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PROVIDING INNOVATIONS IN  
BIOTECHNOLOGY, BIOPHARMA, AND  
CELL AND GENE THERAPY SINCE 1996

BIOTECHNOLOGY | CELLULAR AGRICULTURE | CANCER RESEARCH

BIOPHARMA | CELL & GENE THERAPY | VACCINES

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BPES connect knowledgeable consumers to market-leading innovators of specialist scientific instruments and industrial equipment used in biotech, biopharma and cell and gene therapy. We partner with the best biotechnology product manufacturers to ensure our customers can find the best solution for their application.

Interested in your process, our team invest their focus and expertise in finding you the best solution, helping you to start up, optimise or keep your current bioprocess going. Our local, comprehensive support services include: training, application support, maintenance, and calibration.

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# CONNECTING YOU TO MARKET-LEADING TECHNOLOGIES

BIOTECHNOLOGY | CELLULAR AGRICULTURE | CANCER RESEARCH | BIOPHARMA  
CELL & GENE THERAPY | VACCINES

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# ABER

## The ABER FUTURA range

ABER's pioneering work in the development and use of dielectric instrumentation to monitor biomass, by measuring cell membrane capacitance and suspension conductivity, has regularly set new standards.

In the biotech market, the current FUTURA range is seen as the benchmark in determining live cell concentration online in bioreactors.

### Principle of ABER's Cell Capacitance Technology

Cells with intact plasma membranes in a fermenter can be considered to act as tiny capacitors under the influence of an electric field. The non-conducting nature of the plasma membrane allows a build up of charge. The resulting capacitance can be measured: it is dependant upon the cell type and is directly proportional to the membrane bound volume of these viable cells.

ABER's technology converts capacitance into a live biomass reading, typically cells/mL or g/.

### WHAT DO WE THINK?

#### ✓ Accuracy

ABER's FUTURA is designed to give an accurate reading of viable biomass using capacitance. Their technology provides the ability for real-time accurate measurement and control of biomass concentration from lab scale all the way up to GMP manufacturing.

#### ✓ Versatility

The FUTURA system can be used for many applications in the biopharma, biotech and C&GT spheres, including cell culture, perfusion systems, microcarriers and packed beds as well as microbial, yeast and mycelial applications.

### Did you know?

FUTURA sensors are widely adopted by the world's leading biotech companies with over 90% of all capacitance based sensors used in manufacturing supplied by ABER.



## The ABER OPTURA range

ABER's gold standard biomass monitoring technology and expertise has expanded.

The OPTURA range utilises near infrared bio-reflectance measurements to deliver rapid insight into your biological processes. The NIR laser is emitted from the sensor face into the media, cells present in the media reflect the laser back into the sensor's measurement face, resulting in a measurement of reflectance where increasing reflectance return corresponds with increasing biomass.

**OPTURAPALM:** provide contact-less biomass measurements in the palm of your hand. With the **OPTURAPALM**, you can easily monitor biomass growth while maintaining a sterile environment. Simply press the device against your vessel and let ABER's technology do the rest.

**OPTURASPY:** Contact-less, real-time biomass measurements.

This small profile sensor utilises an adhesive vessel adaptor, making it highly adaptable and capable of monitoring biomass in a variety of vessel types. Containing the revolutionary bubble filter algorithm, this small sensor provides big possibilities.








**OPTURASCOPE:** Experience real-time measurement of total biomass with our sensor which is easily inserted into your vessel via a head plate or bioreactor ports, this sensor provides in-line monitoring without the need to manipulate wavelengths or worry about interfering bubbles.

### KEY BENEFITS

- ✓ Contact-less measurement
- ✓ Quick readings
- ✓ Real-time readings
- ✓ Biomass and growth rate readings
- ✓ Small sensor profile
- ✓ Works in a variety of vessel types
- ✓ Reduce manual readings
- ✓ Wide linear biomass range
- ✓ Wide range of applications



### PRODUCTS AVAILABLE:

|   |   |  |   |   |
|---|---|--|---|---|
| Probe(s)  | + | Futura(s)  | + | Transmitter(s)  |
|  <p><b>12mm Probe</b><br/>For small bioreactors.<br/>Headplate mounting.</p> |   |  <p><b>Standard Remote</b><br/>For restricted space.</p>  |   |  <p><b>Connect 1</b><br/>Single Channel, Current Loop, Modbus, USB</p>      |
|   |   |  |   |  <p><b>Connect 4</b><br/>4 Channel, Current Loop, Modbus, USB</p>          |
|  <p><b>25mm Probe</b><br/>For larger bioreactors DN25 port.</p>              |   |  <p><b>Standard Futura</b><br/>For larger bioreactors</p> |   |  <p><b>V350 - Panel</b><br/>1 Channel Current Loop Colour Touch Screen</p> |

### PRODUCTS AVAILABLE:

|   |  |  |
|---|--|--|
|  <p><b>ABER OPTURAPALM</b></p> |  <p><b>ABER OPTURASPY</b></p> |  <p><b>ABER OPTURASCOPE</b></p> |
|---|--|--|



**ABER**  
TRUSTED TECHNOLOGY



### WHO TO CONTACT

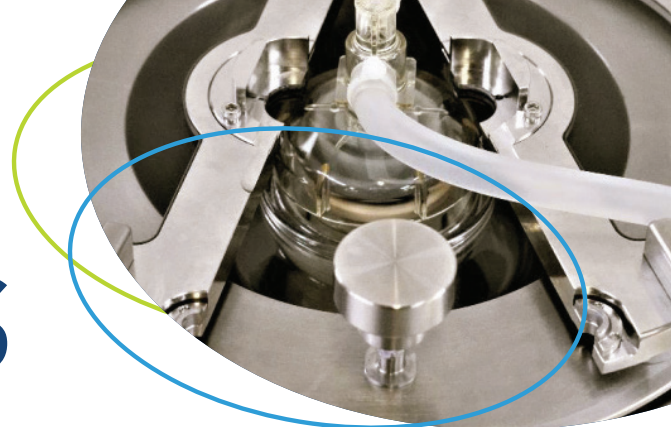
**EMMA CRAUGHAN**  
HEAD OF SALES  
T: 01795 859 470  
E: [ecraughan@bpes.co.uk](mailto:ecraughan@bpes.co.uk)



# CARR BIOSYSTEMS

SINGLE USE

MULTIPLE USE



The CARR Biosystems range of continuous flow aseptic centrifuges offers the ability for true scale-up of contained processes, from development to production for microbial, yeast, animal cell and fine chemical applications.

Focusing on centrifugation for over 25 years gave CARR Biosystems the unmatched expertise to pioneer single-use centrifuge solutions. Top biopharmaceutical and other leading companies worldwide confidently use their equipment to help produce high-quality biological medicines and other products.

The UFMMini in particular has provided a compelling solution for alternative meat start ups working at a small scale who also want to keep one eye on scaling up in the future.

**Available as both single and multiple use.**

## WHAT DO WE THINK?

### ✓ Innovative

Only provider of single-use semi-continuous process centrifuge designed to harvest ~500mL bioreactors up to 2,000L. Suitable for both cell collection and supernatant harvest, the UniFuge family of centrifuges is the perfect partner to your SUB.

### ✓ Reliable

Their strong history in manufacturing process equipment put them in the best position to provide market-leading equipment.

### Did you know?

Carr Biosystems (formally Pneumatic Scale Angelus) are BPES' longest serving supplier. We have been working together for almost 30 years!

## PRODUCTS AVAILABLE:



Carr Biosystems UFMMini – Single Use Centrifuge



Carr Biosystems UniFuge Pilot – Single Use Centrifuge



Carr Biosystems U2k® – Single Use Centrifuge



Carr Biosystems Powerfuge – Pilot, P6, P12 & P18

## WHO TO CONTACT

EMMA CRAUGHAN  
HEAD OF SALES  
T: 01795 859 470  
E: [ecraughan@bpes.co.uk](mailto:ecraughan@bpes.co.uk)



CARR BIOSYSTEMS™



# CERCELL

SINGLE USE



CerCell provide a range of creative and innovative single-use bioreactors and fermenters.

All CerCell products are designed to easily replace traditional glass/steel vessels (STR) and are compatible with most process control systems. The vessels are highly configurable with thousands of component choices available with fast turnaround. Standard options are available for both microbial and cell culture applications.

## WHAT DO WE THINK?

### ✓ Bespoke

Vessels can be selected based on volumes, heights and impellers, even heights of impellers. You can select your sensors, whether they are reusable or single-use. They are completely configurable to your specifications and can be scaled based on the existing systems in your facility.

### ✓ Specialists in rigid single-use technologies

CerCell are experts in single-use pharmaceutical-grade plastics and moulding, manufacturing customised vessels. They specialise in rigid single-use bioreactors and fermenters for research and process development.

### Did you know?

Unlike many competitors, CerCell vessels can be ordered from low numbers, in quantities capable of small scale development.

## PRODUCTS AVAILABLE:



CerCell BactoVessel Single Use Fermenter



CerCell CellVessel Configurable Single Use Bioreactor

## WHO TO CONTACT

EMMA CRAUGHAN  
HEAD OF SALES  
T: 01795 859 470  
E: [ecraughan@bpes.co.uk](mailto:ecraughan@bpes.co.uk)



CerCell



# CONSTANT SYSTEMS

Constant Systems cell disruptors deliver a constant pressure giving 99% cell disruption with one pass.

The cell disruptors use high pressure for cell lysis processes, combined with their unique hydraulic design and control system. This innovative approach ensures a consistent process, enabling both upward and downward scalability for projects.

The range offers scalable solutions for highly efficient cell lysis, from 0.5mL single sample processing to 150L/hour continuous fluid processing. Utilised by leading academic, research, and industrial facilities worldwide, Constant Systems products are instrumental in processing a wide array of expression systems, from common ones like *E. coli* and *S. cerevisiae* to more resilient organisms like *P. pastoris*, *S. aureus*, and *L. lactis*.

## PRODUCTS AVAILABLE:



Constant Systems –  
One Shot Cell  
Disruptor



Constant Systems –  
Multi Cycle Cell  
Disruptor



Constant Systems –  
Continuous Flow Cell  
Disruptor



Constant Systems –  
High Flow Rate Cell  
Disruptor

## WHO TO CONTACT

MATT WRIGHT  
TECHNICAL SALES SPECIALIST  
T: 01795 859 470  
E: mwright@bpes.co.uk



# GREEN ELEPHANT BIOTECH

SUSTAINABLE  
SINGLE-USE

The CellScrew® is a novel single-use adherent cell expansion system with high growth area to volume ratio.

Combining the high-growth area of a multi-stack system with the mixability of a roller bottle, the CellScrew is simple to use and compatibility with any conventional roller device. It is made from plant derived PLA by an additive manufacturing process, which reduces its carbon footprint ~ 90% when compared to standard single-use cell culture dishes.

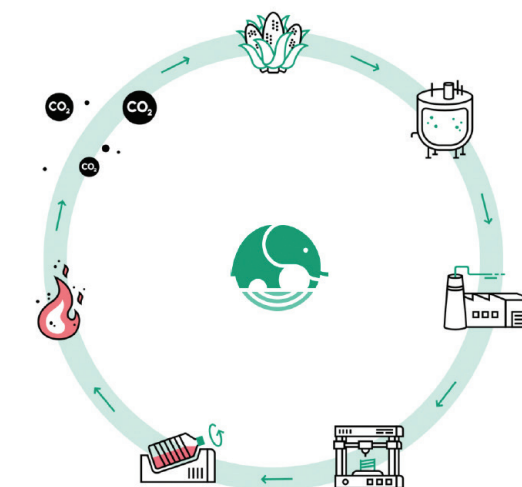
## PRODUCTS AVAILABLE:



CellScrew CS6K  
Working Volume: 250-800 mL  
Growth Area: 6,066 cm<sup>2</sup>



CellScrew CS10K  
Working Volume: 450-1,300 mL  
Growth Area: 10,313 cm<sup>2</sup>



## ADVANTAGES

- ✓ **Reduced manufacturing costs** - The large growth area, intensified processes and ease of handling reduce labour costs and required manufacturing space.
- ✓ **Reduced time to market** - As the CellScrew® can be applied from lab scale to manufacturing scale, no additional process development is necessary to scale-up.
- ✓ **Reduced environmental impact** - Your CO<sub>2</sub> emissions are reduced by more than 90% using the CellScrew®, compared to conventional multilayer stacking systems.

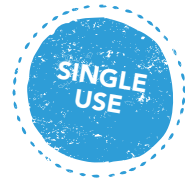
**THE PERFECT START:** CellScrew CS6k Starter Pack  
Secure a fantastic deal on 3 CellScrew CS6Ks!  
Plus, enjoy complimentary consultations to ensure you achieve the best possible outcomes.

## WHO TO CONTACT

MATT WRIGHT  
TECHNICAL SALES SPECIALIST  
T: 01795 859 470  
E: mwright@bpes.co.uk



# HPNE

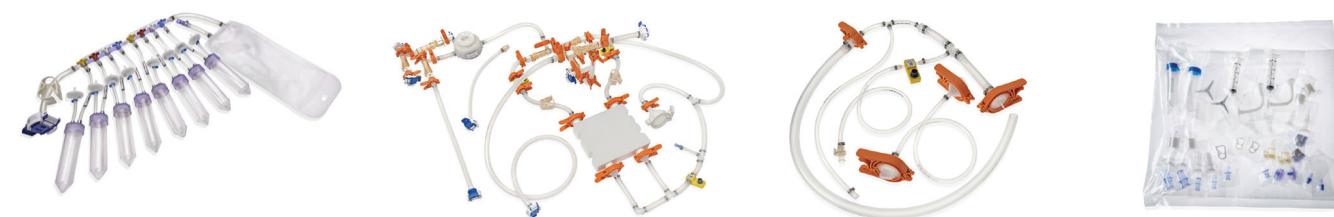


High Purity New England (HPNE) – Optimising your research and drug development process. HPNE supplies and manufactures single-use assembly products, connectors, tubing and components.

From discovery, development, clinical testing to manufacturing, your research and drug development process is unique. HPNE delivers the customisation you need to optimise your in-process supply chain from clinical development stages through to commercial scale.

**Getting your process right means getting your assemblies right.**

## PRODUCTS AVAILABLE:



HPNE HPConnexx Custom Single-Use Assemblies

## WHAT DO WE THINK?

### ✓ Flexibility

With HPNE custom assemblies, you can have exactly what you need, to your precise requirements, regardless of component brand, company or part. Available in single quantities, HPNE provide effective solutions with no commitment required for larger quantities.

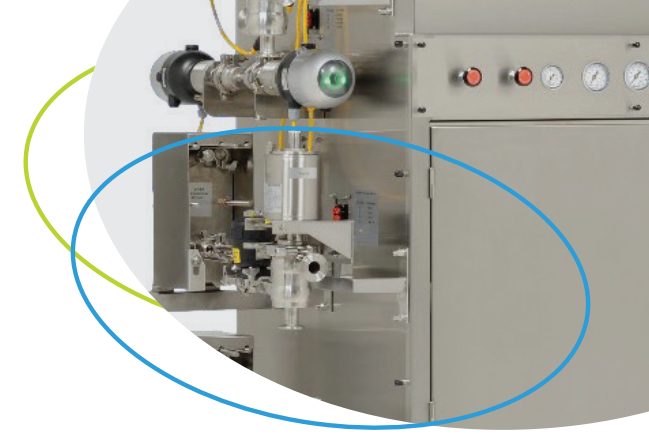
### ✓ Comprehensive Solution

Near limitless customisation and services that's backed by a deep understanding of biopharmaceutical unit operations. HPNE is your partner from concept to delivery.

## Did you know?

HPNE have short lead times, ahead of the game among their competitors.

# MTI BIOSCIENCE



MTI Bioscience provides continuous thermal sterilisation (CTS) systems for heat denaturation of microorganisms.

This established technology provides very gentle, quick heating and is validated in real time providing consistent product quality that is easily scalable.

MTI Bioscience's thermal sterilisers and can be used for applications ranging from media sterilisation through to viral inactivation. Flow rates range from 0.3L/min up to 12L/min. The systems are fully automated and can be customised to your exact requirements.

## PRODUCTS AVAILABLE:



MTI BioScience – Continuous Thermal Sterilisers (CTS)

## WHAT DO WE THINK?

### ✓ Consistent

MTI's continuous thermal sterilisers produce high quality and highly functional media with no degradation due to variable or prolonged heat exposure as can be the case with autoclaving and large volume bioreactors. The gentle process produces completely uniform media with no variation within batch or from batch to batch.

### ✓ Scalable

Continuous sterilisers are highly scalable and are well suited to today's move towards continuous processing. The amount of media produced is purely a function of flowrate and time unlike a batch process which can cause bottlenecks. MTI have a range of instruments available depending on the flowrate desired.

## Did you know?

MTI's entire range of instruments can be built to cGMP standards as required by pharmaceutical production processes.



## WHO TO CONTACT

**WILL THOMPSON**  
TECHNICAL SALES SPECIALIST  
T: 01795 859 470  
E: wthompson@bpes.co.uk



**HPNE** HIGH PURITY  
NEW ENGLAND | a Getinge company

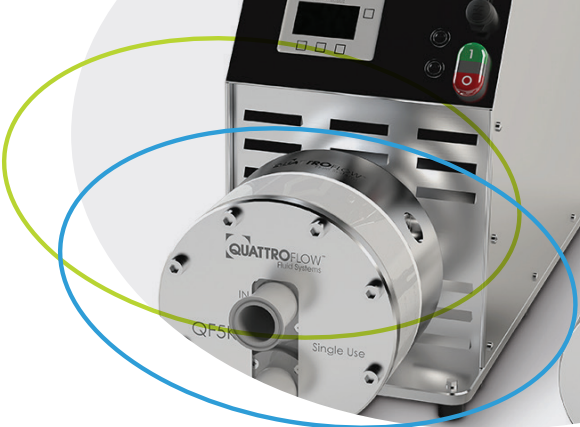


## WHO TO CONTACT

**TOM BURDICK**  
DIRECTOR  
T: 01795 859 470  
E: tburdick@bpes.co.uk



# PSG BIOTECH



## WHAT DO WE THINK?

### ✓ Comprehensive

No matter what your application is, PSG Biotech have a solution to suit your needs. Whether you are trying to maintain consistent flow through your filter or trying to obtain highly precise flow measurements in ultra high purity applications, PSG Biotech has a product to fit your purpose.

### ✓ Intelligent

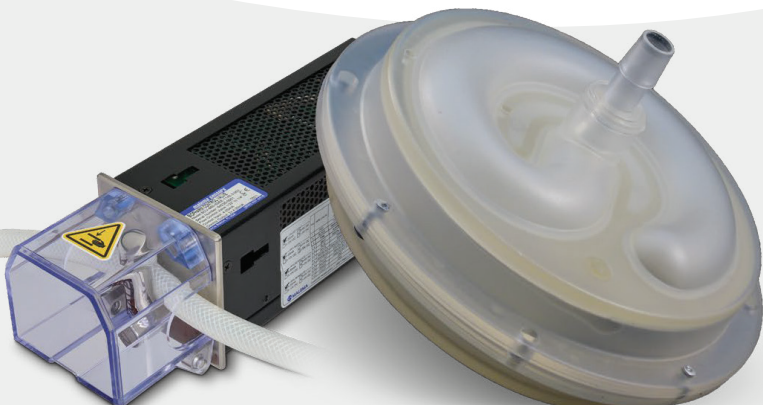
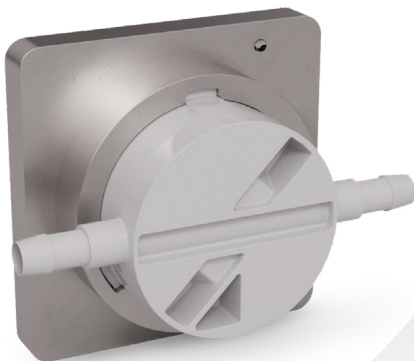
Each product within the PSG Biotech portfolio has been designed for a single purpose - safely and efficiently handling sensitive biologics. Sensors can be hooked up to communicate with your Quattroflow Q-Control pump for precise, gentle, and consistent product transfer.

### Did you know?

PSG Biotech is a conglomeration of several companies you may already be aware of. Including Em Tec, Malema, Quantex, and Quattroflow.

## Sensors & Flow Meters

Whether for use in upstream or downstream applications on a laboratory or industrial scale, the BioProTT™ and SumoFlo® product ranges of flow-measurement solutions of sensors, electronics and process instrumentation provide optimum additions to your applications. Includes contact-free, inline ultrasonic and Coriolis flow-measurement systems and innovations for single-use biopharmaceutical manufacturing techniques.



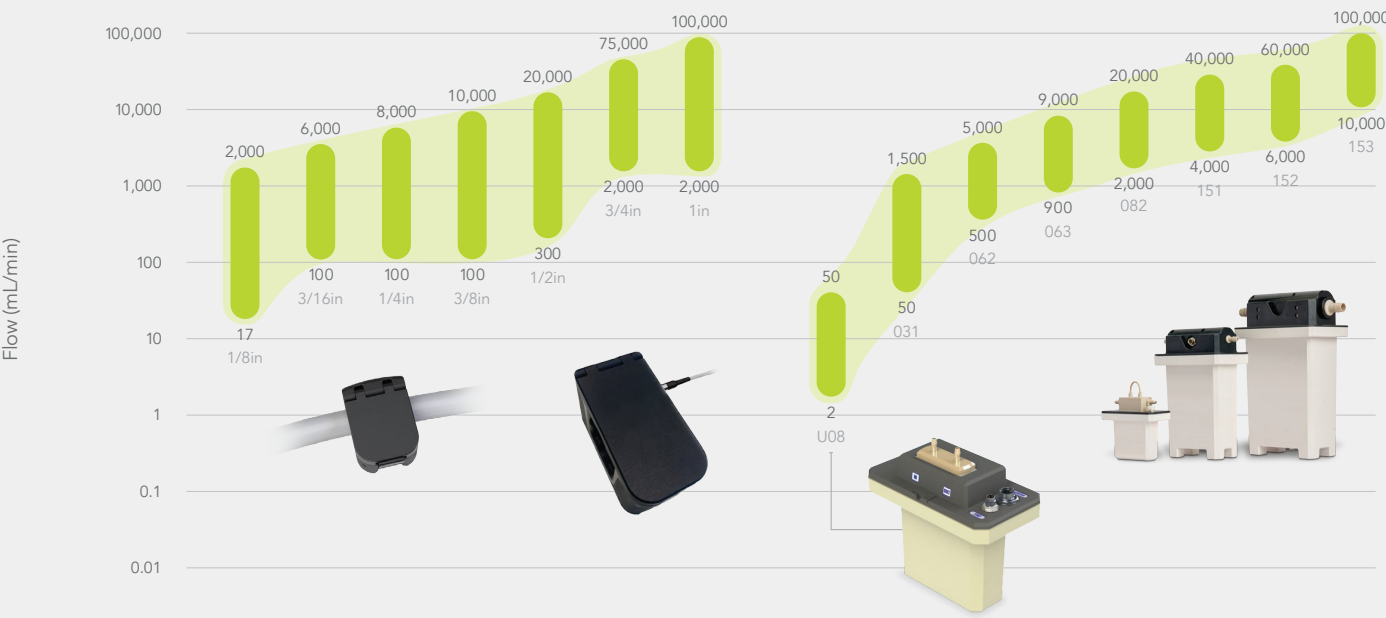
## Flow Control Components

As the leading manufacturer of high-precision flow meters, PSG Biotech has developed a range of solutions, including control valves and pulsation dampeners, that deliver superior flow measurement and accuracy while improving manufacturing techniques in various bioprocessing applications, including chromatography, tangential flow filtration (TFF) and bulk fluid transfer.



Clamp-On Transducers Flow Rate Range\*

SumoFlo® Flow Meters Flow Rate Range



\*The minimal and maximal flow range is limited by the tube material and inner diameter. This may lead to higher or lower possible Qmin and Qmax and shall be examined on a case-by-case bases by test field.



### WHO TO CONTACT

**SEAN DORAN**  
TECHNICAL SALES SPECIALIST  
T: 01795 859 470  
E: sdoran@bpes.co.uk



# SOLARIS BIOTECH

Solaris Biotech provide high quality, ergonomic and innovative fermenters, bioreactors and accessories.

Solaris Biotech benchtop fermenters and bioreactors offer efficient platforms for R&D and product development applications. Their broad range of products are flexible and easy to use, ensuring there is always a solution specific to your needs and requirements – from research scale of a few hundred ml up to cGMP production.

Benefits include compact and user friendly designs, parallel software platform, up-to-date and open communication protocols.

The product range is used in universities, schools and research centres, as well as in pharma, nutraceutical, cosmeceutical, chemical, agricultural, and food and beverage industries, not to mention bioplastics and biofuels applications.

Solaris Tangential Flow Filtration (TFF) systems, fully automated within the Kronos product line, combine industrial elements and a compact design. For larger scale TFF applications open to customisation, consider the Tytan platform.

## WHAT DO WE THINK?

### ✓ Accessible

Solaris aims to provide advanced yet accessible solutions to our customers. Systems can be tailored to exactly match your process requirements. Bioreactors and fermenters are available in scales as small as 200mL and all the way up to 30,000L.

### ✓ Specialist mL

Solaris not only offers off-the-shelf systems, but turnkey solutions for their customers. They can assist their clients in the design and manufacturing of completely integrated turn-key process plants for nearly any application, whether that be biopharma, biotech, food and beverage, and many more.

### Did you know?

You can maximise your R&D capabilities by running up to 24 units in parallel using the Leonardo software.



## PRODUCTS AVAILABLE:

### Solaris Lab



IO 200-1,000mL – Benchtop Mini Bioreactors & Fermenters



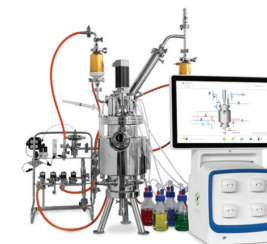
ONE 2L – Single Wall Fermenters & Bioreactors



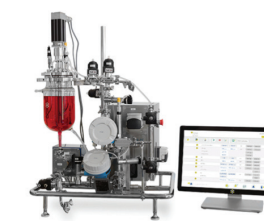
Jupiter 2-10L – Benchtop Fermenters & Bioreactors



Elara – Laboratory Benchtop Photobioreactor



Genesis 7.5-20L – SIP Benchtop Bioreactor & Fermenter



Kronos – Benchtop TFF Systems



METIS – Multi-Channel Gas Analyser for O<sub>2</sub> and CO<sub>2</sub>

### Solaris Industrial



M-Series 30-200L – SIP Fermenters & Bioreactors



S-I Series 5-30,000L – Industrial Scale Fermenters & Bioreactors



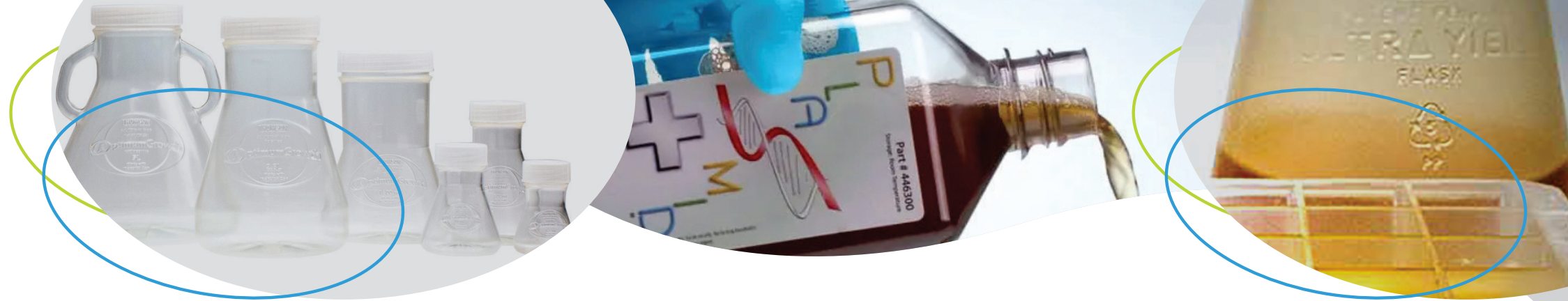
Tytan – Pilot Industrial TFF Systems



## WHO TO CONTACT

**MATT WRIGHT**  
TECHNICAL SALES SPECIALIST  
T: 01795 859 470  
E: mwright@bpes.co.uk





## An Introduction to the Optimum Growth® System

The Optimum Growth® System consists of high efficiency Shake & Special Flasks, Transfer Caps and the Rapid Clear® Cap for cell culture clarification prior to protein purification.

The modular design of the Optimum Growth® System allows components to be used interchangeably and assures that small scale bioprocessing projects can remain cGMP compliant.

Thomson Optimum Growth® Flasks are designed for mammalian and insect cell culture, available in 125mL, 250mL, 500mL, 1.6L, 2.8L and our popular 5L volumes. They are superior to traditional shake flasks due in part to the fact that they support a 40-50% fill volume, versus traditional flasks fill volume of 33%. By holding up to 2x more media Optimum Growth® Flasks greatly increase shaker cabinet efficiency.

### KEY FEATURES

- ✓ Baffles designed for high aeration and low shear to maintain cell viability
- ✓ Same footprint as comparable Fernbach flask but with a 40-50% fill volume
- ✓ Less foaming than disposable Fernbach potentially eliminates additives
- ✓ 0.2µm Vented Cap simultaneously maintains high gas exchange and sterility
- ✓ Transfer Cap option connects directly to cell bags or bioreactors with multiple connection options
- ✓ Scalable flask line allows more flask sizes to be shaken on the same shaker, improving efficiency and flexibility versus other products
- ✓ Individually packaged and sterilised for immediate use

### PRODUCTS AVAILABLE:



**Shake Flasks**  
Higher working volumes and improved aeration increase shaker space efficiency for the expansion of mammalian and insect cell culture.



**Special Shake Flasks**  
Feed / transfer and sampling ports enable our speciality flasks to serve as an aseptic system and mini-bioreactor.



**Transfer Caps**  
For seeding larger bags and fermenters, as well as filling flasks with media from a bulk source, providing time and cost savings.



**Rapid Clear® Cap**  
Quickly and efficiently clarify cell culture media directly from the 5L Optimum Growth® shaker flask without the need for centrifugation.

## An Introduction to the Ultra Yield® System

The Ultra Yield® System consists of three components: Ultra Yield® Flasks, AirOtop® Enhanced Seals and Plasmid+® Enriched Media. Superior results are achieved when all three components are used simultaneously.

Thomson's Ultra Yield® system has proven over the last decade to enhance the aeration of *E. coli* and other microbial cells. Ultra Yield® Flasks are designed to be either single-use or autoclaved up to 3x and feature a unique geometry that enhances gas exchange.

### KEY FEATURES

- ✓ 10x increased aeration over standard shake flasks
- ✓ Increased DNA & protein production
- ✓ Fully scalable results
- ✓ Replacement for glass flasks
- ✓ Fits all standard flask clamps
- ✓ Easily adaptable into microbial growth protocols
- ✓ Sterile, autoclavable flasks from 125mL – 2.5L
- ✓ Use with AirOtop® Enhanced Seals or Vented Screw Caps & Plasmid+® media

### PRODUCTS AVAILABLE:



**Ultra Yield® Flasks**  
Enhance the growth of *E. coli* and other microbial cells up to 10x over traditional flasks. Available in standard volumes of 125mL, 250mL, 500mL, 1.5L and 2.5L.



**Plasmid+® Media**  
Is animal origin free media and adds all the essential nutrients required to support the enhanced cell growth obtained by using Ultra Yield® Flasks.



**AirOtop® Enhanced Seals**  
As an alternative to foil or cotton plugs AirOtop® Seals provide a consistent, sterile gas-permeable barrier. Vented Screw Caps are also available for Ultra Yield® flasks.



**THOMSON**  
Solutions At Work™



### WHO TO CONTACT

**CAROL BROOKS**  
INTERNAL SALES  
T: 01795 859 470  
E: cbrooks@bpes.co.uk

An Introduction to Filter Vials

Thomson Filter Vials are a single system which replaces HPLC Vials, HPLC Caps, Syringes, & Syringe Filters for the filtration of samples. In 15 seconds, Thomson Filter Vials filter samples in an autosampler-ready vial.

FEATURES

- ✓ Same Size as a standard HPLC Vial and will fit easily into any standard HPLC vial machine or tray
- ✓ PTFE, PVDF, PES and Nylon membranes are available depending on the percentage of organic solvent in the sample and the amount of protein binding
- ✓ Pore sizes of either 0.2µm or 0.45µm will provide the perfect degree of filtration needed from viscous to clarified samples
- ✓ Versatility is built into Thomson's line of Filter Vials. Whether your samples are low volume or viscous or particulate-laden or contain a high volatility organic solvent Thomson has a Filter Vial to fit your needs



What applications can the Filter Vial be used For?

With Thomson's family of Filter Vials and membranes available to you, finding ways to replace cumbersome and expensive syringe filters in the lab is easy.

Here are just some of the documented applications you can use Filter Vials for in your lab today. See our Technical Library at [htslabs.com](https://htslabs.com) to see a full list of applications. We work hard with small and large companies to produce proven protocols and methods for our products. If you find a use for Filter Vials in your workflow we would love to hear about it.

|                                    | nanofilter Vial® | Standard Filter Vial | Low Evap Filter Vial | eXtremeFV® |
|------------------------------------|------------------|----------------------|----------------------|------------|
| 10µL-250µL                         | ●                |                      |                      |            |
| 450µL                              |                  | ●                    | ●                    | ●          |
| UPLC Compatible                    | ●                | ●                    | ●                    | ●          |
| GCMS Compatible                    | ●                |                      | ●                    |            |
| 30% Particulates                   |                  |                      |                      | ●          |
| Viscous                            |                  |                      |                      | ●          |
| Replacement for SPE                |                  |                      |                      | ●          |
| General Liquids < 10% particulates | ●                | ●                    | ●                    | ●          |
| Cell Fermentation                  | ●                |                      |                      | ●          |
| Particulate Removal                | ●                | ●                    | ●                    | ●          |
| Automation Compatible              | ●                | ●                    | ●                    | ●          |
| Small Molecules                    | ●                | ●                    | ●                    | ●          |
| Food & Supplements                 |                  | ●                    | ●                    | ●          |
| Toxicology                         | ●                | ●                    | ●                    | ●          |
| Pesticides                         | ●                |                      |                      | ●          |
| Environmental                      | ●                | ●                    | ●                    | ●          |

PAIA

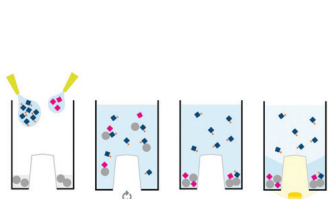
PAIA Biotech has developed a patented platform technology for glycan screening, aggregation analysis and purity and mispairing analysis.

PAIA's novel technology streamlines bead-based assays by eliminating several assay steps with specially designed microplates, leading to reduced hands-on time and a fully automatable workflow.

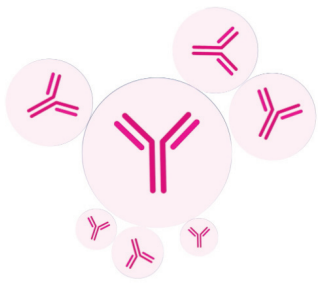
The PAIA glycan assay is the first product that enables researchers to tightly control changes of product glycosylation from initial clone selection through to large scale bioreactors – they provide semi-quantitative data on critical glycan features for ranking samples according to product quality.

The latest development from PAIA is the Purity and Mispairing Assay. Utilising PAIA's innovative technology, this plate based assay provides charged based separation and analysis of complex mixtures for bispecifics and multispecifics. You can get rapid and quantitative high-throughput purity screenings without having to purify your samples.

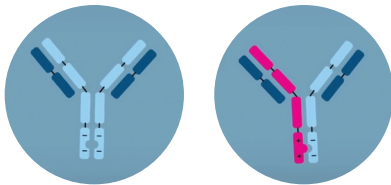
PRODUCTS AVAILABLE:



PAIA Glycan Screening Kits



PAIA Aggregation Assay Kits



PAIA Purity and Mispairing Assay

WHAT DO WE THINK?

- ✓ **User friendly**  
Using the same plate-based technology to analyse aggregation and screen for changes in glycosylation, these assays provide a fast and easy solution to monitor both product quality and productivity earlier in the bioprocessing workflow.
- ✓ **Tailored**  
These easy-to-use kits come with everything you need to perform rapid screening for critical glycan features and analysis of aggregation (HMWS) and purity of your samples.

Did you know?

The PAIA assays can be quickly and easily measured using SYNENTEC's NyONE and Cellavista imagers.

WHO TO CONTACT

CAROL BROOKS  
INTERNAL SALES  
T: 01795 859 470  
E: [cbrooks@bpes.co.uk](mailto:cbrooks@bpes.co.uk)



THOMSON  
Solutions At Work™



PAIA<sup>®</sup>



WHO TO CONTACT

ELLEN HARRINGTON  
TECHNICAL SALES SPECIALIST  
T: 01795 859 470  
E: [eharrington@bpes.co.uk](mailto:eharrington@bpes.co.uk)

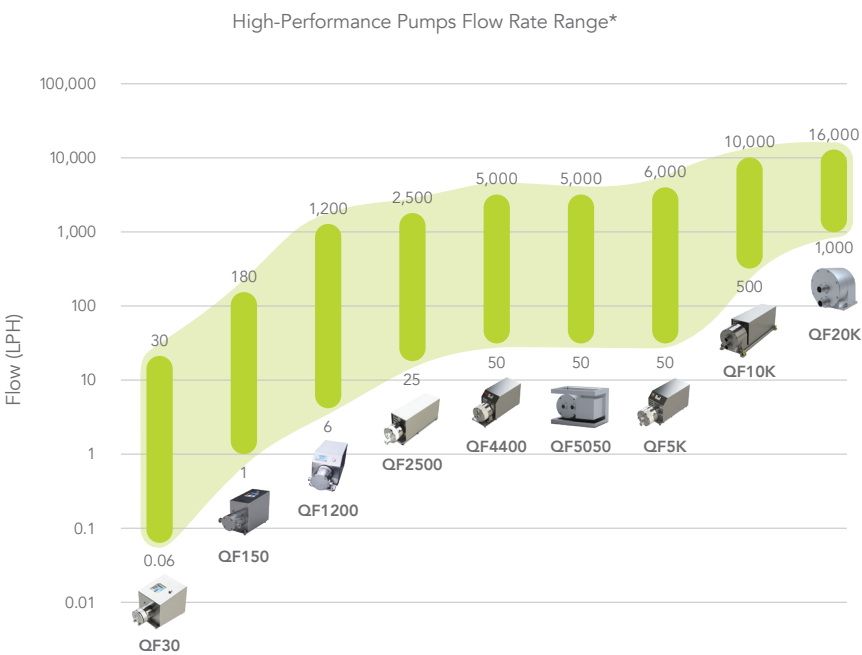


# QUATTROFLOW

## A PSG BIOTECH BRAND

Quattroflow Fluid Systems are the leading manufacturer of unique 4-piston diaphragm pumps, offering extremely low shear, pulsation and particulate generation, making them perfect for applications such as chromatography and tangential flow filtration (TFF).

Single and multiple use options are available. Flow rates range from < 100ml per hour up to 16,000L per hour allowing you to go from process development to production with one pump technology.



\*Actual flow range depends on motor and drive selection

### WHAT DO WE THINK?

#### ✓ Reliable

Quattroflow pumps are tried and tested across wide variety of biopharma applications. By providing low friction, low sheer, and low pulsation, they are ideal for critical applications in biopharma manufacturing such as tangential flow filtration (TFF), chromatography, centrifuge feed, and many more. Pumps are available in single as well as multi-use variants, allowing you to choose the best option for your process.

#### ✓ Quality

Quattroflow pumps are well designed and engineered, offering a long product life with easily performed servicing. Service kits are available for all products, allowing them to be maintained in-house, or through your service contract-provider.

#### Did you know?

Quattroflow pumps are designed to mimic the human heart in order to give safe, reliable, and efficient transfer of biologics throughout your process.

NEW

### QUANTEX – A PSG BIOTECH BRAND

Accurate dosing over a range of flow rates

- ✓ Accurate dosing over a range of flow rates
- ✓ Bi-directional capabilities
- ✓ Low cost



Quantex Microdosing Range



Quantex Low Flow Pump Range



### PRODUCTS AVAILABLE:



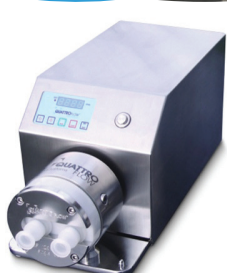
Quattroflow Q-Control Smart Biotech Pump Range



Quattroflow QF30SU Single-Use Biotech Pump



Quattroflow QF150 Biotech Pump



Quattroflow QF1200 Biotech Pump



Quattroflow QF2500 Biotech Pump



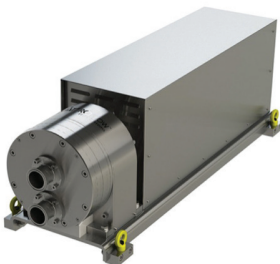
Quattroflow QF4400 Biotech Pump



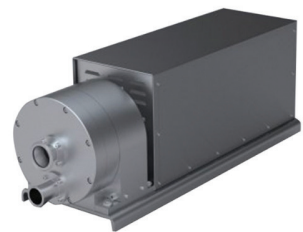
Quattroflow QF5050 Biotech Pump



Quattroflow QF5K Biotech Pump



Quattroflow QF10K Biotech Pump



Quattroflow QF20K Biotech Pump

BPES offer a complete after-sales service and we are proud to be the only Quattroflow Certified Service Centre in the UK.



FIND OUT MORE ABOUT SERVICE SUPPORT ON PAGE 27



### WHO TO CONTACT

SEAN DORAN  
TECHNICAL SALES SPECIALIST  
T: 01795 859 470  
E: sdoran@bpes.co.uk



# SY-LAB CRYOBIOLOGY

SY-LAB Cryobiology have over 30 years' experience in the manufacturing of computer controlled rate freezers, liquid nitrogen cooling, and distribution of high quality sample storage and handling containers (Liquid Nitrogen Dewars).

SY-LAB's extensive experience in developing high quality instruments has led to sophisticated and robust freezing machines for routine and scientific work.

## Cryoconservation using dynamic freezing processes

Process-controlled temperature developments are an established standard procedure in biomedical research and treatment for freezing biological material, and subsequent storing at low temperatures. Currently used in R&D and in biomedical settings for controlled freezing and thawing of a wide range of biological materials, including: blood and blood components, skin and other tissues and organ parts, reproductive cells as well as plant cells and microorganisms. SY-LAB's IceCube family of controlled rate freezers are easy to use and equipped to meet the needs of low temperature conservation.

## WHAT DO WE THINK?

### ✓ Classification options

Unlike similar products on the market, SY-LAB's range of 'IceCube' controlled rate freezers are available with Class IIa classification, to satisfy the regulatory requirements around the freezing of biological samples and prevent legal consequences for inappropriate classification.

### ✓ Dependable

With extensive experience in developing controlled rate freezers, these products feature a double computer concept, touch control, semi-automatic compensation of latent heat for highest viability rates and high resolution of freezing curves to ensure samples are carefully preserved. Which is why SY-LAB's products are trusted by hospitals and major research companies all over the world.

## Did you know?

To assist customers who require compliance with 21CFR part 11 regulations, a newly updated validation software (VAL3) is now available.

## PRODUCTS AVAILABLE:



SY-LAB IceCube 11XS



SY-LAB IceCube 14M



SY-LAB IceCube 17M



SY-LAB IceCube 14S



SY-LAB IceCube 17L



## Certified

There is strict and yet somewhat ambiguous regulation required for freezers if freezing biological samples intended for reintroduction to the body. The consequences for having the wrong classification for your material could be severe – so SY-LAB have removed this risk by ensuring the correct classification of their IceCube medical products.



## Validatable Software

To help companies comply with established 21 CFR part 11 regulations, SY-LAB developed a validatable version of their IceCube software. Including features such as user administration, authenticity, data security and safety, audit trails, logbooks and reports, this VAL software leaves customers with no doubts about the protection and security of their data.

## MEDICAL AND RESEARCH APPLICATIONS:

- ✓ Blood and Blood Components
- ✓ Cord Blood Banks
- ✓ Tissue Culture Labs
- ✓ Stem Cell Research
- ✓ Pharmaceutical Research
- ✓ Biobanks
- ✓ IVF
- ✓ Transplantation of Cell and Tissues
- ✓ Veterinary Sciences and Animal Breeding
- ✓ Plant Cell Research



## WHO TO CONTACT

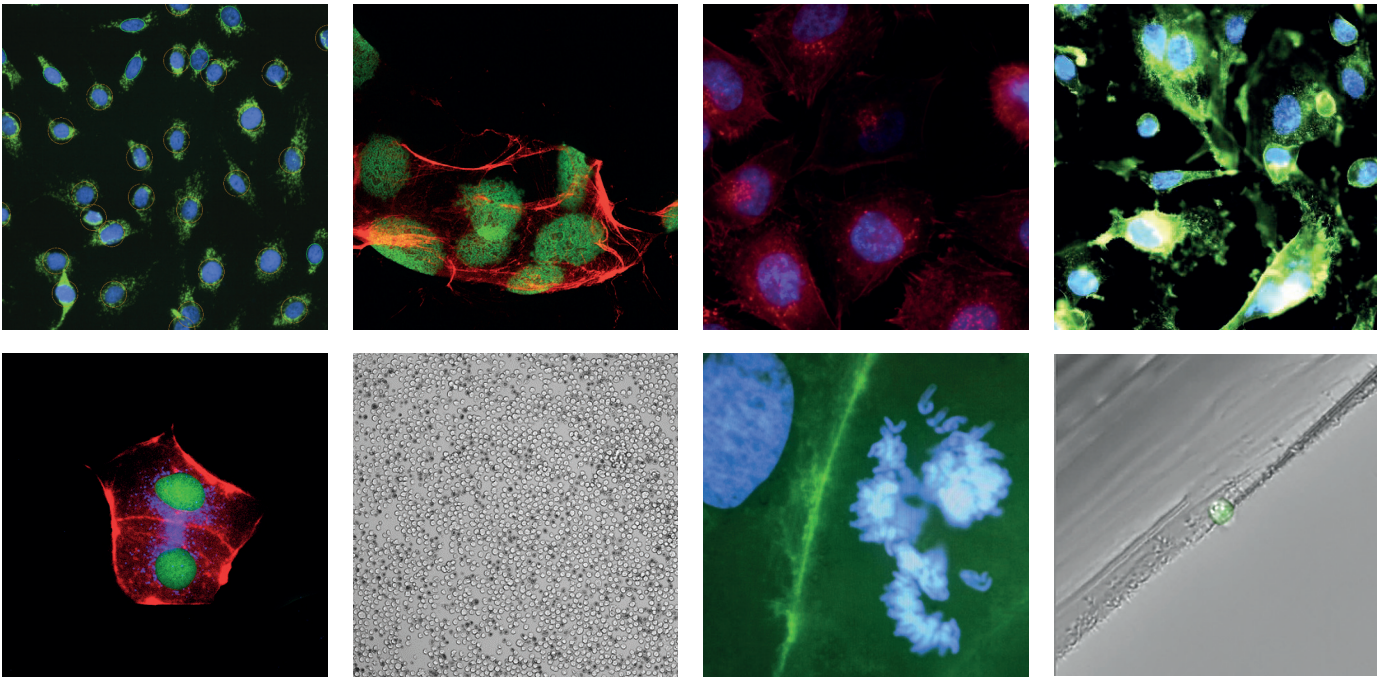
**ELLEN HARRINGTON**  
TECHNICAL SALES SPECIALIST  
T: 01795 859 470  
E: eharrington@bpes.co.uk



# SYNENTEC

Synentec provide the most versatile cell imaging systems on the market.

The instruments all have the option of full fluorescence capability, allowing for an extensive range of applications including: single cell cloning, apoptosis studies, through to transfection efficiency, toxicity studies, viral plaque assays and ultra-high throughput cell counting with viability. Unlike others on the market, these imagers are compatible with a wide range of SBS format plate types and have a built in automation interface enabling integration into CLD platforms. Data analysis is via SYNENTEC's inbuilt powerful image processing tools which gather robust data and are simple to use with a variety of configurable data export options.



## WHAT DO WE THINK?

### ✓ Versatile

Time saved by automation combined with precision optics and a wide range of applications make these imagers an integral part of any CLD workflow. Both extremely robust, the Cellavista offers higher throughput and is perfect for automated environments, while the smaller NYONE is ideal for medium-throughput laboratories with limited bench space. An extensive range of applications within Cell Line Development, Vaccine Research, Drug Discovery, Cancer Research, Stem Cell Studies and others makes these imagers the ultimate cell culture instrument.

### ✓ Innovative

SYNENTEC are constantly developing new applications to meet the needs of customers. Technical assistance provided by the SYNENTEC team as well as local applications training means the user is supported from day 1.

### Did you know?

For customers working in cGMP environments, SYNENTEC have developed YT AUDIT, an intuitive validation software which meets requirements for CFR21 part 11 compliance.

## Additional high throughput peripherals

SYNENTEC offers various peripheral products and robotics for automation to extend functionality and to improve laboratory processes as well as increase throughput and walk away time.

The peripherals and accessories are compatible with SYNENTEC's imaging systems CELLAVISTA and NYONE which are integrated into YT-Software. Upgrades are possible anytime they are needed to achieve the required throughput, functionality and ease of use.

From simple plate loading with SYBOT-1000 at ambient temperature or long term imaging combining SYBOT-1000 with Cytomat™ 2 C-LiN to high end integrations with external collaborators into cutting edge automation enclosures, SYNENTEC has a solution for your automation project.



## PERFORMS...

- Extremely robust all-in-one automation
- Hands free high-throughput workflows
- Long term imaging at ambient temperature with Cytomat™ 2 C-LiN
- Simple plate loading with SYBOT-1000
- Perfect plate traceability via barcode scanner

## SUPPORTS...

- Automated e-mail notification for error cases
- Easy linkability with batch processing and automation server
- Extensions with liquid handlers, cell printers, clone pickers
- Other automation interfaces

## OFFERS...

- State-of-the-art automation
- Learning and simulation software with plant simulator to run digital twin of the automation system
- Optical sensors for plate presence in all positions on the automation deck to avoid missing steps
- Precise handling using electronic plate alignment to compensate variations in plate grip



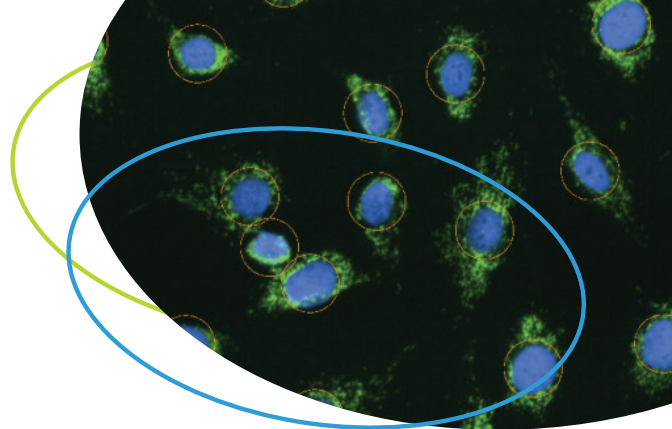
SYNENTEC



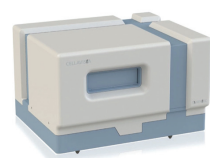
## WHO TO CONTACT

ELLEN HARRINGTON  
TECHNICAL SALES SPECIALIST  
T: 01795 859 470  
E: eharrington@bpes.co.uk





## PRODUCTS AVAILABLE:



SYNENTEC  
Cellavista  
Cell Imager



SYNENTEC  
NyONE Compact  
Cell Imager



SYNENTEC  
SYBOT-1000



SYNENTEC  
YT Audit

### NEW! YT-REPORTS REPORTING TOOLBOX FOR CLD & SCIENCE



The YT-REPORTS software tool enables monoclonality reports for cell line development as well as GLP-compliant documentation of experiments.

This table provides a snapshot of SYNENTEC imager applications across various research areas

| Applications by Interest                           | Cell Line Development | Drug Discovery | Cancer Research and Cell Science |
|--|-----------------------|----------------|----------------------------------|
| Antibody Internalisation                           | ●                     | ●              | ●                                |
| Apoptosis Monitoring                               | ●                     | ●              | ●                                |
| Confluence Measurements                            | ●                     | ●              | ●                                |
| Proof of Monoclonality and Single Cell Cloning     | ●                     | ●              |                                  |
| Fluorescence Activated Single Cell Cloning (FASCC) | ●                     | ●              |                                  |
| Trypan Blue Viability                              | ●                     | ●              | ●                                |
| Transfection Efficiency                            | ●                     | ●              |                                  |
| iPS-Cell Detection                                 |                       | ●              | ●                                |
| Wound Healing                                      |                       |                | ●                                |
| 3D Spheroid Imaging                                |                       | ●              | ●                                |
| Toxicity Testing                                   | ●                     | ●              | ●                                |
| Fluorescent Pluripotency                           |                       | ●              | ●                                |
| B-Cell and T-Cell Studies                          |                       | ●              | ●                                |
| FFA for Virus Titre Quantification                 | ●                     | ●              |                                  |
| Cytopathic Effect Quantification (Viral CPE)       | ●                     | ●              | ●                                |

## WHO TO CONTACT

ELLEN HARRINGTON  
TECHNICAL SALES SPECIALIST  
T: 01795 859 470  
E: eharrington@bpes.co.uk



SYNENTEC



# FULL SUPPORT SERVICE



We are able to offer full maintenance and application support across the range of products that we supply. Our team of experienced engineers are trained and certified by original equipment manufacturers (OEM's).

We provide preventative maintenance service contracts tailored to your specific requirements along with emergency call out cover. We also offer ad-hoc maintenance and support services.

Both locally and through our partners we are able to provide comprehensive user training across our entire product range.

We maintain a comprehensive stock of consumable and service items in the UK to ensure we can provide the best possible support across our product range.

Our calibration instruments conform to national standards and are certified. All our work is documented on service reports in accordance with our ISO9001:2015 accreditation.

Our partners and our customers are some of the most respected names in the industry, as such it is critical that we have the Quality, H&S and Environmental policies in place to ensure a first rate service. BPES are ISO9001: certified. Completing vendor questionnaires/approvals is a daily task and we have the procedures in place to ensure compliance and a prompt response.

## SERVICE & QUALITY SUPPORT TEAM



STUART POPE  
SENIOR BIOPROCESS  
ENGINEER  
T: 01795 859 470  
E: support@bpes.co.uk



LIAM FLANAGAN-LITTLE  
APPLICATIONS SPECIALIST  
T: 01795 859 470  
E: support@bpes.co.uk



LISA BELLAMY  
QUALITY, HEALTH &  
SAFETY MANAGER  
T: 01795 859 470  
E: support@bpes.co.uk



## UK DISTRIBUTOR FOR



Bioprocess Engineering Services Ltd,  
186 Carver Drive, Kent Science Park,  
Sittingbourne. Kent ME9 8NP  
T: 01795 859 470  
E: [info@bpes.uk](mailto:info@bpes.uk)  
[www.bpes.co.uk](http://www.bpes.co.uk)

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