

BP - 3030

3D BIO PRINTER



EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net

▶▶ THE FUTURE OF 3D BIOPRINTING

Robust, reliable and small enough to fit on your benchtop, the powerful 3D bioprinter is perfect for today's advanced research applications. Pair this with the benefit of unrivalled ATL customer support and you will see a dramatic increase in your research productivity in a wide range of applications.

The innovative offers a pneumatic-based extrusion system with dual print heads and built-in UV LED curing that allows for quick and easy bioprinting of living tissues. Thanks to our patented Clean Chamber Technology, offers a sterile internal environment right on your benchtop. The two heated print heads allow for the use of a wide range of materials and different cell types in the same construct. All of this can be found in a compact, precise and user-friendly system.

▶▶ STERILITY ON YOUR BENCHTOP

Clean Chamber Technology provides a sterile printing environment without the need for a biological hood.

▶▶ DIFFERENT CELL TYPES

Two printheads allows the user to print with different cell types in the same structure.

▶▶ WIDE RANGE OF MATERIALS

Operating at temperatures up to 130 degrees Celsius, heated printheads allow you to print with a wide range of materials.



▶▶ **EASY CROSSLINKING**

The built-in UV Crosslinking System with wavelengths of 365 nm and 405 nm provides a quick and convenient way to initiate photo crosslinking.

▶▶ **SPACE ECONOMY**

Powerful and compact, the small footprint of the ATL fits easily on your benchtop.

▶▶ **PRECISE, ACCURATE AND REPRODUCIBLE**

Pneumatic micro-extrusion printheads with high XYZ resolution.

▶▶ **STANDALONE UNIT**

The LCD display and manual pressure regulators provide an easy-to-use standalone unit while retaining the option of monitoring the bioprinting process through a computer.

▶▶ **DUAL HEATED PRINTHEADS**

The comes equipped with dual heated printheads, allowing you to bioprint with different cell types and bioinks in the same structure without switching cartridges or pausing the process. As a result, complex, stable structures can be achieved precisely how you want them and in less time. The ATL comes with a built-in system to operate the printheads at temperatures up to 130 degrees Celsius. As a result, a wide range of biomaterials can be used, including those that may be too viscous at room temperature.

▶▶ **CLEAN CHAMBER TECHNOLOGY**

The features our patented Clean Chamber Technology, providing a sterile internal environment without the use of a biological hood. A powerful fan creates a positive air pressure inside the chamber of the ATL. Unfiltered air is passed through a high-efficiency H13 HEPA filter with a retention rate greater than 99.95% that captures unwanted particles. The chamber is filled only with filtered air, providing a clean environment for 3D bioprinting and cell culturing right on your benchtop.

▶▶ **UV-CROSSLINKING SYSTEM**

UV Crosslinking System that hardens your structure and allows it to be moved without losing its integrity. A wide range of bioinks can be cross linked using the 365nm LED or 405 nm option. These ideal crosslinking wavelengths are conveniently accessible within the sterile environment.

▶▶ SPACE ECONOMY

We know how valuable lab space is, which is why we packed as much functionality as possible into the compact bioprinter. Dual heated printheads, Clean Chamber Technology, LCD display, built-in UV Crosslinking System, manual pressure regulators and more can all be found within the small footprint.

▶▶ PURPOSEFUL DESIGN

Intentionally engineered to be user-friendly. The intuitive LCD controller allows you to set up and modify your bioprinting experiments. Manual pressure regulators provide precise regulation of the dispensing process. The built-in UV Crosslinking System offers a quick and easy way to strengthen your 3D-printed construct with the touch of a button. Together, these features make the a standalone unit while still retaining the ability to be monitored through a computer with accompanied software.



▶▶ EASY PRINTING PROCESS

CELL MIXING

Before printing, the cells need to be mixed with the bioink. We have developed the easiest and most homogenous way of doing this using our innovative CELLMIXER. Put the bioink in a 3mL syringe and add your cells to suspension media in a 1 mL syringe. Clip each syringe to the dispensing unit, connect the mixing unit to the tip of each syringe and then connect the filling cartridge. Screw all connections so there is no leakage. Fill the cartridge by gently injecting the ink and cells through the mixing unit. Your filling cartridge is now ready for bioprinting and can be disconnected from the mixing unit.

►► BIOPRINTING

When cell mixing is done and your cartridge is filled, you're ready to start printing. Screw a nozzle on to the cartridge and place it in the printhead after connecting it to the air system. Configure the desired print settings using the LCD display. Pressure can also be adjusted easily during the bioprinting process using the pressure regulator knobs. Follow the procedure to quickly home the XYZ axes, then choose the design file you would like to use and start printing.

►► CROSSLINKING

Depending on the material you are printing, you may need to crosslink the printed construct. For UV crosslinking, you can use the built-in LED with wavelengths of 365 or 405 nm. For other types of crosslinking, you can also add the crosslinking agent directly to your construct.

►► FEATURES

BIOPRINTING

- Bioprinting Technology: Pneumatic-based microextrusion system
- Printheads: 2 heated, pneumatic-based extrusion printheads
- UV Crosslinking System: 1 UV LED curing system 365 nm (405 nm optional)
- Printhead Temperature Max: 130° Celsius
- Build Volume: 130 x 80 x 100 mm. Printbed has insets for P100 petri dish and multi-well plates.
- Positioning Precision: XY: 10 um [0.0004 in]; Z: 2.5 um [0.0001 in]
- Layer Resolution: 100 pm [0.0039 in]
- Hydrogel's viscosity range: 0.001 to 250 Pa.S [1 to 250,000 cP]
- Max. Operating Pressure: 700 kPa
- Set Pressure Range: 5 to 400 kPa
- Sensitivity: Within 0.2% F.S. (0.8 kPa)
- Repeatability: Within ±1% F.S. (4 kPa)
- Minimum Unit Setting: 1 kPa
- Pressure Display Units: kPa, MPa, kgf/cm², bar, psi, inHg and mmHg
- Printhead's Response Time: 5 ms or less (ON), 4 ms or less (OFF)
- Nozzle Length: Auto-calibration, 6.35 mm [0.25 in] to 38.1 mm [1.5 in]
- Nozzle Diameter: User dependent, 50 to 1540 um

►► SOFTWARE

Software Bundle: Slic3r, Repetier-Host

File Types: STL/OBJ/AMF

Supports: Windows (XP 32 bit/7+), Mac OS X (10.6 64 bit/10.7+) and Ubuntu Linux (12.04+)

Connectivity: USB, SD-card

►► PHYSICAL SPECIFICATIONS

Frame: Chemically resistant, powder-coated high-grade steel

D x W x H: 330 x 370 x 430 mm (19.1 x 16.5 x 14.7 in)

Shipping Box: 59 x 55 x 43 cm (23 x 21.5 x 17 in)

Shipping Weight: 20 kg (44.5 lbs)

►► ELECTRICAL

Power Supply Adapter:

Input: 100-240VAC, 50/60Hz, 2.0A

Output: 24VDC, 6.67A, 160W Max

Portable, Oil-free Air Compressor:

EU/UK/AU/CH: 230VAC, 50Hz

US/MEX/CA/JAP/Taiwan: 110VAC, 60Hz

3D Bioprinter:

Input: 24 VDC, 6 A

►► ADDITIONAL FEATURES

Clean Chamber Technology

Manual pressure regulators

LCD display

HPLC Servicing, Validation, Trainings and Preventive Maintenance :

HPLC Servicing :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

Trainings :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

AMC's/CMC :AMC's/CMC :We offer user training both in-House and at customer sites on HPLC principles, operations, trouble-shooting.

Validations :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

Instruments :Instruments :We offer instruments/Renting Services Modules like pumps,detector etc. on Rent.



About Analytical Technologies

Analytical Technologies is synonymous for offering technologies for doing analysis and is the Fastest Growing Global Brand having presence in at least 96 countries across the global. Analytical Technologies Limited is an ISO:9001 Certified Company engaged in Designing, Manufacturing, Marketing & providing Services for the Analytical, Chromatography, Spectroscopy, Bio Technology, Bio Medical, Clinical Diagnostics, Material Science & General Laboratory Instrumentation. Analytical Technologies, India has across the Country operations with at least 4 Regional Offices, 6 Branch Offices & Service Centers. Distributors & Channel partners worldwide.

Our Products & Technologies



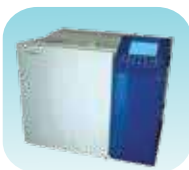
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Spectro 2080+
Double Beam



Infra FTIR



Optima Gas
Chromatograph
3007



Optima Gas
Chromatograph
2979 Plus



Flash
Chromatograph



Atomic Absorption
Spectrophotometer



Liquid Particle
Counter



Optical Emission
Spectrophotometer



DSC/TGA



Semi Auto Bio
Chemistry Analyzer



HEMA 2062
Hematology
Analyzer



Micro Plate
Reader/Washer



URINOVA 2800
Urine Analyzer



Total Organic
Carbon 3800



Fully Automated
CLIA



NOVA-2100
Chemistry Analyzer



PCR/Gradient PCR/
RTPCR



TOC
Analyzer



Laser Particle
Size Analyzer



Ion Chromatograph



Water purification
system

Regulatory compliances



Corporate Social Responsibility

Analytical Foundation is a nonprofit organization (NGO) found for the purpose of:



Analytical Foundation

1. Research & Innovation Scientist's awards/QC Professional Award : Quality life is possible by innovation only and the innovation is possible by research only, hence ANALYTICAL FOUNDATION is committed to identify such personalities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research / testing / publication at Info@analyticalfoundation.org

2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds,souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.



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