eppendorf

Delicious Details

Finest products for food and beverage labs

»There is no love sincerer than the love of food.«

George Bernard Shaw

Nourishing the world in the 21st century requires new ideas – from drought-tolerant crops with high protein yields to streamlined processes in food production and quality control.
Nurturing ideas to grown-up solutions requires determination, passion and excellent tools. Eppendorf's tools for the laboratory have been among the finest and best for more than 75 years. Let us sort out the details of your daily lab challenges – so you have the peace of mind to focus on the science of the food of tomorrow.

Food research
The amount of arable land is not growing with the world population. Thus, applied research has to show ways to increase nutrient levels in crops, optimize crop rotation or make crops more drought tolerant. The seasonal crop samples needed for this research are invaluable.

Food production
Downstream processing of food has to be optimized to minimize nutrient loss. Nutrient levels have to be tested before and after new processing steps. Heating, cooling, packaging – everything can have an influence on the quality of food and beverages.

Food analysis
Food analysis and food quality control require reproducible workflows – in every detail. Only the best lab products give you the confidence in the data you need. Your results can make a big difference.

Humanity Grows – as Does Malnutrition

Until the year 2100 there will be ten billion people living on this planet, according to UN estimates. One of the biggest challenges for the 21st century is feeding this steadily increasing population. Crop yields for corn, rice, wheat and soy would have to double during the coming 35 years. Due to the fact that even today arable land is scarce and getting scarcer, food research all over the world has to pave the way to nutrient-rich and drought-tolerant crops. As a result of a steady increase in consumption of meat and dairy products, an even higher production of animal feed is required and crop demand is therefore rising dramatically.

It is an immense task to supply humanity with safe and high-energy food. For food production to keep up with the dynamic and steep rise in population, efficient production, efficient processes and rigorous testing are thoroughly needed. Eppendorf contributes to this task, being an established partner in food research, testing and production.

With its wide product range Eppendorf provides solutions for the requirements within the labs of the food industry. Ranging from the search for new varieties and high-protein plants to bioprocessing on an industrial production scale, Eppendorf offers one of the world´s leading technology combining scalable bioprocess hardware products with corresponding modern software solutions.

Thus, Eppendorf technology is state of the art in all types of life science research and testing settings – from basic laboratory applications to highly specialized cell and molecular biology applications as well as in governmental food monitoring. Again and again bacteria, yeasts, fungi or pesticides are evidenced with Eppendorf technology when investigating agencies are checking foodstuff. Sometimes contaminated food is life-threatening and, as has been seen during the past few years, more and more food scandals have happened. This in itself shows how important controlling is. The British Food Standards Agency investigated 1,714 incidents in 2011, compared to 1,505 in 2010 and 1,208 in 2009. Even a global supermarket chain just announced they will triple their food safety spending after fox meat was found in one of their products.

However, safe food is also imperative for sustainability because when contaminated or spoilt food has to be destroyed on a large scale, the goal of feeding ten billion people becomes difficult to attain.

The development of modern food safety testing procedures is extremely important and ongoing. A big milestone was the implementation of the Food Safety Modernization Act in the US in 2011 as it will lead to state-of-the-art food testing that will result in a push for modernization in food testing laboratories all over the world.

Eppendorf's user-friendly and reliable products are designated to help with these future challenges.

Verification of foreign DNA
(bacteria, GMO, etc.)

Enrichment

Preparation

Purification and extraction

Amplification and detection

Storage


Pipette controllers


Multi-dispenser pipettes


Shakers


Bioreactors


Bottle-top dispensers


Pipettes and tips


Tubes and plates


Centrifuges


Thermomixers


Centrifuges


Pipettes and tips


Tubes and plates


Automation


Thermocyclers


PCR consumables


Cuvettes


Pipette controllers


Freezers


Concentrators


Freezer boxes


Deepwell plates


SafeCode System

Enrichment

Enrichment is optional, depending on your assay and your cells of interest. However, as the first step in your workflow, it can be of utmost importance. If the enrichment does not work properly, all downstream steps will be at risk.

Experience a new dimension of electronic pipetting. Pipetting speed is controlled simply with the tips of your fingers allowing you to experience more sensitive control of the meniscus.

Easypet® 3 pipette controller

> Greater meniscus control through smooth speed setting
> Long cordless runtime by lithium polymer rechargeable battery
> Operation while recharging is possible
> Autoclavable pipette adapter for sterile applications
> Fatigue-free pipetting by light-weight and ergonomic design
> Easy pipet identification by color code
> Easy volume determination by clear graduation

Multipette/Combitips dispensing system®

> Precise dosing with repeatable accuracy for various applications
> Wide volume range for flexible liquid handling
> Positive displacement system prevents cross-contamination
> Ergonomic design ensures comfort during extended use
> Intuitive controls for quick and easy operation
> Dispense up to 100 times without refilling

Biological Shaker Innova® S44i

> Stackable – up to three units for maximum space saving
> Higher flask capacity in a smaller footprint – grow more cells in less space
> The proprietary Eppendorf X-Drive with semi-automatic counterbalance technology provides smooth and uniform agitation
> Shaking speeds between 20–400 rpm (+/- 1 rpm)

Preparation

In food analysis, the primary material can come from a vast variety of sources and bring along a lot of unique challenges. Cooling, heating, mixing, spinning – all or any of these steps can be necessary. The one thing that combines all these steps is the pipette.

Electronic pipettes allow fatigue-free pipetting and minimize pipetting errors. Where high sensitivity and reproducibility are essential, ep Dualfilter T.I.P.S.® build the perfect system with Eppendorf pipettes for contamination-free pipetting by practically 100% retention of aerosols and biomolecules.

Pipettes and tips

Eppendorf Xplorer® electronic pipettes
> Intuitive operating concept for quick and easy work
> Fatigue-free pipetting
> Powerful rechargeable battery

Pipette tips
> Contamination-free pipetting with ep Dualfilter T.I.P.S.®
> High reproducibility by ultra-homogeneous surface

Tubes and plates

> Ensured sample integrity with high-quality virgin raw materials, free from plasticizers, slip agents, and biocides during production
> Available in five purity grades
> OptiTrack® matrix with high-contrast alphanumeric labeling for faster well identification

Thermomixer®

> Two-in-one instruments for combined incubating and mixing
> Superior mixing performance due to ^{2D}Mix-Control
> Simple and intuitive operation using pre-defined temperature keys
> Eppendorf ThermoTop® reliably prevents condensation

Purification and Extraction

DNA needs to be extracted and purified before it can go into analysis. This step is especially crucial – if DNA is lost or a bias for certain DNA regions occurs, it can never be correct in the following steps. Also, PCR inhibitors need to be separated here to guarantee powerful amplification of the target DNA and to avoid false-negative results.

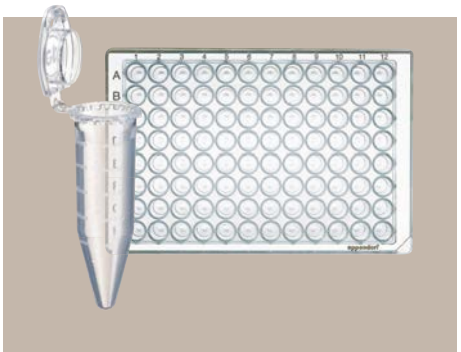
Ramp up your capacity to 48 tubes in a very small footprint. The aerosol-tight rotor helps to prevent contamination.

Centrifuges and rotors

> Wide range of centrifuges and rotors available
> Compact design with low access heights
> Eppendorf QuickLock® System for rapid rotor lid opening and closing
> PTFE-coated rotors available for enhanced chemical resistance.

Automation

> Intuitive interface with drag and drop programming
> Optical sensor for labware and liquid level verification
> Pipetting accuracy and precision from 0.2 to 1,000 µL
> Flexibility for both filter-and bead-based extractions
> Wide variety of accessories from tube racks to vacuum modules



Tubes and plates

> Eppendorf LoBind® Tubes and Plates reduce sample-to-surface binding ensuring maximum sample recovery
> Eppendorf Tubes® feature a user-friendly lid design for one-handed operation.
> High *g*-Safe® centrifugation stability ensures reliable performance.

Amplification and Detection

The power of PCR with its logarythmic amplification is still unbeaten in life sciences. A billion copies of the same molecule at your hands for analysis. That's where you can make sure you do not have unwanted organisms in your food. Getting these results quickly means a lot in food production and delivery.

Speed and hence time-saving is essential in most food laboratories. Thermocycler blocks made of solid silver give your PCR the speed you need.

Mastercycler® X50

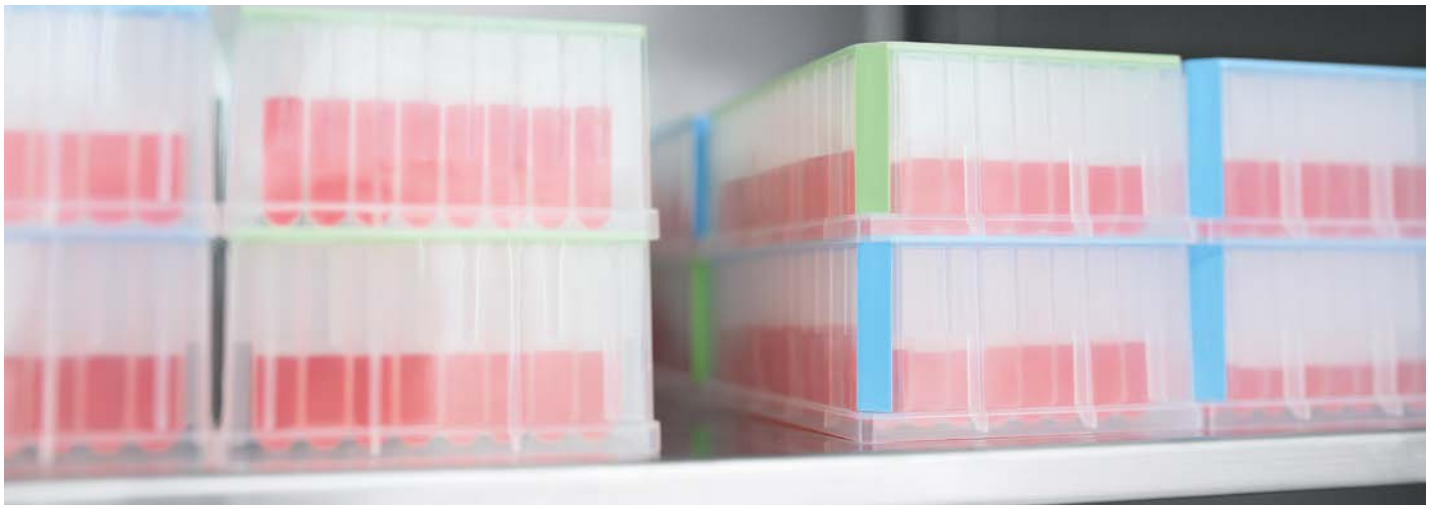
> Fast ramp rates of up to 10 °C/s
> Reliable steady ramping for reproducible results
> Intuitive touchscreen interface
> 2D-Gradient for PCR optimization
> Connect up to 10 cyclers in a network or up to 50 with CycleManager X50 software
> Thin-walled polypropylene wells ensure optimal heat transfer

PCR consumables

> Robust polycarbonate frames provide high durability
> Available with additional features for improved traceability and eco-friendliness
> Certified free of detectable human DNA, DNase, RNase, and PCR inhibitors
> Biobased PCR plates for a more sustainable footprint

Storage

In a world of HACCP and increased public awareness of food scandals, storage of samples plays a very important role. Thus, more and more samples will be stored longer and longer. More freezer capacity is needed and samples need to be stored at defined conditions, maybe for decades to come!



Smart engineering and higly effective insulation give you the same freezer capacity at a smaller footprint.

CryoCube® ULT Freezers

> More storage capacity with equal size
> Quick temperature pull down and recovery times
> Advanced lock and alarm features for improved sample security

Deepwell plates

> OptiTrack® matrix with high-contrast alphanumeric labeling for faster well identification
> RecoverMax® well design for maximum sample recovery
> Robust and precise design allows automation and enables a high *g*-Safe® centrifugation stability
> Available in both 96- and 384-well formats with white, yellow, green or blue border

Concentrator* plus

> Extremely quiet operation <50 dB(A)
> Maintenance-free PTFE diaphragm pump eliminates the need for changing pump oil
> Small footprint saves valuable bench space
> Brushless induction drive and, stainless steel chamber for trouble-free operation

*US - Vacufuge

Are Bioreactors the New ‘Fish Tanks’?

By Marcelo Szpilman - Executive Director, Sustineri Piscis

Concerns linked to the sustainability and adequacy of traditional farming and fishing practices in addressing global food security are both persistent and growing – the agriculture and meat industries have, for years, faced significant challenges when it comes to the world’s growing demand for food. While many of these challenges have been more extensively explored in livestock, the issues surrounding fish meat production are equally fraught, and a burgeoning global population, combined with ecological and safety concerns, is fueling a transformation in how these food sources are produced.Cellular aquaculture, a novel approach to seafood production wherein cell culture technologies are used to grow quality fish, is poised to offer a more accessible, climate-resilient alternative to conventional fish production. By exploring innovative approaches to scaling up animal cell growth in cutting-edge bioreactor systems, foodtech companies are positioning themselves to offer healthier, safer, more sustainable sources of fish for consumers.

The Advantages of Cellular Aquaculture: Healthy, Ethical, Environmentally Conscious

The issues surrounding commercial fishing, fish farming, and sourcing adequate food supplies through these traditional means are rife with complexity. The prospect of depleting wild fish populations, combined with exploding population growth, growing environmental concerns, and issues surrounding the misidentification and contamination of wild-caught fish, as well as the unsustainability and limitations of commercial fish farming, all serve to heighten the cumulative impacts of food production on climate, ecosystems, and food access. To address the challenges posed by the existing fishing and fish farming paradigm, innovators across the agricultural industry have begun exploring alternative food production employing the same bioreactors used to cultivate cells for the biopharmaceutical industry. Growing fish meat in bioreactors offers many potential solutions to the challenges faced by producers today related to farming certain species, monetizing byproducts, managing inedible waste disposal, enabling marine biodiversity, and serving a more conscientious consumer base.

One of the key advantages of cellular aquaculture is fish meat free of bones, parasites, bacteria, and pollutants. This is a crucial consideration for an industry that, through landed fish loss and disposal, inefficient waste management, and suboptimal carcass balancing, loses more saleable fish product than it retains. Cultured fish meat eliminates the parts of fish that end up in the trash, such as skin, scales, eyes, viscera, bone, and cartilage; moreover, because cultured fish meat removes the confinement, breeding, slaughter, and suffering of living organisms, it represents a viable food source for morally and ecologically conscious consumers. This also contributes to efforts to improve ocean biodiversity and industry’s overall ecological footprint, as cultured fish meat may serve to supplant a large segment of the fishing industry, and facilities designed for the purpose of producing this meat can help to establish a more localized market. They can also afford greater access to meat from high-value predator species, such as bluefin tuna, which are notoriously difficult to farm but remain highly popular, subjecting them to potential overfishing.

Because of these challenges, many research organizations have begun pursuing the viability of lab-grown meat for supplying food in ways that reduce environmental impact, improve accessibility, and create opportunities for healthier, more consistent product. But for approaches like cellular aquaculture, there likewise exist challenges that require novel approaches to bioprocessing workflows in order to enable their commercial viability. The logistics of transporting live animals to the laboratory, the cells selected for culture, the media optimization necessary for supporting adequate volumes and other factors are each crucial to enabling the ideal baseline for subsequent scale up. Further, key factors impacting that scale-up can include overcoming the hurdles that can inhibit cell expansion for adherent platforms, structuring of the cultured cells, and the legal, regulatory, and logistical considerations that must be overcome in order to facilitate large-scale production.

Sustineri Piscis (SP), Brazil’s first cultured fish meat startup, is helping to spearhead the push for cultured fish meat by pioneering food engineering techniques aimed at making these products a reality within the next five years. SP has already seen success in cultivating cell lines from four commercially valuable marine fish species: Dusky Grouper, Snowy Grouper, Snook, and Flounder. SP’s prototype, currently in the development phase, represents a »proof of concept« – breaded snook meatballs, produced using fish muscle cell protein mass, for internal testing until October 2023. The development of this food marks the beginning of a new round of investments to scale up to pilot bioreactors of 100-250 liters, with a new infrastructure and expanded team to support continued scale.

The Challenges of Lab-Grown Fish Development and Scale Up

Cellular aquaculture occurs over five phases, the first of which is cell sourcing. During this initial phase, adult stem cells are obtained from the biopsy of a selected fish and cultured in a laboratory to serve as a source of cell lines for the final product. The challenges often associated with biopsy are typically related to the logistics of transporting live subjects to the laboratory. This can prove especially challenging for certain marine fish species, many of which die without adequate space to swim. Although it is not possible to keep a fish alive for biopsy, only a few specimens are required to isolate cell lines that can be utilized to produce potentially vast commercial volumes of product.

The biopsy location on the animal can play a decisive role in the type of cells that can be obtained in culture. Biopsies from different parts of a specimen, even if they each contain muscle tissue, can result in different types of primary cells with different capacities and characteristics. Moreover, biopsy does not always result in primary cells that can be maintained for many subcultures. This depends on the tissue and region from which the cells are extracted, as well as if the resulting cells from the biopsy are terminally differentiated cells or resident stem cells of the tissue. Additionally, factors such as the age of the animal, its capture conditions, and the conditions of its death influence the success of the culture. Eventually, developers may pursue the development of an immortalized cell line for in vitro cultivation, although this process can take years, as scientists must identify a cell line with a population doubling time below 24 hours to produce a stable number of generations per culture, and one which requires few nutritional resources while maintaining the desired cellular characteristics.

Once cell lines have been identified, bioprocess engineers define the optimal nutrients, media, and culture conditions to enable adequate growth. This can be challenging for cellular aquaculture, as all previously developed cell culture techniques and inputs have been pursued in support of applications that utilize terrestrial mammalian animals. Parameters such as osmolarity, carbon sources, essential amino acids, and vitamins are different for fish, and there is often very little information available regarding the metabolism of these animals, which complicates the process. The physical conditions for fish cell culture are also different, as unlike mammalian cells that can only survive at 37°C, fish cells require milder temperatures and their proliferation capacity responds varyingly to temperature conditions. Each fish species may have an ideal growth temperature, and their cells reflect these characteristics. The gas atmosphere is also different for fish cells, as is the percentage of oxygen diffusion needed in a selected culture media.
In the third phase, cells are introduced to a bioreactor and fed the optimized growth media to produce sufficient protein biomass. For these applications, scale-up refers to producing and quantifying the number of cells needed to obtain 1g – 100g of fish muscle cells.

The biggest challenge to enable this is identifying inputs adapted for the food production process, as nearly every applicable component on the market is designed for the pharmaceutical industry and comes with significant costs. This represents a significant hurdle for lab-grown meat, which will require cost-effective means of production in order to remain competitive with traditional food sources. The cultured meat sector urgently needs culture media that meet food-grade standards, food-grade microcarriers that can be incorporated into the final food product, and, most importantly, bioreactors that are at an affordable price range yet more efficient for the purposes of producing cultured meat.

In the fourth phase, called “structuring”, this biomass maturates on three-dimensional growth surfaces (“scaffolding”), often bio-printed or moldable, that give shape and texture to the cultured fish meat. Finally, the completed product is extracted from the bioreactors and ready for human consumption. This tightly controlled process can be augmented to include the addition of fats, Omega 3s, vitamins, and other nutrients, creating the potential for sustainable, healthy seafood with greater nutritional value than its wild or farmed counterparts.
At SP, the protein mass undergoes a formulation phase after leaving the bioreactor, where plant proteins are added to provide texture and allow for storage, after which the hybridized product undergoes analysis of its nutritional profile, among other assessments.

Paving the Way for Cultured Meat with Bioprocessing Technologies

While the benefits of pursuing cellular aquaculture are manifold, there exist several challenges to more widespread cultured fish production globally. The biggest is securing authorizations from various regulatory agencies and government authorities to construct commercial facilities; another key obstacle relates to the costs associated with procuring the highly technical equipment and inputs necessary to produce cultured meat. Surmounting these challenges will require cross-functional collaboration from foodtech companies, technology suppliers, and experts in the bioprocessing space willing to share process development milestones and solutions that address cost and access.

Much of the work SP has undertaken has been made possible, in part, by the technology supplier behind its bioreactors. Eppendorf, a leading supplier of instruments, technologies, and consumables for the life sciences industry, offers state-of-the-art bioreactor systems to help companies pursuing cultured meat achieve milestones affordably and flexibly. Its top-of-the-line bioreactors and peripheral equipment are suited to the needs of processes like the ones SP employs, and Eppendorf continues to position itself to provide affordable, optimized bioreactor equipment to enable greater innovation in the cultured meat market. For those working in the cultured meat space, the BioFlo® 320 bioprocess control system by Eppendorf, in combination with re-usable glass or single-use bioreactors covering working volumes of 0.4 to 40 L, can serve as an affordable, flexible system for process development. This easy-to-use bioreactor controller comes with an Auto Calibrate function for DO sensors and Scale Up Assist to support increasing working volumes. This feature is also implemented in the BioFlo® 720 bioprocess control system, which offers seamless scaling up to 2,000 liters. The cell lines SP utilizes are adherent cells, requiring surfaces for adhesion and proliferation. Initially, SP worked with regular culture flasks, then multi-layer flasks. However, to reach the gram scale, cultivation in bioreactors is necessary, and SP acquired the BioFlo 320 to define 3D culture conditions at bench scale, as the parameters for single-layer culture flasks are completely different from those for bioreactors with microcarriers.

Bioreactor control systems like the BioFlo 320 are excellent for validating and developing initial processes, in which the necessary variables for the process are defined. Yet for larger scales, the cultivated meat sector will require efficient equipment with fewer requirements compared to those necessary for the pharmaceutical industry, and here the strength of collaborations between bioreactor suppliers like Eppendorf and meat alternative companies like SP are necessary. In order to produce cultivated meat at a competitive cost, it is likely necessary to revisit stainless steel tanks for these applications, and even to develop simpler and cheaper bioreactors for the industry. The greatest challenge for almost all cultivated meat companies is to make the product more affordable, which will only be possible when the entire production chain, including equipment and input suppliers, work together to leverage simpler, more cost-effective solutions.

Conclusion

Ultimately, the future of lab-grown meat is inevitable – as more innovations are made and the argument for mass producing cultured meat becomes more compelling, the costs and hurdles associated with their production will lessen. Part of this equation is finding technology suppliers willing to partner and provide cost-effective, reproducible bioreactor systems to support this paradigm. With the right technologies, buy-in, and foundational science, cultured fish meat, locally grown and free of the ethical and ecological concerns of its wild-caught counterparts, is poised to become a significant segment of the global food industry in the years to come.

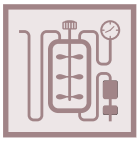
Bioprocessing

Preculture

Strain selection and media optimization

Process development

Pilot and production



Shakers

Pipettes

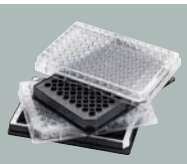
Pipette tips

Pipette controllers

Parallel bioreactor systems

Single-use vessels

Automation



Plates

Benchtop bioreactors

Single-use vessels

Comprehensive software

Large-scale bioreactors

Preculture

Precultures are the link between molecular modification and bioprocessing. The stackable Innova® 44/44R shakers fulfill all demands of user-friendly and reliable shake-flask cultivation. Its triple-eccentric drive mechanism provides worry-free, 24/7 shaking and the large LCD panel displays all pertinent parameters.

Reliable culturing results with the stackable and user-friendly Innova 44/44R shakers for highest throughput at minimal space

Biological Shaker Innova® S44i

> Stackable – up to three units for maximum space saving
> Higher flask capacity in a smaller footprint – grow more cells in less space
> The new proprietary Eppendorf X-Drive with semi-automatic counterbalance technology provides smooth and uniform agitation
> Shaking speeds between 20–400 rpm (+/- 1 rpm)

Pipettes

Pipettes
> Fully autoclavable pipettes available
> All mechanical pipettes from Eppendorf are fully autoclavable
> Fixed-volume pipettes and 8-, 12-, 16 & 24-channel as well as adjustable tip spacing multichannel options available

Pipette tips
> Contamination-free pipetting with ep Dualfilter T.I.P.S.®

Strain Selection and Media Optimization

Whether searching for an advanced yeasts in brewery, proper bacteria in dairy industry or a powerful production strain for nutrition supplements the DASbox® is the superior tool for screening. Small working volumes, parallel operation of twelve and more bioreactors and applying Design of Experiments allow for fast, reliable and cost-effective processing.

DASbox Mini Bioreactor System – The parallel advantage for strain selection in food and beverage industries

DASbox® Mini Bioreactor System

> Small, 60 – 250 mL working volume for protocol optimization
> Precise control of 4, 8, 12 or more bioreactors in parallel
> Optimal for Design of Experiments (DoE) to analyze and set critical parameters and factors
> Supports industry standard glass bioreactors as well as BioBLU 0.3 Single-Use Bioreactors
> Standard sensors for precise measurement and control of temperature, pH, DO, level and ORP

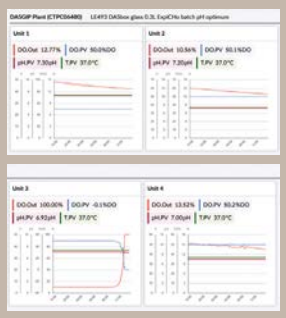
Automation

> Intuitive interface with drag and drop programming
> Optical sensor for labware and liquid level verification
> Pipetting accuracy and precision from 0.2 to 1000 µL
> Flexibility for both filter-and bead-based extractions
> Wide variety of accessories from tube racks to vacuum modules

Process Development

Modern bioprocess development takes increasing numbers of experiments and generated data into account. Our smart and flexible DASware® Software Suite offers peace of mind: It enables comprehensive data and information management, interconnectivity of bioreactors with external lab devices, Design of Experiments (DoE), and remote control.

Accelerate your bioprocess development with DASware Software Suite – the intelligent solution for comprehensive data and information management



BioNsight® cloud

> Automate data transfer to the cloud from any bioprocess controller operated with DASware® control 6
> Hosted and built up on Microsoft® Azure technology
> Remotely monitor all running processes
> Easily share data with the team or partners anywhere in the world

BioFlo® 320

> Highest level of application flexibility
> Integrated Auto Calibrate – automatic calibration of all connected DO sensors at once
> Integrated Scale Up Assist feature simplifies the calculation of important process parameters necessary to scale up and down
> Validation packages are available for GMP-regulated processes.
> Emerson® DeltaV integration with the BioFlo 320 simplifies tech-transfer, scale-up, and recipe sharing.

DASware®

> Remote monitoring and control of bioprocesses
> Seamless integration of external lab devices to the bioreactor
> Integrated analysis of offline values, online calculated values, and alarm notification
> Parallel process control with individual control of DASbox Mini Bioreactor System (up to 24 vessels)
> Seamless integration with BioFlo systems (up to 8 controllers)
> Comprehensive information management
> IQ/OQ package available

Pilot and Production

Production processes in the food and beverage industries are multifaceted and constantly evolving. The modular design of the Eppendorf stainless steel fermentors facilitates these process requirements by allowing the addition or removal of options at any time – at an impressive volume range up to 500 L.

Ensuring maximum flexibility and scalability--the new BioFlo 720 bioreactor controller

BioFlo® 610

> Pilot to production scale bioreactor
> Sterilization-in-Place technology
> Small footprint and mobile skid for simplified transport
> Diverse range of specialized impellers
> Validation packages available
> ASME-rated pressure vessel

BioFlo® 720

> Compatible with Thermo Scientific™ HyPerforma™ 5:1 bioreactors from 50 L to 500 L
> Field-upgradeable options for future expansion of the system
> Documentation packages available to help qualify the system for use in GMP environments
> Intuitive software tools such as Auto Calibrate and Auto Inflate reduce preparation time, maximizing system efficiency
> Integrated Scale Up Assist software simplifies the workflow and calculations necessary to scale up and scale down
> Flexible choices for single-use bioreactors and Bioprocess Containers
> Mobile enclosure with a small footprint (0.7 m2/7.55 sq ft) fitting through a standard lab door

Beyond the products

Eppendorf offers comprehensive services beyond the products. Highly qualified experts at Eppendorf take care of logistics, training and other services to make your lab more efficient.

Logistics

Especially labs with high throughput need on-time delivery. This is even more important for high-running consumables. Our logistics experts are very successful in getting the right products to you on time – no matter where you are.

Various logistic hubs and warehouses allow us to manage incoming orders efficiently – so you get your order as fast as possible.

*Deliveries out of Eppendorf's central warehouse in Hamburg, Germany. »Correct« means that the shipment contains the correct amount of all ordered products and is shipped to the correct address.

99.9

Percent of deliveries are correct*

100
service offerings

15
years of training

epServices

Eppendorf has more than 100 globally standardized service products. From pipette calibration to preventive maintenance and our Rotor Assurance Program, we can help you to make sure our products work in pristine conditions in your labs.

From a Quick Check to a Premium Performance Plan package – you can choose from different levels of maintenance and service according to your needs. Just let us know how we can help you and enter a world of possibilities.

www.eppendorf.com/epservices

Eppendorf Training Center (since 1997)

Optimally serviced premium products alone do not guarantee reliable results. The operator's experience is just as important. With the innovative Eppendorf Training Center, we extend your knowledge and, thus, assure your professional future. In the easy-to-understand and active environment of our practice-oriented seminars, you will learn the operation of our devices, understand specific workflows and receive important hints to run applications in your lab properly. Our experienced application specialists will support you in small groups. Learn something new or brush up your knowledge. Certificates for successful participation will be provided.

eppendorf

Get in contact with our experts to find your specific workflow tools!

Your local distributor: www.eppendorf.com/contact
Eppendorf SE · Barkhausenweg 1 · 22339 Hamburg · Germany
eppendorf@eppendorf.com · www.eppendorf.com

www.eppendorf.link