

# CYBE 3D CONCRETE PRINTERS SPECIFICATIONS

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**REDEFINING CONSTRUCTION**  
by enabling 3D concrete printing

## ABOUT CYBE

CyBe is an ambitious, award-winning tech company, established in 2013. We redefine construction by enabling 3D Concrete Printing for all clients throughout the industry. We provide hardware - 3D printers - software and material to simplify the complex building processes. Furthermore, we guide the industry through education, certification and business development.

Through coherence of hardware, software, and material you can achieve the best performances and develop or deliver best product market combinations. This also includes the close collaboration of design and engineering.

## MISSION

We want to solve current and future economic & social problems in the construction industry. Through continuous development of mobile and modular technology, we offer 3D-concrete printer solutions and software which drive revolutionary change to traditional construction processes. This redefines construction in a faster, cheaper, higher quality and more sustainable way.

## VISION

We want to be disruptive with the technology we develop, not disruptive in markets. We'll provide our technology and knowledge and facilitate, so others can create. With our solutions it's possible to design today, start printing in a couple of days and the building or object is ready to use within a few weeks only.



# WE DELIVER 3D CONCRETE PRINTERS

## FIXED

Prefab | R&D purposes



**€ 150.000**  
Refurbished € 90.000\*

## CYBE R 3DP

The CyBe R 3DP is our entry level concrete printer for everyone who wants to get hands on experience with 3D concrete printing. It is ideal for research institutes, universities or prefab concrete suppliers who want to do inhouse testing, prototyping or prefab production.

The ABB robotic arm is placed on a metal frame which is fixed to the floor. The mix pump system pumps the CyBe Mortar through a 15m concrete hose and the robot arm prints the Mortar at the programmed location. The robot is being controlled by the control unit including CyBe control and slice software. Further technical details of the printer can be found on the next pages.

## CYBE RC 3DP

The CyBe Rc 3Dp is our mobile printer which is ideal for everyone who wants to print on multiple locations. The ABB robotic arm is placed on a movable crawler, the rubber tracks underneath the crawler make maneuvering easy and the extendable hydraulic feet give the printer it's stability during printing and increase the total printable height. The mix pump system pumps the CyBe Mortar through a concrete hose to the robot arm which prints the Mortar at the programmed location. The robot is being controlled by the control unit including CyBe control and slice software. Further technical details of the printer can be found on the next pages.

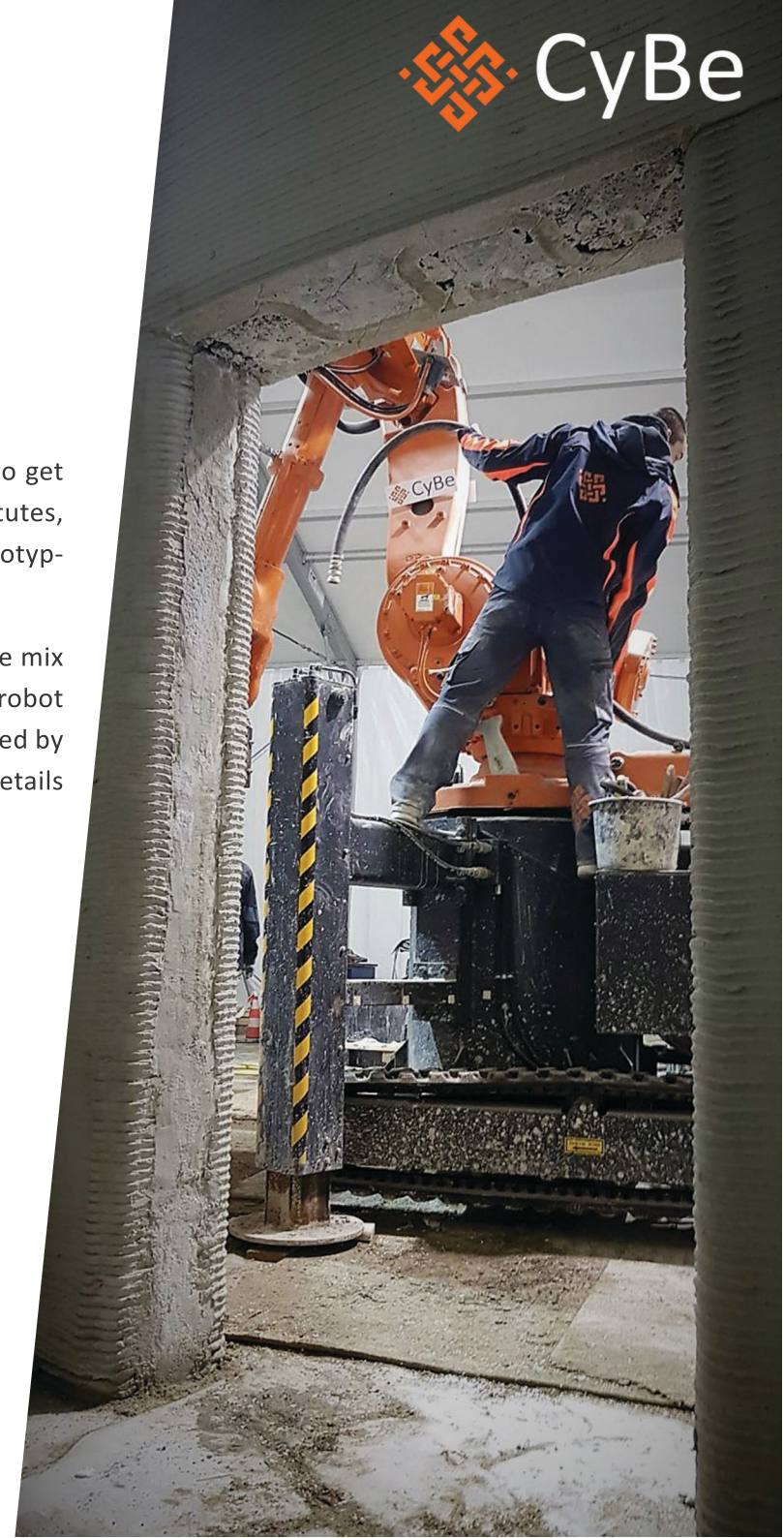
## MOBILE

On site applications



**€ 180.000**  
Refurbished € 125.000\*

\* Prices mentioned are starting prices - excluding robotic arm





## OUR PHILOSOPHY

Our 3Dprint philosophy is based on rapidity and flexibility, developed for fast and flexible production of both pre-cast and on-site printed elements. Due to this philosophy, the size of a building is not the main factor - a larger object such as a building can be constructed very fast by connecting the different elements without the need for a bigger printer. Due to easy use and rapid curing, multiple elements - walls - can be printed in one day.

## HIGH PERFORMANCE 3D CONCRETE PRINTERS

The 6-axis manipulator, controller, crawler and mix-pump system provide short and precise 3D concrete printing cycle times, rapid change-overs and consistently high process precision. The manipulator can be calibrated one axis at a time to ensure a quick return to full production.

## MODULAR

The various components of which the 3D printers exist can be dismantled. Therefore CyBe is able to develop components to be integrated in the CyBe RC 3Dp for specific applications. In addition various sizes of manipulators can be chosen.

## SOFTWARE

The printers are provided with standard CyBe CHYSEL software to generate the toolpath from digital 3D models. Various software tools and 3Dprint features options greatly reduce the risk of tool and workpiece damage, making this a highly reliable and safe 3D printer.

## MORTAR

We advise to use the CyBe Mortar as this has been optimised for our hardware and software combination. Other mortar can of course be used although we cannot guarantee the quality when you use your own material.

## INTEGRALITY

We believe in an integrated system, which shouldn't limit partners to for instance develop their own material, as long as it is aligned on the hardware and software from which you search for integrity. This integrated system is developed to strengthen each other as partners, not limit each other.

# SPECIFICATIONS | PART 1

	FIXED	MOBILE
<b>DIMENSIONS</b>		
Build volume (L x W x H) (1)	250 x 500 x 300 cm	250 x 500 x 400 cm
Reach (2)	265- 350 cm	265- 350 cm
Number of axis	6	7
<b>PERFORMANCE</b>		
Position repeatability	0,15 mm	0,15 mm
Path repeatability at 1 m/s:	1,5 mm	1,5 mm
Print material (3)	CyBe MORTAR	CyBe MORTAR
Layer resolution (4)	Between 10 - 50 mm	Between 10 - 50 mm
Print speed (5)	50 - 600 mm/s	50 - 600 mm/s
Travel speed		3km/h
Print precision	1 / 1 / 1 mm	1 / 1 / 1 mm
Nozzle Diameter(4) - Standard	40mm x 20mm	40mm x 20mm
<b>SAFETY</b>		
Double circuits with supervision	yes	yes
Emergency stops	yes	yes
Safety functions	yes	yes
Safety fence	optional	no
Environment temperature	Between 5 - 50 °C	Between 5 - 50 °C
Humidity	Relative max. 95%	Relative max. 95%
<b>CONNECTIVITY</b>		
WiFi	yes	yes
Stand-alone USB-printing	yes	yes
Remote support	yes	yes
<b>WARRANTY &amp; SERVICE</b>		
CE marking	yes	yes
Warranty	12 months	12 months

- (1) Extended Height 350cm - build volume is spherical - the max L, W or H of an element has a direct relation on the other max dimensions in L, W and/or H.  
(2) Depends on chosen manipulator  
(3) Other material possible after review  
(4) Depends on chosen nozzle  
(5) Standard 300 mm/s



## FIXED

## MOBILE

**WHAT'S INCLUDED**

Mix- pump system	107 x 105 cm	107 x 105 cm
Control unit with interface	265- 350 cm	265- 350 cm
Material storage	yes	yes
Robot base	yes	no
Crawler system	no	yes
Training 2 print operators (1)	yes	yes

**SYSTEM - CONTROLLER & MANILPULATOR**

Weight (2)	3.000 kg	4.500 kg
Physical controller (LxW)	107 x 105 cm	107 x 105 cm
Noise	max. 70 db	max. 70 db
Electronical connection		
Supply voltage	200 – 600 V, 50/60 Hz	200 – 600 V, 50/60 Hz
Rated pwr, supply transformer	7.2 – 7.8 kVA	7.2 – 7.8 kVA
Physical crawler		

**SYSTEM - MIX PUMP SYSTEM**

Weight (1)	225 kg
Physical controller (L x W x H)	110 x 75 x 150 cm
Noise	max. 60 db
Electronical connection	
Supply voltage	380 V, 55Hz
Edge plugin connector	32 Amp 5pole
Mix and pump motor	5.5 kW, 50Hz
Material supply motor	0.75kW
Water connection	
Connection - pump	DHW connection with water pump
Connection	Geka water connection 1/2"
Water gauge	75 - 750 lit./h
Concrete hose	Max. 15 mtr <sup>1</sup> hose

**DELIVERY**

Production time (3)	4-6 months
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**SOFTWARE**

CyBe CHYSEL	In Rhino
CyBe DIRECTOR	On the Robot
File types	.dwg .3dm .obj
OS	Windows

(1) The basic training for 2 print-operators & safety instructors will be executed in the Netherlands. On-site training, additional operators and advanced training programs are optional.

(2) Depends on chosen manipulator

(3) @ Cybe facility in the Netherlands

\*With every 3Dprint variables will be attuned to the most optimal 3Dprint strategy (by the user) to 3Dprint the product. Therefore no rights can be derived from the information provided in the specifications.

\*Data and dimensions may be changed without notice. Please contact CyBe to inquire about the latest version.

# OPTIONS

## **SERVICE LEVEL AGREEMENT**

Reliability, flexibility and efficiency, are important criteria for our machines. While developing our equipment we highly value ease of use using innovative technologies. Based on the experience from the projects we've executed we're able to solve almost every challenge from a distance or on site. The additional support we'll deliver shall be determined in a customized service level agreement, according to your needs and wishes. Annual maintenance & inspection, a fast availability of spare parts, and virtual support can be specified in this agreement.

## **OPTIONS MIX PUMP SYSTEM**

- Digital
- Digital sensor controlled
- Dust extraction system - on the mix station
- Mortar silo

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## **OPTIONS CRAWLER**

- Levelling legs - digital

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## **OPTIONS DEPENDING ON LOCATION**

- Water cooling unit - for warmer climates
- Water pump - to ensure a constant water pressure

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## **ADDITIONAL OPTIONS**

- Customized robot color (RAL color)
- Robot arm protection sleeve

Besides the above mentioned options we are developing several customized options. If you are looking for a specific solution please contact our sales team.

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*Have fun, Be amazing, Stay happy and Live long!*

