

## at a glance

### ► FELIX BIOprinter ◀

#### Touchscreen

with user friendly interface and embedded print server guides users through prints. Wifi & LAN capability allows you to operate the system from a distance.

#### Camera

The module enables easy progress monitoring and easy creation of time lapses and videos.

#### UV curing system

UV light with 365nm wavelength, 2W at high intensity. Enables quick curing of layers.

#### Open system

Allows user to use any standard 5 ml Luer lock syringe, standardised petri-dishes and culture plates, so there are no limitations on auxiliary parts and materials, giving you the flexibility to conduct your research.

#### Controlled heating and cooling

Heated and/or cooled syringes and print bed ensure cells are printed at optimal preservation temperature within 0,5°C variance.

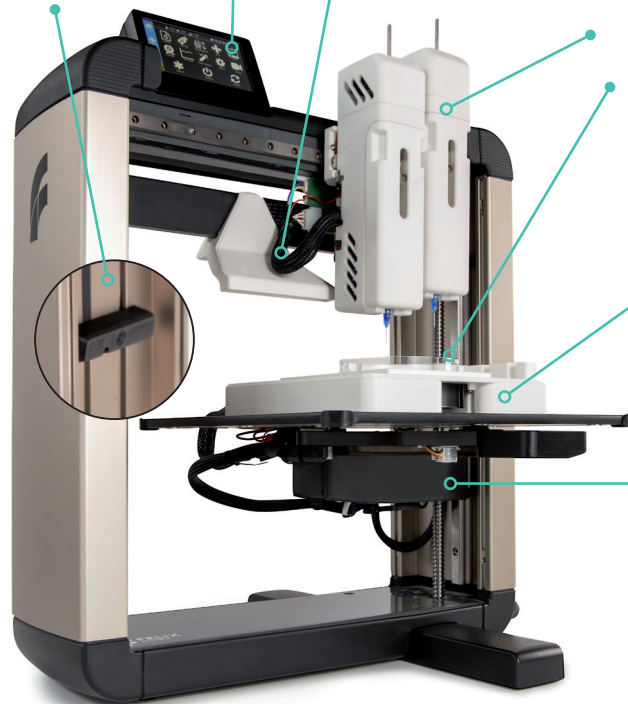
#### Smart print-bed module design

Allows easy placement of a wide range of standardized containers of petri dishes and well plates.

#### Automatic bed leveling and calibration

Unique nozzle probing system gives a perfect first layer and saves valuable research time.

#### One-touch automated functions for ease of use



## about us

### ► FELIXprinters ◀

More **than a decade** of 3D printer manufacturing experience

#### ► Craftmanship

Printers built with industrial grade materials, ensuring long term reliable operation.

#### ► Dutch design

Print delicate objects with accuracy.

#### ► Superior technology driving real value

Focus less on the machine and more on your result.

#### ► Upgradability

Upgrades of key hardware parts keep you up to date on the latest technology in a cost-effective way. Customize modules according to your specifications.

#### ► Lifetime support

Targeted service to enable your success.

## contact

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## FELIX BIOprinter

Advance your medical and scientific research



# about

## BIOprinting for medical, scientific and research applications

### Motorized Extrusion System

#### Syringe extrusion capabilities

3D print materials with a viscosity range of between 50 – 1000 Pa.s with a powerful extrusion system.

#### Virtually no leakage due to smart retraction capabilities

The retractable printhead allows **accurate dosing** of the medium, controlled via a micro stepper motor.

### Intelligent dual syringe

#### Prevent collision and cross-contamination

The extruder that is not in use lifts to prevent the needle from colliding against the printed object. This prevents print failure and cross-contamination.

Print in well plates or petri-dishes thanks to the syringe lifting over the edge of the container.

#### Quick swap system

Automatic exchange of syringes in 5 seconds for an undisturbed workflow.

### Heated and Cooled Print Bed

The print bed and additional custom bed unit heats and cools.

**i** The FELIX BIOprinter was developed by the brightest minds for the most advanced bioprinting technology.

FELIXprinters partnered with a team of Early Stage Researchers from training4crm and the Technical University of Denmark and was backed by funding from the European Union Horizon 2020 Programme.

# bio-inks

## A complete solution for your bioprinting applications

#### We offer you

a wide range of ready-to-print bio-inks, saving time and resources as an alternative to developing bio-inks in-house.

#### Why choose bio-inks?

- Quality and printability of the bio-inks is guaranteed.
- Developed by dedicated scientists.
- All bio-inks have been tested for optimal printability on the FELIX BIOprinter.

FELIXprinters supplies *two leading brands* of bio-inks.

### Claro™

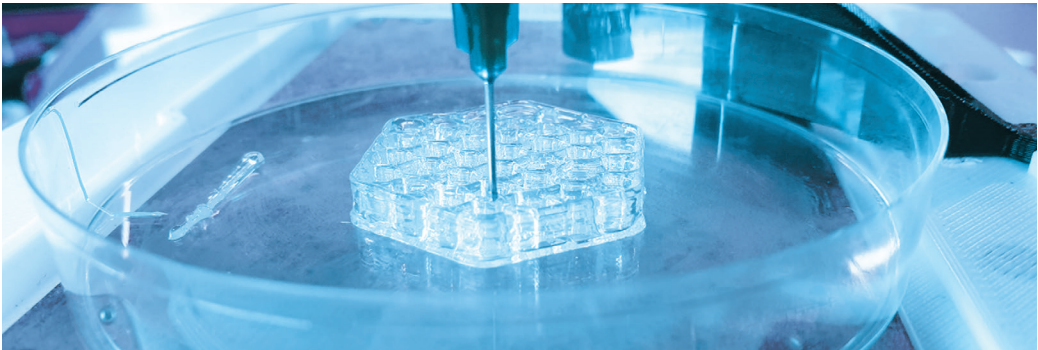
Claro™ is a leading developer of bioprintable GelMA for extrusion-based bio-printing. The Claro range offers hydrogel bio-inks in ready-to use and freeze-dried format. Claro ensures a smooth printing flow without clogging.

### BIO INX®

BIO INX® offers a wide spectrum of inks for deposition-based 3D printing, ranging from synthetic to nature-derived materials, for easy printing of biocompatible platforms enabling cell seeding and/or cell encapsulation. The Bio Inx® range includes collagen, gelatin, scaffold, biodegradable and sacrificial inks.

Find the bio-ink that perfectly matches your project.

Contact us for advice.



# specifications



1	Technology	• Motorized volumetric dosing • Spindle stepping motor
2	Build volume [X,Y,Z]	130 x 210 x 130 mm
3	Syringe(s) for dual printheads	• 5 cc Plastic Luer lock • Cooling/heating element has a range of 4 up to 75°C
4	Bed/ flexplate	• Automatic bed levelling calibration • Flexplate heated up to 75°C • Optional heating/cooling unit: 4 up to 60°C
5	Viscosity/max extrusion force piston	300 N
6	Recommended viscosity	50 Pa.s up to 1000 Pa.s
7	Nozzle(s) size/ output	Recommended sizes: 0.26 mm / 0.34 mm / 0.41 mm / 0.51 mm / 0.61 mm
8	XYZ resolution	X and Y direction: 1.6 micron Z direction : 0.15 micron
9	Accuracy	Typical print accuracy: +/- 0.1 mm for sizes below 20 mm
10	Build speed	1 mm/ s up to 40 mm/ s. Standard 5mm/s (depending on viscosity)
11	Layer resolution	From 50 micron up to 500 micron Typical value is 200 micron Optimal layer height depends on nozzle size
12	Power requirements	100 - 240 Volt single phase – max 3 Amps
13	Control panel/ camera	5" Touch screen interface 10 – 12.5 Gb memory (data storage) 2 MP camera (all printers)
14	Interfacing	USB connectivity / WIFI/ Ethernet (all printers)
15	Options	1. UV blocking Polycarbonate cover unit (other – PET G) 2. UV curing unit 365 nm wavelength / Output 2W 3. Glass print platform LxWxH 260 x 270 x 3 mm
16	Printer packaging dimensions [LxWxH] / weight	Packaging in carton box 780 x 530 x 250 mm, approx. 20 kg Net weight: approx. 15 kg

Optional homogenous temperature-controlled bed unit: 3 °C – 45 °C  
Optional UV module and plexiglass available