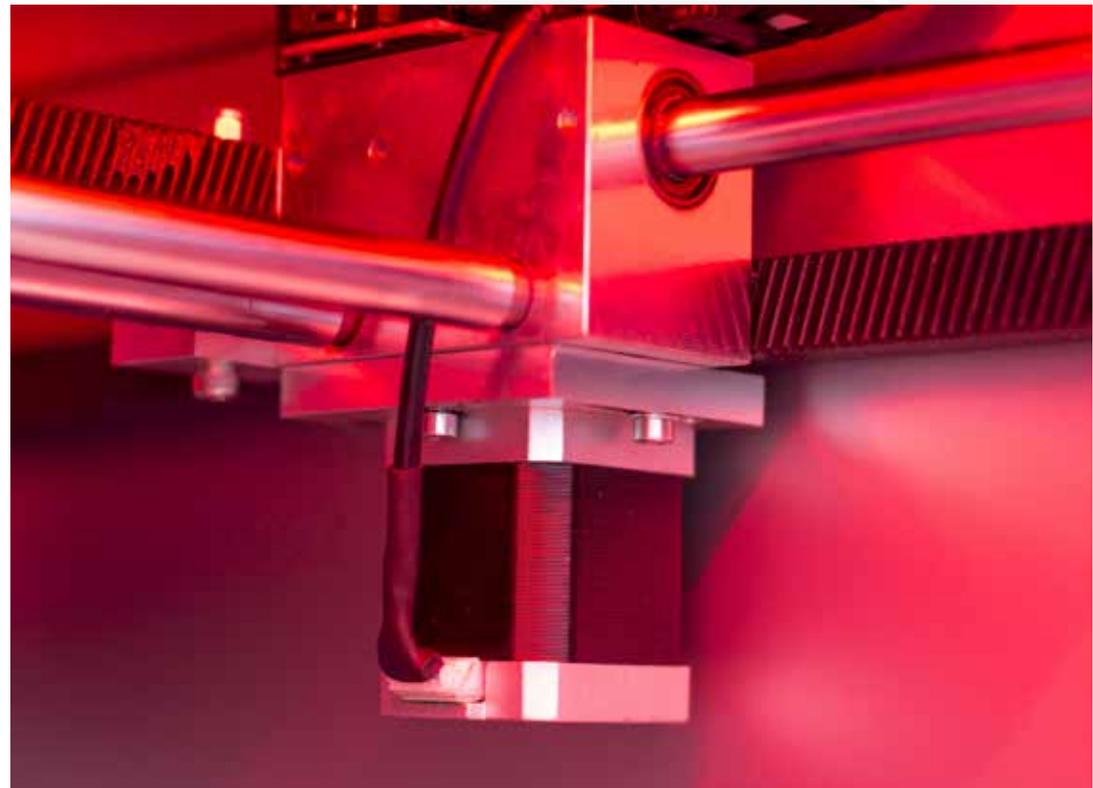


ROBOZE BELTLESS SYSTEM

Accuracy, as usual! The motion, for the X and Y axes, is entrusted to a counterbalanced pair of tempered stainless steel helical racks together with pinion in direct contact, allowing fluid motion and accurate positioning.

Roboze designs and manufactures its machines' internal mechanical components. The production department works with latest-generation machines in CNC metal cutting applications.

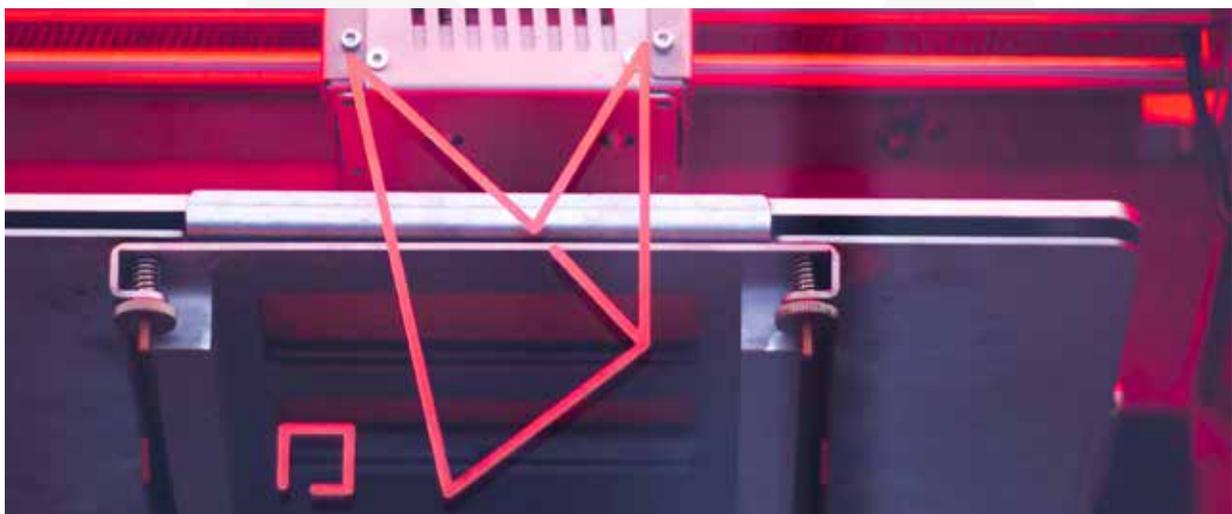
High definition in rapid prototyping depends upon several factors. Roboze inserts also a C7 spindle ball screw, which ensures the resolution of the layers.





REAL 50 MICRONS RESOLUTION

In addition to the choice of the best mechanical components on the market and our knowledge of mechatronics, our patent enables us to reach an unmatched quality level.



BUILD PLATE UP TO 150°C

The glazed anticorodal 6082 buildplate reaches up to 150°C in order to print with the most complex techno-polymer, ensuring grip and sealing.

A larger print area – 200 mm x 200 mm x 200 mm (xyz) – to realize your bigger projects.



FUNCTIONAL PROTOTYPES

The tolerances are weighted and pre-calculated. The mechatronics motion ensures 50 microns on both the X and Y axes.

Print Functional products ready to be tested and used, according to your production needs.

MATERIALS

ABS ESD	STRONG	FUNCTIONAL	FLEX	PC	PC/ABS
<p>ESD ABS is an advanced ESD-Safe compound designed for use in critical applications that require electrostatic discharge (ESD) protection and a high level of cleanliness.</p> <p>A filament with excellent printing characteristics and consistent ESD properties.</p>	<p>ABS-based Material, with excellent mechanical properties. Suitable for the prototyping of structural and functional components, even subjected to mechanical loads.</p>	<p>PolyAmide 12-based technical material. Recommended for prototypes that need flexibility and mechanical resistance at the same time.</p>	<p>Rubbery compound, based on thermoplastic PolyUrethane. High resistance to wear, tear and abrasion. Useful for the fabrication of textile fibers, industrial coatings and flexible components, shoes and O-rings.</p>	<p>PolyCarbonate filament. Transparent material, with high thermal resistance and incredible impact resistance. Used in various manufacturing sectors.</p>	<p>ABS and PC polymeric blend. Combines the thermal properties of PC with the mechanical properties of ABS. Gloss finish, for automotive parts with high aesthetic impact.</p>

MATERIALS

PMMA	CARBON PA	HIPS	PVA	PEEK	PEI
<p>PolyMethilMetaAcrylate (Plexiglass) filament. Transparent material used in the medical and optical fields.</p>	<p>Polyamide with 20% of chopped carbon fibers. An incredible material, that combines the chemical resistance of Nylon 12 with the mechanical and thermal properties of Carbon Fiber. Used in the Automotive and Motorsport, as well as in the aeronautics field.</p>	<p>Material composed of a blend of PolyStirend and SBR rubber, with high tenacity and resilience. Soluble in D-Limonene, it is perfect as support material when printing with Strong.</p>	<p>Transparent material, with a low tensile modulus, soluble in warm water. The best partner for support structure when printing with Ultra.</p>	<p>Super TechnoPolymer with excellent thermal and chemical resistance. It is stable also at very high temperatures and acid and alkalines environments.. Used in Aerospace and Defense, Motorsport, Biomedical, Oil & Gas.</p>	<p>Filament made of PolyEtherImide, a polymer that combines high-level mechanical properties with an extreme temperature resistance. Self-extinguishing material. It is useful in the prototyping and production in the Aerospace, Automotive and Motorsport. Ideal for Metal replacement.</p>

ADDITIVE MANUFACTURING

AUTOMOTIVE

CONSUMER ELECTRONICS

MEDICAL & DENTAL

RAPID PRODUCTION

METAL REPLACEMENT

MECHANICAL

PRODUCT DEVELOPMENT



DIMENSIONS

- ♦ Outside total: (x)565 X (y)465 X (z)900 mm
- ♦ Workspace: (x) 200 X (y) 200 X (z)200 mm
- ♦ Dimensions (box): (x)670 X (y)600 X (z)1200 mm
- ♦ Weight: 80 kg

RESOLUTION OF THE LAYERS

- ♦ Very high: 50 microns
- ♦ High: 70 microns
- ♦ Average: 150 microns
- ♦ Low: 200 microns

PRINT VELOCITY

- ♦ Recommended speed: 40 mm/s
- ♦ Maximum recommended speed: 80 mm/s

ELECTRONICS

- ♦ Stepper Motors: 1.2° 1.8 degree
- ♦ Stepper Driver A4988 with sinks
- ♦ Color touch screen from 3,5 inch.
- ♦ Proprietary 32bit Pic
- ♦ 348 W Power source
- ♦ 100k Thermistors in the extruder
- ♦ 40W 12V Heater cartridge
- ♦ Heated plate up to 150°

MATERIALS

- ♦ STRONG
- ♦ FUNCTIONAL
- ♦ PMMA
- ♦ PC/ABS
- ♦ PEEK
- ♦ CARBON PA
- ♦ ABS EDS
- ♦ PC
- ♦ PEI
- ♦ Others (1,75mm)

EXTRUDER MECHANISM

- ♦ 2 extruders re-engineered over 400°C
- ♦ 0.4 mm Nozzle
- ♦ Vents cooling components with heat sinks

GENERAL MECHANICS

- ♦ Frame made by galvanized steel and powder coated
- ♦ INOX Bars for X and Y Forklift
- ♦ Misumi ball sleeves for X and Y linear motion
- ♦ X and Y Movement system with helical racks and pinion through direct contact
- ♦ C7 ball screw for the Z axis with flexible motor coupling for the absorption of vibration
- ♦ Moving parts and aluminium supports on numerical control milling machines
- ♦ Aluminium heated for printing in technopolymers
- ♦ Leveling System printing plate on 3 points and cushioning
- ♦ Quick-change printer base system with neodymium magnets.

BOX CONTENT

- ♦ 1 ULTRA spool
- ♦ 4GB SD CARD
- ♦ Power cable
- ♦ USB cable
- ♦ Spool holder

SOFTWARE

- ♦ Open Source

COMUNICAZIONI

- ♦ SDHC Standard Card Reader and 4GB card included
- ♦ USB type B

MORE INFO

- ♦ Inner spool
- ♦ Minimal mechanical maintenance
- ♦ Extreme stiffness and durability



ROBOZE IS A BRAND OF MEKATRONIKA SRL



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