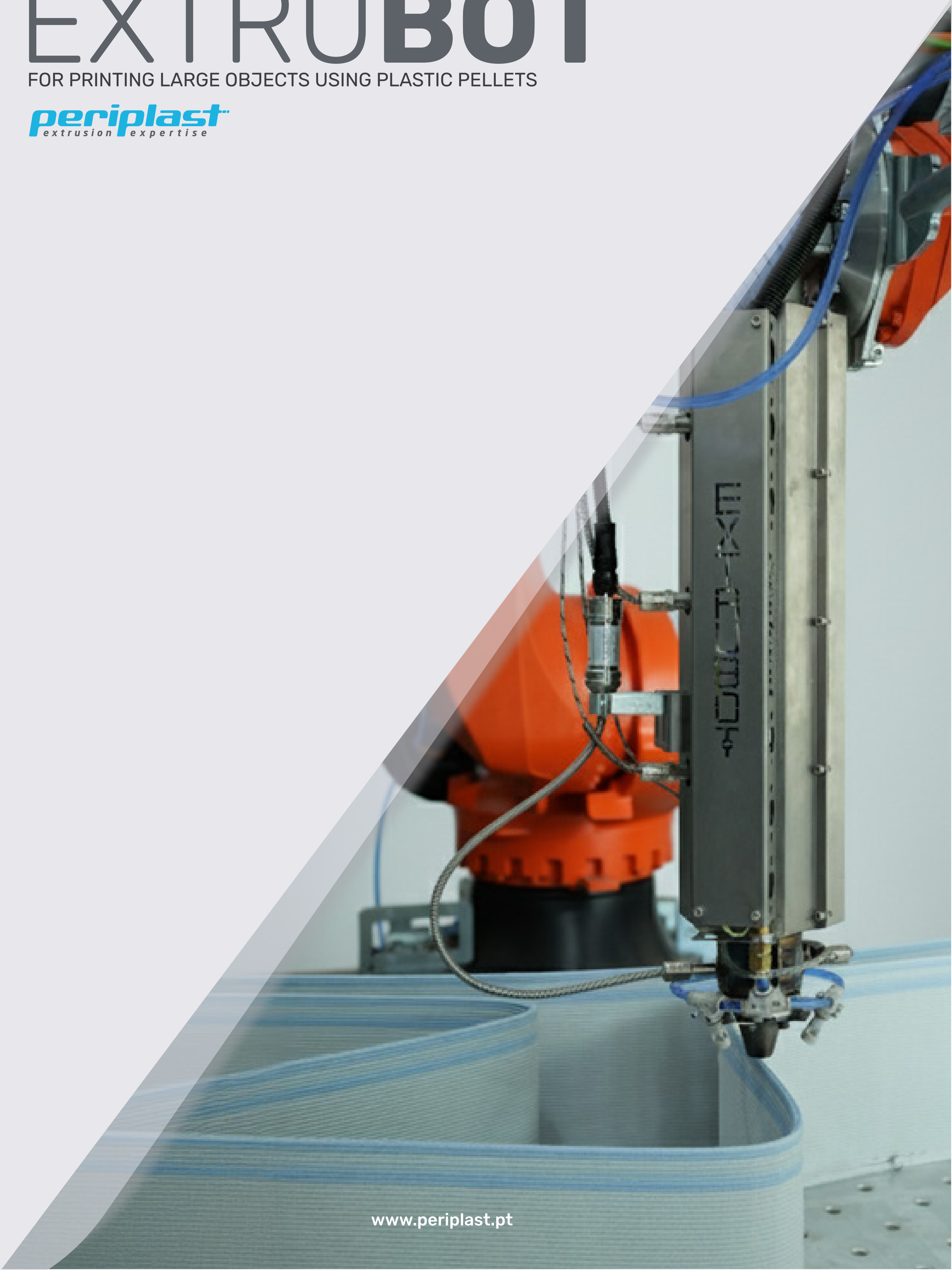
EXTRUBOT®

FOR PRINTING LARGE OBJECTS USING PLASTIC PELLETS

periplast extrusion expertise

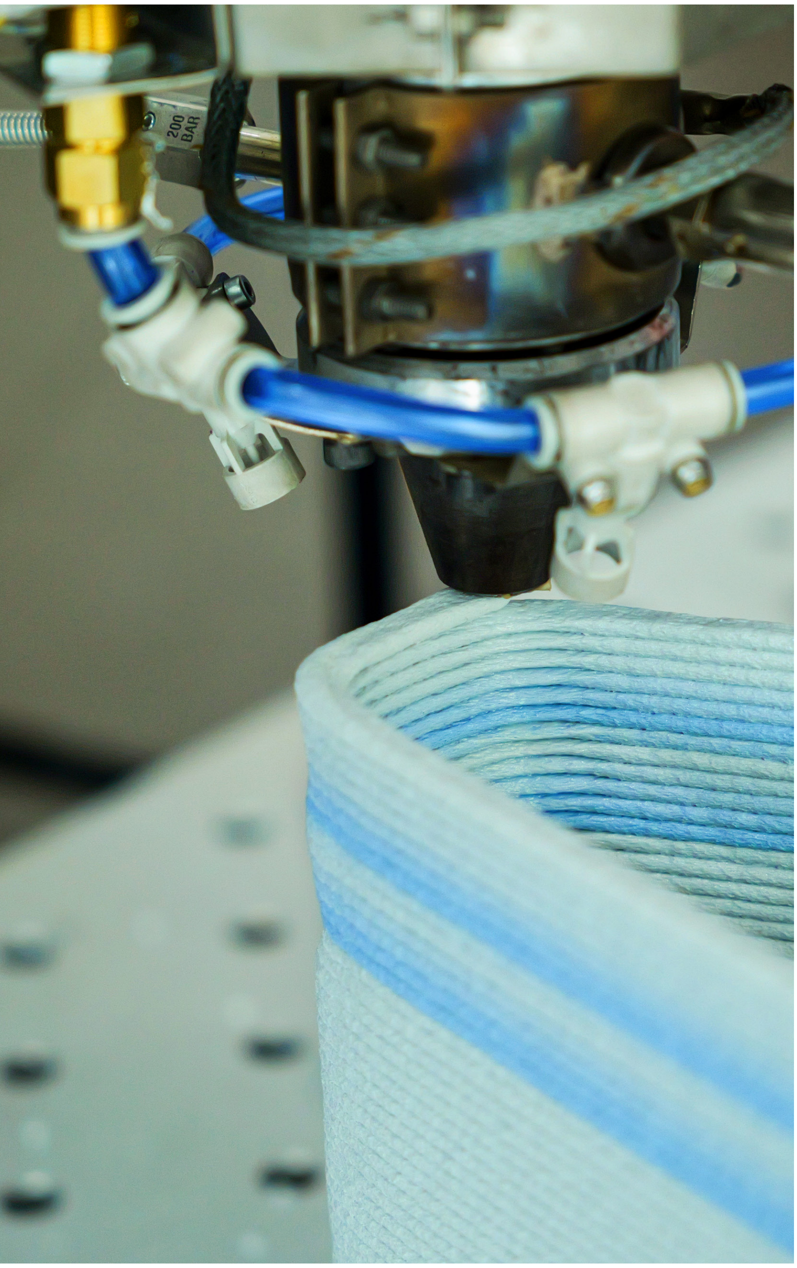


www.periplast.pt

ABOUT EXTRUBOT

Periplast has been manufacturing extruders for over 40 years, building a solid reputation for reliability, innovation, and technical expertise. Over these decades, we have specialized in developing compact pellet extruders (Ø20 / Ø25 / Ø30 co-extruders), continuously refining our designs to meet the evolving demands of the plastics industry. Our extensive experience enables us to deliver high-quality, efficient, and durable equipment, always backed by dedicated technical know-how.

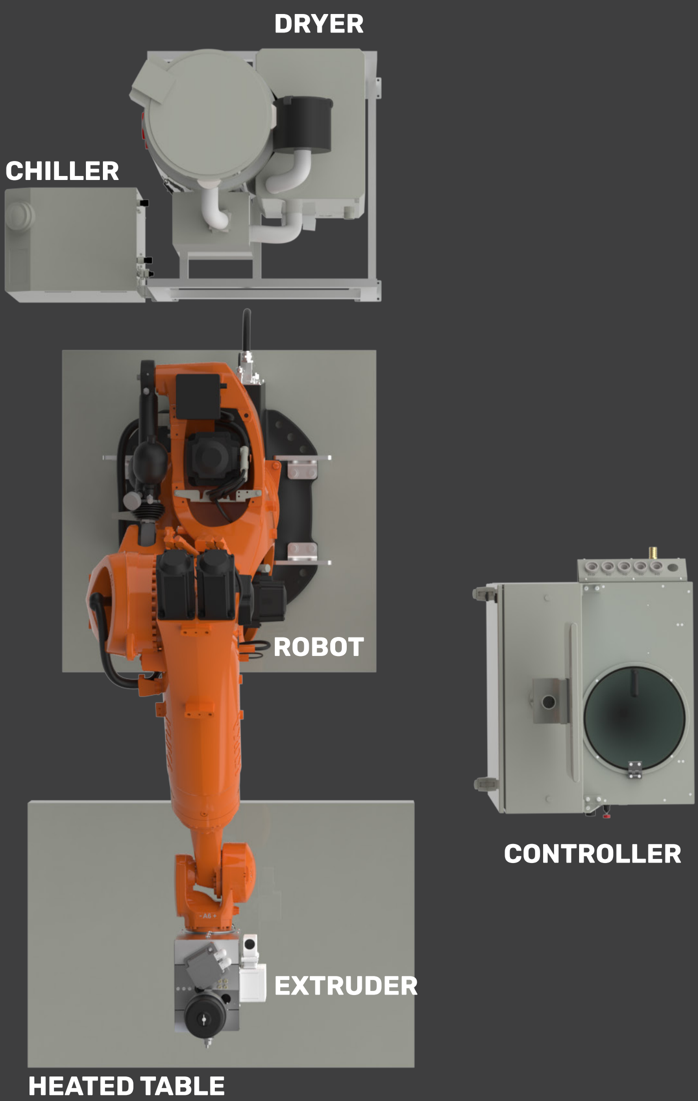
Building on this expertise, we have re-engineered our extruders and equipped them with a robotic upgrade, creating our first 3D pellet extruder: the Extrubot®. Designed for precision and versatility, the Extrubot® combines the robustness of traditional extrusion with the flexibility required for advanced industrial and additive manufacturing applications. This innovative solution represents a significant step forward in extrusion technology, merging Periplast's proven reliability with state-of-the-art 3D extrusion performance.



EXTRUBOT® DESIGN PRINCIPLES:

- ALL IN ONE BOX SOLUTION (EXTRUDER/ROBOT/SOFTWARE)
- USER-FRIENDLY WINDOWS PC-BASED CONTROL SOFTWARE FOR THE EXTRUDER, THAT CAN BE UPDATED WITH A SINGLE CLICK.
- KG REDUCED WEIGHT, WITH USE OF LIGHT MATERIALS, AND SERVO MOTOR.
- PLASTICIZING UNIT DESIGN PREPARED FOR HIGH-SENSITIVE MATERIALS WITH HIGH TORQUE AND A MAX. TEMPERATURE OPERATION UP TO 400°, WE CAN HANDLE ANY POLYMER IN THE MARKET
- CONTINUOUS AND AUTOMATIC FEEDING OF THE EXTRUDER
- EASY REPLACE NOZZLE WITH DIFFERENT OPTIONS AND SHAPES (1/12MM)
- REDUCES COSTS DRASTICALLY - PELLETIZED MATERIALS FOR 3D PRINTING IS CHEAPER THAN USING FILAMENTS.
- EASY AND SAFE

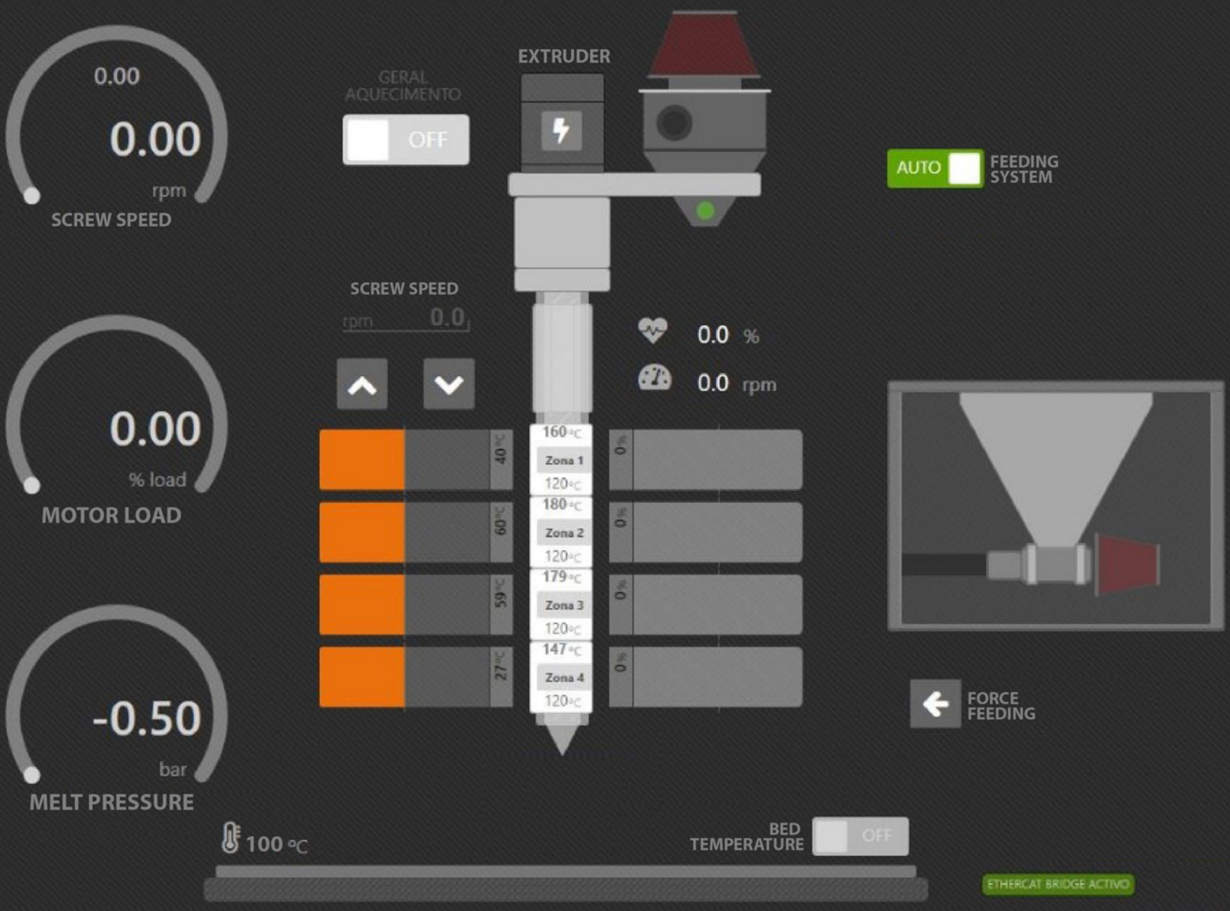
FEATURES



- THERMALLY INSULATED PROTECTIONS
- PRECISE SERVO MOTOR
- HEATING ZONES TO CONTROL EXTRUDER AND TOOLING W/ THERMOCOUPLES
- RECIPES FOR DIFFERENT MATERIALS (SPEED, ZONE TEMPERATURE, HEATING BED TEMPERATURE, COOLING)
- HIGH GRIP - PRINTING SURFACE
- MATERIAL TRANSPORT DISTANCE:10 METER
- COMMUNICATION WITH THE ROBOT USING MASTER/SLAVE ETHERCAT PROTOCOL - OR DIGITAL/ ANALOG SIGNALS

EXTRUDER SOFTWARE

PC-Base multi touch Screen (Extrusion Controller), designed for industrial extruders, giving you full control of the EXTRUBOT®



- Temperature Settings (Two Setpoints)
- Alarm log
- Different recipes for each product.
- Logging of the temperature, Drive speeds, Recipes and Operator Data

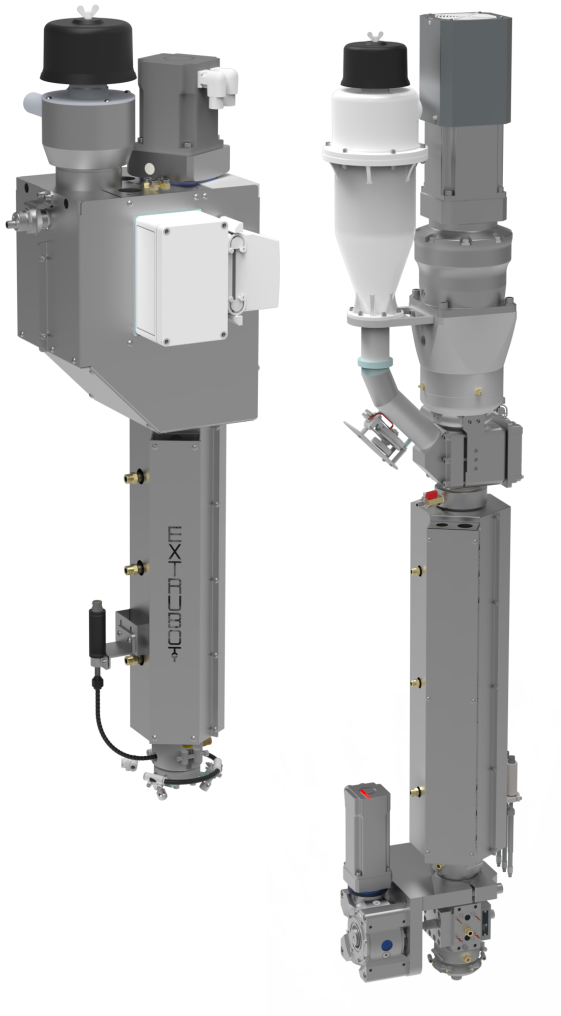
Our software was designed to make the additive manufacturing process smarter, faster, and easier. With an intuitive interface and powerful control features, it gives operators complete oversight of the extrusion process – from material settings to performance monitoring – all in just a few clicks.

Seamlessly integrated with the Extrubot®, the software ensures maximum precision and repeatability, while real-time data tracking and advanced analytics help optimize productivity and reduce downtime.By combining user-friendly design with cutting-edge technology, the software empowers your team to unlock the full potential of additive manufacturing – delivering efficiency, consistency, and total control at every stage

EXTRUDER MODELS

	R25D	HF25D	HF40D
SCREW Ø [mm]	Ø25	Ø25	Ø40
SCREW LENGTH [mm]	625	625	1200
HEAT ZONES	4	4	5
COOLING ZONES	2	2	3
MOTOR POWER [kW]	2.3	3.5	10.5
GEAR RATIO (i)	1/50	1/20	1/20
MAX SCREW SPEED [rpm]	100	200	150
MAX OUTPUT [kg/h]	12*	20*	40
MAX TEMP. [°C]	400	400	400
WEIGHT [kg]	40	40	200
NOZZLE SIZE [Ø mm]	2-10	2-10	10-20

* PP+ 30% Glass Fiber



EXTRAS:

- Melt pressure sensor
- Material cooling ring
- Custom shape nozzles
- Heated printbed

AXIS SYSTEM INTEGRATION

We teamed up with major robot and gantry-system manufacturers to make the user experience easier and more reliable, tailored to the users requirements

Turnkey solution:

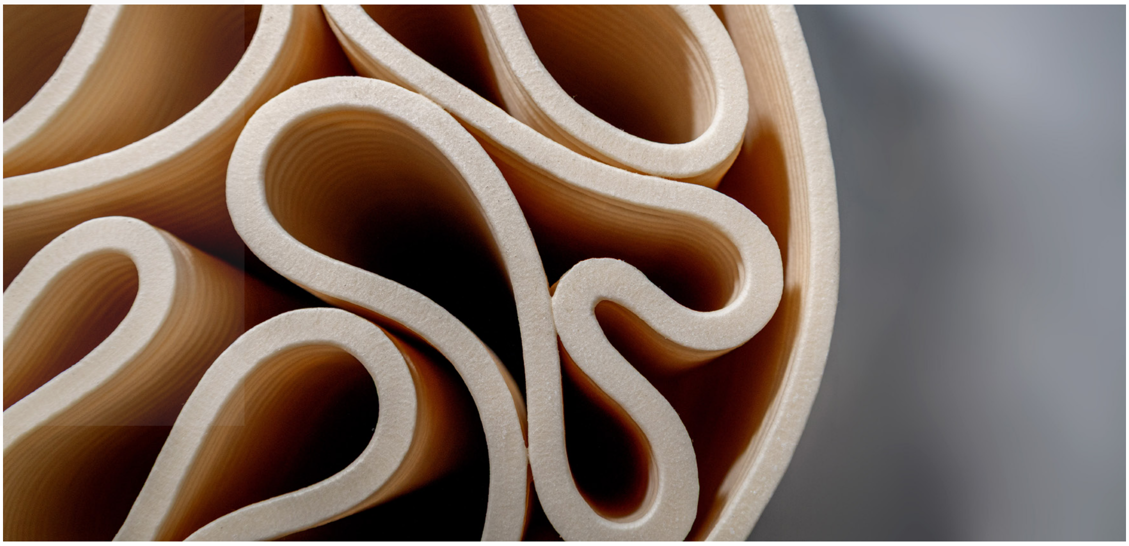
- Robot or gantry system
- Extruder
- Feeding system
- Ethernet protocol for two-way feedback.
- Slicing with AiBuild and AdaOne
- Dryer
- Raw-material
- Feeding system

FEEDING

Our Integrated electric panel, computer, material storaging and conveying is one solution for a complete and easy extruder operation,with up to 8 hours of printing without feeding.

- Continuous work only possible with the automatic feeding
- Material Storage >25KG
- Warning for low raw material
- Steady flow of plastic pellets to the extruder with a 10 meters hose
- Optional: Small Dryer for raw material

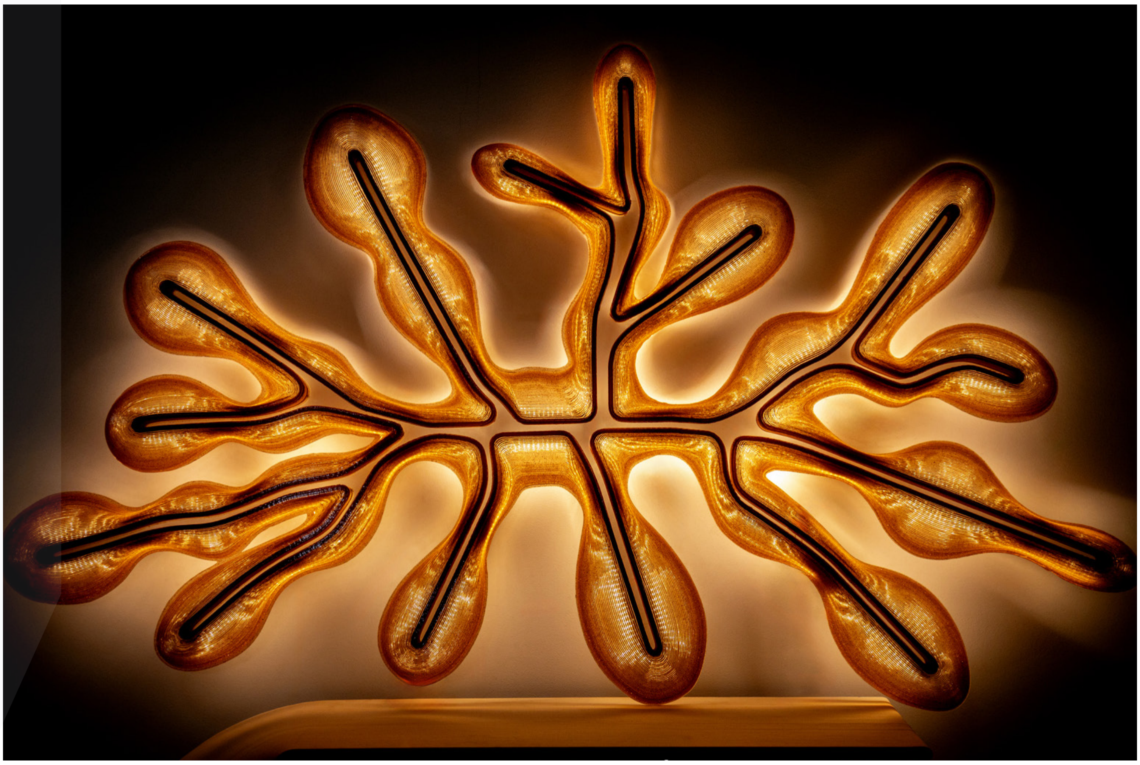
APPLICATIONS & USE CASES



The Extrubot® has already proven its capabilities in real production environments.

These examples, created in collaboration with one of our valued partners, demonstrates the precision, reliability, and versatility of 3D pellet extrusion.

From complex geometries to robust functional parts, the Extrubot® consistently delivers high-quality results – turning innovation into reality.



Design and printing by MOVECHO

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Extrubot Video

Periplast website