BuildingBot : *The most affordable concrete printer on the market*

Size: 6metres wide, 4 meters tall and 6-30meters track lengths

Build Dimensions: 5.5 meters wide by 3.5 meters high by 6-30meters long (Gantry configuration)

In crane configuration the build dimensions that can be achieved is virtually unlimited at a 3.5meter height, since the tracks can be moved further and further away from the starting point as building progresses.

Weight: Lightweight for easy transportation : 290Kg (with 6meters of track)

Assembly: A huge advantage of this model is that it can be assembled by only one person with no cranes or forklifts needed. It can be assembled in under 2 hours. No need to completely disassemble to move to a new position when operated in the crane mode. Transportation can be done with a one ton light delivery vehicle and trailer - ideally suited for smaller building contractors as well.

Operators needed:

At least two: One to monitor the printer and one responsible for constant concrete supply

Machine control:

Makes use of open sourced firmware which lends itself for customization in case of usage at tertiary learning institutions. This also facilitates compatibility to all open sourced slicing software and CAD packages as well as other popular CAD and slicing software for plastic 3D printers.

G-Codes can be loaded on a local SD card in the controller or be monitored live by connecting a laptop computer via the USB interface

Extruder:

Nozzle sizes from 20mm to 40mm can be accommodated.

Since the extrusion flow rate is fully adjustable, print layer height and width can be fully adjusted based on your printing material (ink) properties and limitations.

Motors:

The machine is powered entirely by cost effective stepper motors which will facilitate low running and maintenance costs (No expensive servo drives were used on the *BuildingBot*)

Upgrades and Related equipment:

Compatible progressive cavity pumps and cement mixing equipment can also be supplied.

Ongoing R&D is performed on computer controlled continuous mixing systems making use of regular building materials available from your closest suppliers like Builders Warehouse, Build-it and BUCO, avoiding the need for expensive proprietary building ink. Our prototype was completed and a commercial variant will soon be available

Other features and benefits of 3D concrete printers (3DCP):

- Reduced labour costs

- Dramatically reduced building time
- Unlimited single story building size possible due to flexible and innovate printer design
- Reduced material costs - concrete without formwork is far more cost effective than bricks and mortar
- Reduced material wastage
- Much more creative wall designs can be achieved by virtue of the robotic layered printing process
- The 3DCP process also lends itself to the use of new building materials like hempcrete (fireproof concrete) and other state of the art more environmentally friendly building "inks" currently under development.
- This machine is manufactured in South Africa , meaning easy and quick access to maintenance and breakdown support
- Energy efficient low power consumption design. The *BuildingBot* can run from a standard 15A single amp wall supply or generator
- The printer is also ideal for lab use for tertiary learning institutions due to its light weight and compact design

Above some examples of 3D printed walls and structures which can be printed with our ***BuildingBo***t