



CONSTRUCTIONS
3D

Mini Printer Pro

www.constructions-3d.com

**The new standard
of concret 3D printers**

Mini Printer Pro

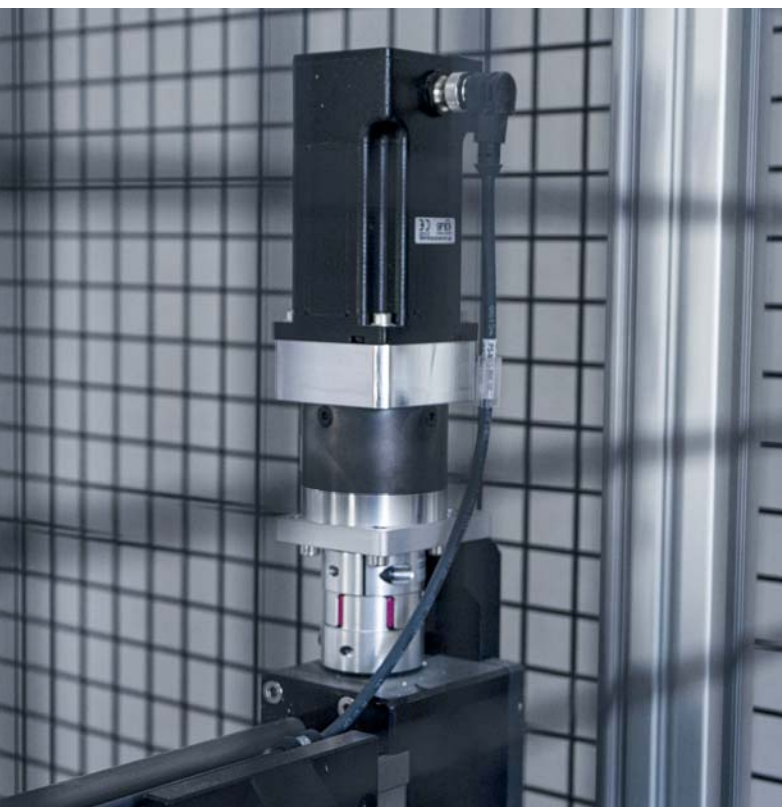
With a large printing area (**1.2 x 1.2 x 1.2 m**), the Mini Printer Pro is a new standard in the world of 3D printing of mortars.

This robust 3D printer is designed to meet the high expectations of professionals looking for precision and repeatability. With a choice of automated pumping system (3 options available), Constructions-3D can also provide adapted materials according to your objective.

Versatile, it will adapt to the needs of the construction, architecture, design, and research sectors.



Mini Printer Pro



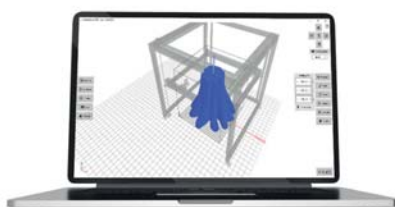
A reliable and industry-standard concrete 3D printer.

Content of pack



Mini Printer Pro + 1 pumping system to choose *

* Different pumping system depending on the choice of pack : access pack, research pack, production pack



Slicer developed by Constructions-3D + 3D file library



Materials

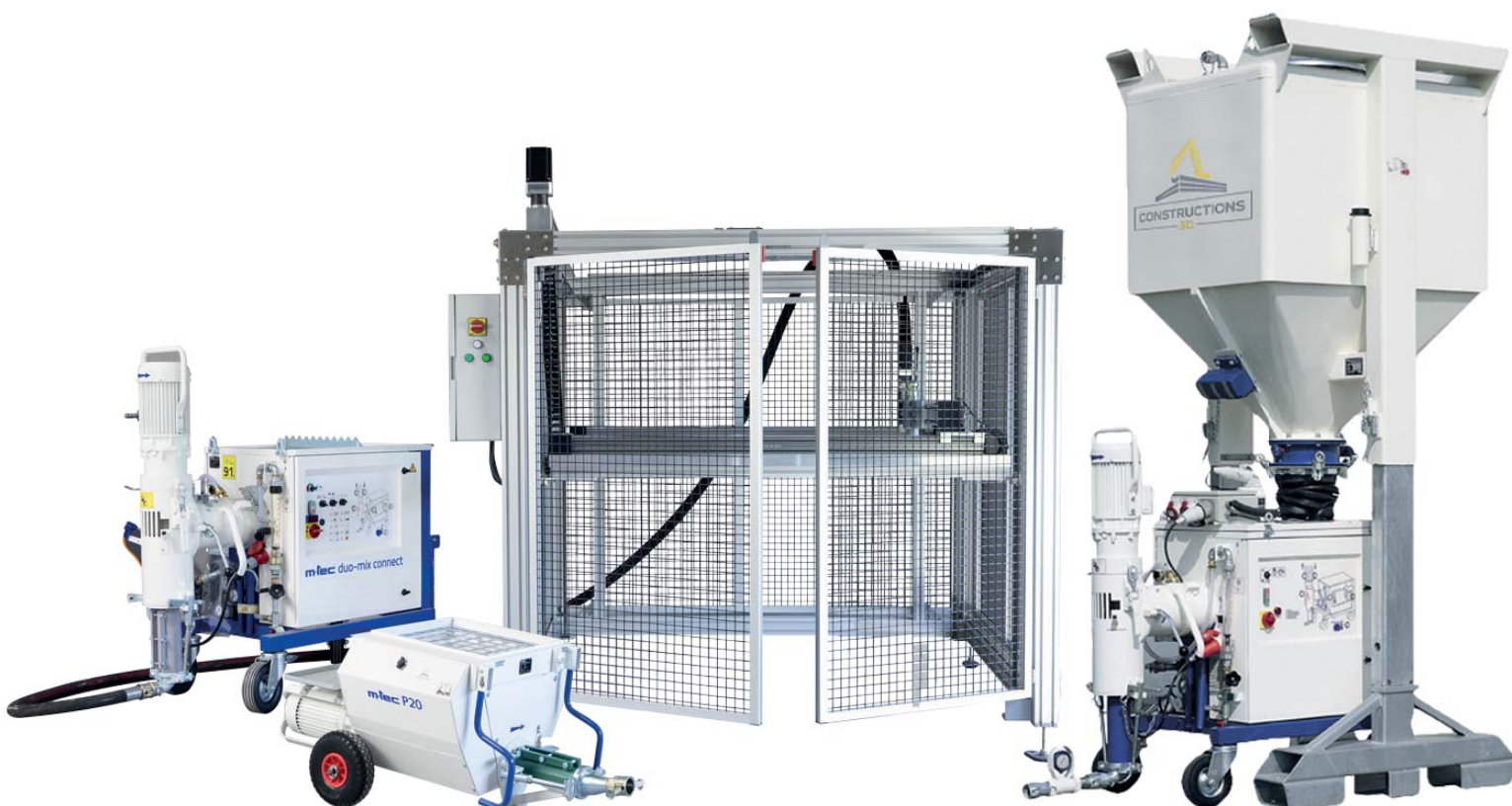
(see details in technical specifications)



Pumping system

Choice of the automated pumping system depending on your purpose of usage.

- Option 1 (Access Pack): Constant flow hopper pump, requiring prior mixing.
- Option 2 (Research Pack): Double mixing pump and pumping.
- Option 3 (Production Pack): Option 2 + Automated silo.

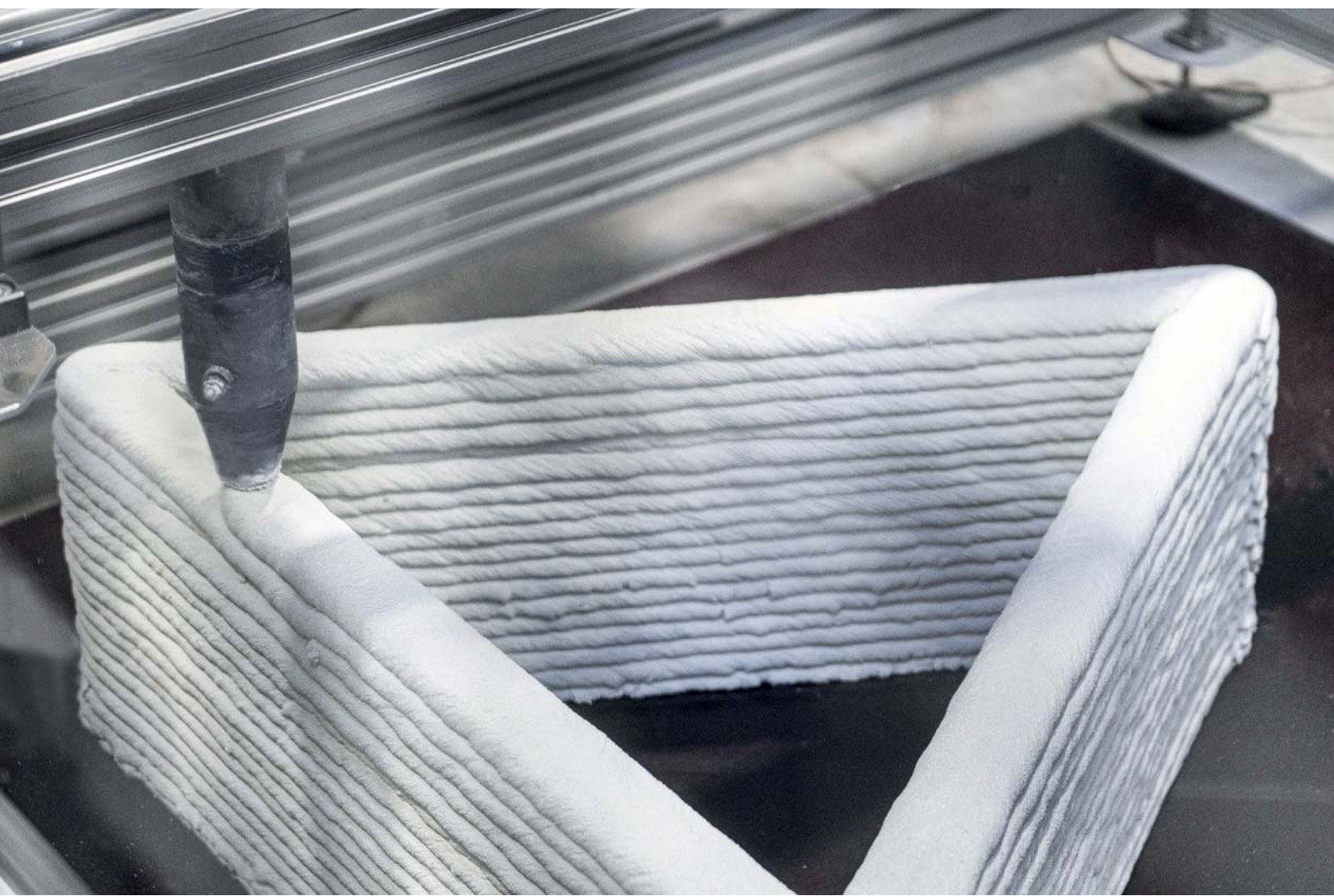


Constructions-3D Slicer

We provide the complete and dedicated software solution developed by us to avoid software compatibility issues and focus on your research.

It allows users to cut any type of file in STL format with various features. It also bridges the gap between the digital model and the printer's output.

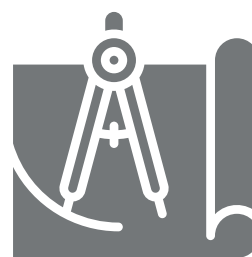
Intuitive and easy to use. The slicer is open to other slicers.



Application



Construction industry



Architecture



Research & Development



Education

Examples of printing





Technical specification

General information

Technology	Extrusion based technology by layer deposition
Printing volume	1200 x 1200 x 1200 mm (without nozzle)
3D Printer frame volume	2100 x 1800 x 2100 mm
Type	Gantry

Capacities

Nozzle diameter	from 10 mm to 30 mm *
Extruder	Easily removable/changeable for ease of cleaning and testing of different nozzle sizes.
Travel speed	up to 250 mm/s
Motion accuracy	1 mm
Z axis resolution	0,5 mm
Pumping system	Continuous deposition of layers of concrete with 3 different options of pumping systems (see below)
E-stop switch	Included
Print bed	Included

* Possibility of adding custom-made tips.

Electrical requirements

Voltage	230V Single phase
Max. power consumption during starting	1,5 KW



Software

Name	Constructions-3D Slicer
Features	<p>Constructions-3D slicer allows :</p> <ul style="list-style-type: none"> o Orientation of the part. o Scaling of the part. o 3D visualization and processing of the STL file. o 3D visualization and processing of DXF file. o 3D visualization of the G-CODE file. o Choice of the curvature precision. o Choice of the layer height. o Choice of the nozzle speed. o Choice of slicing type: Spiralized (continuous deposit) or regular.
Control interface	<p>Remote screen with control interface</p> <ul style="list-style-type: none"> o Control of the 3D printer o Control of the pump speed, start and stop o Display of real-time data acquisition from pumping system : pumping hose pressure, temperature, motor amperage, mixing states. o Control of the extruder linear speed. o "Manual move of axis" to move the nozzle on accurate positions on x,y,z axis. o Display of the G-code read by the Print Launcher. o Display percentage of realization of the ongoing printing.
Online library (G-code Gallery)	<ul style="list-style-type: none"> - Access to online library developed by Constructions-3D where users can download CAD Models (STL file) and G-codes ready to print. - Upload of new printing models each month.



Materials

Type	<ul style="list-style-type: none"> - Pallet containing one ton of mortar premix suitable for use in 3D printing in big-bag or bag. - Constructions-3D can provide two types of materials adapted for 3D printing. Choice of the type of material included in the offer to be defined with Constructions-3D. - The system is open to the use of other materials, subject to the pumpability of the material according to the tolerance of the pump (refer to the technical specifications in Pumping System).
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Pumping system - Option 1

Pumping type	With hopper for fresh material
Materials	Compatible with all types of 3D printing mortars
Pump filling	Per batch Allows continuous flow pumping
Maximum aggregate size	5mm
Maximum pumping pressure	30 bars
Pumping provided on	A maximum length of 30 m
Pumping rate included	Between 1L/min and 50L/min, depending on the rotor and stator used
Pumping of flexible fibers possible	Length up to 30 mm, mass proportioning up to 2%*.
Accessories	- Hose: DN35 - Pumping rotors and flexible stators (worm pump)
Compatible with	Vibrator in option
Power supply	230V Single phase

*Depending on the nature of the fibers



Pumping system - Option 2

Pumping type	<p>Double mixing type. Mix material homogeneously and pump it with continuous flow.</p> <p>Data acquisition displayed on remote screen.</p> <p>Feed with dry material (premix).</p> <p>Manual setting of water flowrate and delays between two mixing phases.</p>
Control	<p>Automated from 3D Printer launcher or manual mode.</p> <p>E-Stop Switch included</p>
Pumping rate	Min = 1L/min, Max = 32L/min, Regular = 5L/Min.
Granulometry tolerance	Max 6 mm
Fiber compatibility	Yes, soft fibers only. Max length: 25mm. up to 2% of mass of the pumped material.
Maximum pressure	50 bars (Regular during use: between 5 to 25 bars).
Max pipe length	32 meters. Regular length 16m.
Compatible with	<ul style="list-style-type: none"> - Additional vibrator - Automated Silo
Accessoires	<ul style="list-style-type: none"> - Hose : D25 mm or D35 mm - Pumping rotors and flexible stators (worm pump)
Electrical requirements	<ul style="list-style-type: none"> - Voltage : Three phased 380V - Power: 10KW Max, 50Hz.

Pumping system - Option 3

Pumping system	Option 2 pumping system + Automated Silo
Type	<ul style="list-style-type: none"> - 1.2 m³ automated Silo for dry material for double mixing pumping system - Feed with dry material (premix) - Hood and bellow for pump junction - Vibrator integrated





Who are we ?

Constructions-3D is a french company that specializing in manufacturing of automated 3D printing construction tools for professionals and education institutions. Since 2016, Constructions-3D has been developing solutions to face technological challenges in the construction sector. Proud of its origins and its human values, Constructions-3D's long-term ambition is to provide answers to the global problems of housing.

We believe our technology to be a concrete answer to some of the high stakes of our time: lowering the construction sector's environmental footprint, decreasing the production of waste, reducing drudgery as well as occupational hazards and maintaining costs and completion time to a minimum.





+10 education
institutions equipped
with our machines



5 years of
experience



1 thesis



Made in
France

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