



Let's Bioprocess Together

Upstream bioprocess solutions for research through production



You have a vision. We have a mission

At Eppendorf, our aim is to empower you on your upstream bioprocess journey. We provide trusted and innovative bioprocess solutions to develop cell culture and fermentation bioprocesses and move them from R&D to production. We have orchestrated our scalable bioprocess systems, single-use bioreactors, software solutions, and services to optimize process control, automate routine tasks, and harness the power of data. We listen to your specific challenges and work together with you to solve them. The bottom line is more speed, less risk, and more success in your business.

Our purpose is to help bring life-saving treatments to the world. With our bioprocess solutions and in line with our corporate mission, we contribute to the efforts of Eppendorf customers worldwide to improve human living conditions.



»We help bring life-saving treatments to the world.«

In the evolving biopharmaceutical landscape, the production of recombinant proteins and monoclonal antibodies has been a cornerstone. However, the industry is now expanding into more diverse pipelines, including biosimilars and a wider range of biologically active pharmaceutical ingredients, including viral vectors and cell-based products.

Meeting these growing demands requires the implementation of flexible systems designed to optimize both costs and

time-to-market. We offer comprehensive upstream bioprocessing solutions to help you meet these challenges.

These include single-source fed-batch, continuous, and perfusion cultivation systems; hardware and software solutions to save time by automating routine tasks; software solutions to harness the power of your bioprocess data; and services to keep your system running at peak performance.



Empowering bioprocess scale-up

Our portfolio includes state-of-the-art bioprocessing systems to support your journey from research and development to full-scale production. This includes our BioBLU® Single-Use Bioreactors, enabling scale-up with up to 400-fold increase in working volume. Designed for flexibility and efficiency, our systems support both small-volume parallel operations and large-scale production, ensuring robust and reproducible processes at every stage.

With our solutions we help scaling up your process from R&D to production while maintaining quality and yield. This not only streamlines development but also supports a faster transition from lab to market, aligning with the dynamic needs of the biopharmaceutical industry.



Harness the power of data for better processes

Monitoring and control of critical process parameters is essential to ensure optimal cell growth and high-yield production. This is especially important in cell therapy applications, where the product is a living cell, and ensuring its properties requires precise knowledge of the process and its dynamics.

Our software solutions for bioprocess monitoring and control facilitate the application of Process Analytical Technology (PAT) concepts for real-time insight, automated process control, and the setup of tailored feedback loops, that ultimately increase process efficiency and product quality.

Our software solutions go beyond basic bioprocess control. They enable you to gain deeper process understanding and simplify the use of your data for predictive model development, advanced statistical tools, and AI applications that ultimately help you develop better processes faster.



Supporting your quality and regulatory requirements

The FDA's Quality by Design approach aims to design product quality and process efficiency into the process as early as possible. It includes the identification of critical process parameters (CPPs) and critical quality attributes (CQAs). These have to be monitored, controlled, and documented already early in biopharmaceutical development. Process automation opens up new possibilities in terms of quality control and validation, especially in GMP environments.

Eppendorf's bioreactor systems support customers in implementing Quality by Design (QbD) principles in their development phase. We offer a range of solutions designed for use in regulated environments; please contact us to learn more about how we can support your specific compliance needs.



Expert services for your bioprocess success

Our first-class services help you operating your bioprocess system at peak performance. Our services begin with installation of your bioprocess equipment by certified experts and continue with regular maintenance to proactively care for your equipment and detect issues before they become a problem. We also provide training for new and existing users. All of our services are designed to support you with your quality objectives as well as regulatory and compliance needs.

We take care of your bioprocess equipment throughout its life cycle. This allows you to concentrate on achieving the reliable results you are looking for.

Vaccines



You discover new ways for vaccine production. We deliver solutions to help bringing your bioprocess to the next level. We support you in increasing cost-efficiency by accelerating process development, intensifying bioprocesses, and streamlining scale-up.

Learn more on

www.eppendorf.group/bioprocess-vaccines

Antibodies/ Hormones



You develop processes to produce antibodies, therapeutic proteins, and active ingredients. We provide tools that help you increasing turn-around and leveraging the full potential of bioprocess data. We help scaling up your process from R&D to production while maintaining quality and yield.

See how Eppendorf can support you with these initiatives on

www.eppendorf.group/bioprocess-antibodies

Cell culture scale-up

With our solutions we help scaling up your process from R&D to production while maintaining quality and yield. The BioBLU® c Single-Use Bioreactor portfolio covers working volumes from 100 mL to 40 L. To make the progression from bench-scale to production-scale, the BioFlo® 720 is a bioreactor control system which is compatible with Thermo Scientific® HyPerforma® 5:1 Single-Use Bioreactors with working volumes up to 500 L.

The Eppendorf reusable glass and stainless-steel bioreactors for cell culture cover working volumes from 60 mL to 32 L.

Read, how the Scale Up Assist software feature helped our applications team scale up a CHO cell culture process for mAB production from 3 L to 150 L.

www.eppendorf.group/cell-culture-scale-up



BioBLU Single-Use Bioreactors, page 18



Cell and Gene Therapy Development

Our aim is to empower bioprocess experts to facilitate the translation of basic research into commercially viable applications. Leveraging decades of experience in upstream bioprocessing, and more than ten years of experience in bioreactor-based stem cell culture, we strive to advance cell cultivation, focusing on scalability, reproducibility, quality, time-to-market, and cost-effectiveness.

Find out how we can support you in your pursuit of excellence in CGT

www.ependorf.group/bioprocess-cgt

Increasing stem cell yield

Increasing cell density is an important goal of one of our customers at MH Hannover, Germany. Find out, how systematic process optimization using the DASbox® Mini Bioreactor Systems led to a culture yield of 35 million hiPSCs per mL.

Find this and more research examples at www.ependorf.group/bioprocess-stem-cells



DASbox Mini Bioreactor System, page 14



Do you want to know more about stem cell bioprocessing? Become part of the community and join our Stem Cell Community Day!

www.ependorf.group/stem-cell-community-day

Stem Cell Community Day
ependorf



Modern Food

The food industry is facing a revolutionary transformation. Emerging production technologies offer more plant-based and animal-free food alternatives that promise to reduce the issues related to livestock. Whether it is the creation of cultured meat from stem cells, or the production of modern food using fermentation, we pay attention to your specific challenge. We offer:

- > Application flexibility: Bioprocess systems for the cultivation of cell lines, stem cells, and microorganisms
- > Scalability: Working volumes from 65 mL to 2,400 L
- > Process optimization: Powerful hard- and software solutions for process optimization and automation
- > Time-saving and risk mitigation: Single-use solutions to reduce the contamination risk and save setup time

Read how our customers benefit from Eppendorf bioprocess solutions:

www.ependorf.group/bioprocess-food

Academic Customers

No matter which area you are doing research in: We understand that universities and other publicly funded institutes are facing special challenges, such as frequently changing staff and often limited budgets. Also for these requirements, Eppendorf has the right solution.



The BioFlo 120 Auto Culture modes allow 1-touch process control for microbial and cell culture applications and make the control station the perfect workhorse for beginners.

BioFlo 120, page 16

Microbial Fermentation

A variety of microbes can produce valuable molecules for use in medicine, and the production of chemicals and food. We aim to help you bring your microbial fermentation process to the next level.

- > Cultivation of bacteria, yeasts, and other fungi under aerobic, microaerophilic, or anaerobic conditions
- > Scalable production of plasmids, peptides, small molecules, amino acids, and more
- > Save time with single-use bioreactors: BioBLU f Single-Use Bioreactors are specifically designed to meet the needs of microbial cultures

Read how our customers benefit from Eppendorf bioprocess solutions:
www.eppendorf.group/microbial-fermentation

Our innovative hardware and software solutions help you optimize process control, automate tasks, and harness the power of data.

The SciVario® twin keeps you flexible, wherever your research focus will take you in the future. The future-proof systems can adapt to changing requirements and like this reduce future capital investment.






SciVario twin, page 15



A New Scale of Bioprocessing

	DASbox® Mini Bioreactor System	DASGIP® Parallel Bioreactor Systems	SciVario® twin	BioFlo® 120
Working volume range	60 - 250 mL	0.2 - 1.8 L ¹	0.2 - 40 L ¹	0.25 - 40 L ¹
Single-use bioreactors available	•	•	•	•
Glass vessels, autoclavable	•	•	•	•
Stainless-steel vessels, SIP				
Interchangeable vessels	•	•	•	•
Bacteria/yeasts/fungi	•	•	•	•
Mammalian/animal cells	•	•	•	•
Stem cells	•	•	•	•
Insect cells	•	•	o ³	•
Number of bioreactors controlled per unit	4	4	2	1
Maximum number of bioreactors controllable in parallel with one DASware control installation	24	16	16	8
Touchscreen controller			•	•
SCADA Software Connectivity⁶	•	•	•	•
Remote monitoring/Cloud compatibility	•	•	•	•
DeltaV Connectivity				
Gas mixing options	4 gas (air, N ₂ , O ₂ , CO ₂)	4 gas (air, N ₂ , O ₂ , CO ₂)	4 gas (air, N ₂ , O ₂ , CO ₂)	4 gas (air, N ₂ , O ₂ , CO ₂)
Gas flow control²	TMFC	R or TMFC	TMFC	R or TMFC
Exhaust analysis	•	•	•	•
Optical density measurement	•	•	•	•
Documentation available for qualification in regulated processes				

¹ Realized using multiple vessels; ² Gas Flow Controllers: R=Rotameter, TMFC=Thermal Mass Flow Controller; ³ optional; ⁴ BioFlo 510; ⁵ CelliGen 510; ⁶ DASware Control or BioCommand

BioFlo® 320	BioFlo® 720	BioFlo® 510/ CelliGen 510	BioFlo® 610	BioFlo® Pro
				
0.25 - 40 L	10 - 500 L	10.75 - 32 L	16 - 100 L ¹	45 - 2,400 L ¹
•	•			
•				
		•	•	•
•	•			
•		• 4	•	•
•	•	• 5		
•	•	• 5		
•	•	•	•	•
1	1	1	1	1
8	1			
•	•	•	•	•
•	•	•	•	•
•	•			
•				
4 gas (air, N ₂ , O ₂ , CO ₂)	4 gas (air, N ₂ , O ₂ , CO ₂)	4 gas (air, N ₂ , O ₂ , CO ₂)	2 gas (air, O ₂)	2 gas (air, O ₂)
TMFC	TMFC	TMFC	TMFC	TMFC
•	•	•	•	•
•				
•	•	•	•	•

Bioreactor Systems and Software Solutions – Orchestrated for Bioprocess Control, Automation, and Analysis

Our upstream bioprocess portfolio is designed to seamlessly integrate bioprocess systems, control software, data analysis tools, and automation solutions. The products work in harmony to provide a complete upstream bioprocessing solution, enabling controlled cell cultivation, process automation for increased efficiency, and reduced manual labor. Additionally, our solutions help generating and best using valuable bioprocess data, empowering you to develop better processes faster.



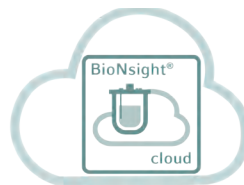
Reduce complexity

DASware® control serves as the central software solution, thereby eliminating the need to learn multiple tools.



Integrate your devices

DASware control and the Eppendorf bioprocess control systems facilitate the full integration of lab devices such as the Bioprocess Autosampler and third-party sensors.



Simplify data sharing

Easily share your bioprocess data with your team and collaboration partners enabled by DASware control and BioNightsight® cloud software.



Improve data analysis

Contextualize data across devices, runs, and sites with BioNightsight cloud software.



Eppendorf bioprocess software solutions - find more information

Would you like to get more information about our bioprocess software solutions or discuss your individual requirements? Get in touch, we are all ears!

Visit our eshop: www.eppendorf.group/bioprocess-software

Eppendorf Bioprocess Software

The DASware software suite is at the heart of our upstream bioprocess solutions. It can be used with any Eppendorf small- and bench-scale bioreactor solution, as well as the BioFlo 720 large-scale system. Its key capabilities include:

- > Parallel bioprocess monitoring and control
- > Connectivity to BioNsight cloud software for remote monitoring and data analysis
- > Integration of bioreactor systems with external devices such as the Bioprocess Autosampler and third-party sensors
- > Design of Experiment (DoE) approaches



DASware® control

- > SCADA Software for advanced process monitoring, control, and data logging - for parallel cultivation with individual control of each bioreactor



DASware® control plus

- DASware control software with **21 CFR Part 11** and **EU GMP Annex 11** compatibility
- > User Authentication and Access Control
 - > Electronic records
 - > Electronic Signatures with Confidence

Interested in **DASware control plus**?

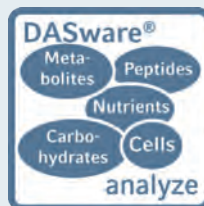
For optimal integration and compatibility of our soft- and hardware, we recommend consulting with our expert sales team to tailor solutions that best fit your unique needs with our system configuration. Inquire more information at www.eppendorf.group/dasware-control

DASware design, analyze, and connect are optional additions to the DASware control SCADA software.



DASware® design

- > Applies the Design of Experiments (DoE) concept via a full factorial DoE builder or by importing DoE designs from third-party DoE tools



DASware® analyze

- > Seamless integration of external lab devices to the bioreactor allows for process automation and feedback control loops



DASware® connect

- > Integration into process control systems and legacy corporate historians facilitating company-wide access to all relevant bioprocess data



BioNsight® cloud

- > Enables for remote monitoring and analytics
- > Seamless data transfer from DASware control 6 to the cloud in real time
- > Contextualize data across devices, runs, and sites
- > Data preparation for AI-based analysis
- > 256-bit AES encryption and Microsoft® SOC2/ISO 27001 certification

BioCommand® SCADA software for large-scale bioreactors

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Parallel Bioprocessing for Unparalleled Results: Small-Scale Systems



DASbox Mini Bioreactor System
60 – 250 mL working volume

- > 4-fold parallel system extendable to up to 24 parallel operated glass or single-use bioreactors.
- > Suitable for cell culture and microbial fermentation.
- > Optimal tool for DoE and scale down approaches.
- > Agitation control supporting overhead-driven Rushton, marine-type, pitched-blade or 8-blade impellers.
- > Innovative liquid-free temperature control system needs no cooling agent supply and supports independent temperature control for each bioreactor.
- > Accurate monitoring and control of pH, DO and level.
- > Variable speed pumps for accurate liquid addition and operation in batch, fed-batch, continuous and cyclic perfusion mode.
- > 4 mass flow controllers per bioreactor allow for individual mixing of air, N₂, O₂ and CO₂ to headspace and/or submerged.
- > Liquid-free Peltier exhaust condenser with easy to handle slide in - slide out activation and deactivation.
- > Compatible with Bioprocess Autosampler.
- > Compatible with DASware software suite and BioNsight cloud for advanced process control, interconnectivity, and bioprocess information management.

Find more information: www.ependorf.group/dasbox-system



DASGIP Parallel Bioreactor Systems
0.2 – 1.8 L working volume

- > Parallel operation of up to 16 glass or single-use bioreactors.
- > DASGIP Bioblock for advanced and user-friendly temperature control.
- > Suitable for cell culture and microbial fermentation.
- > Modular design of control units allows for flexible system configurations that meet the demands of specific applications.
- > Control of agitation, pH, level and DO (including customizable cascade modes) in each bioreactor.
- > Variable speed pumps for accurate liquid addition and operation in batch, fed-batch, continuous and cyclic perfusion mode.
- > Optical absorbance measurement for online calculation of e.g. OD₆₀₀ or cell dry weight.
- > TMFC with individual gas mixing of air, N₂, O₂ and CO₂.
- > Online calculation of OTR, CTR and RQ.
- > Compatible with Bioprocess Autosampler.
- > Compatible with DASware software suite and BioNsight cloud for advanced process control, interconnectivity and bioprocess information management.

Find more information: www.ependorf.group/dasgip-system

Exceedingly Versatile: Bench-Scale Fermentors and Bioreactors



- > Bioprocess control station for the individual or parallel control of up to two glass or single-use bioreactors and fermentors.
- > The base unit can run cell culture or microbial fermentation processes without changes of the hardware.
- > The innovative bay-drawer system allows the flexible and individual adaption of standardized functional modules.
- > Accurate control and monitoring of all critical process parameters like pH, DO, agitation, and temperature.
- > Temperature control with the new improved temperature control block or with heating blanket and cooling fingers.
- > Wide-range precise pumps for liquid addition from 0.005 – 600 mL/h and 4.5 – 5200 mL/h.
- > Supports batch and fed-batch operations.
- > Automated detection and recognition of plugged-in accessories.
- > Individual TMFC control of gases (N_2 , O_2 , CO_2 and air) for submerged gassing.
- > Compatible with Bioprocess Autosampler.
- > Compatible with DASware software suite and BioN Sight cloud for advanced process control, interconnectivity and bioprocess information management.



Exceedingly Versatile: Bench-Scale Fermentors and Bioreactors



BioFlo 120
0.4 - 10.5 L working volume (autoclavable)
0.25 - 40 L working volume (single-use)

- > Flexible software platform for universal control of both microbial and cell culture applications
- > Auto Culture modes offer process control at the touch of a button.
- > Compatible with BioBLU® Single-Use Bioreactors for fermentation and cell culture applications.
- > Precise temperature control provided through interchangeable heat-blanketed or water-jacketed vessels.
- > High precision thermal mass flow controller (TMFC) for automatic gas flow control.
- > Automatic gas mix for four independent sparge gas supplies.
- > Available analog input/output connection for direct integration of accessories (i.e. scales, variable-speed pumps, etc.).
- > Integrated Mettler Toledo® Intelligent Sensor Management (ISM®) platform.
- > Integrated 7 in touchscreen for local process control.
- > Compatible with DASware software suite and BioNsight cloud for advanced process control, interconnectivity and bioprocess information management.

Find more information: www.eppendorf.group/bioflo120-system



BioFlo 320
0.6 - 10.5 L working volume (autoclavable)
0.25 - 40 L working volume (single-use)

- > Interchangeable autoclavable and BioBLU Single-Use Bioreactors.
- > Integrated Mettler Toledo Intelligent Sensor Management (ISM) platform.
- > Control up to eight systems from a single-user interface
- > Universal control for both microbial and cell culture applications.
- > Field-upgradable TMFC drawers for sparge and overlay gas.
- > Enhanced software package with new cascade and time profile features.
- > Built-in optical pH sensing technology for use with the BioBLU Single-Use Bioreactors.
- > Up to six integrated pumps capable of operating in variable speed mode.
- > Eight independently controlled process gas supplies
- > Documentation packages available to help qualify the system for use in GMP environments.
- > Compatible with Bioprocess Autosampler.
- > DeltaV® compatibility available through DeltaV Discovery and DeltaV ProPlus PAS.
- > Compatible with DASware software suite and BioNsight cloud for advanced process control, interconnectivity and bioprocess information management.

Find more information: www.eppendorf.group/bioflo320-system

Delegate Bioprocess Sampling: Bioprocess Autosampler



Bioprocess Autosampler
Automated sampling and bolus additions for small and bench scale systems

- > Aseptic operation without the use of a laminar flow cabinet
- > Suitable for cell culture and microbial applications.
- > Compatible with differently-sized glass and BioBLU Single-Use Bioreactors with working volumes from 60 mL to 10 L.
- > Suitable for 1.5 mL and 10 mL sample vials, up to 648 samples can be stored.
- > Enables regular sampling and bolus addition 24/7.
- > Sample storage between 4 and 40 °C.
- > Sanitation procedure using ethanol is similar to procedures, which are usually applied when sampling manually.
- > Low dead volume minimizes the reduction of culture volume.
- > Modular design that facilitates expansion of the number of bioreactors to be sampled and retrofitting of existing bioprocess systems.
- > Control of the Bioprocess Autosampler is integrated in DASware control bioprocess software.



Automate upstream bioprocessing
Watch our webinar to learn more about
the Bioprocess Autosampler!

Watch webinar:
www.eppendorf.group/autosampler-webinar

Find more information: www.eppendorf.group/bpautosampler

Higher Yields in Closed Systems - BioBLU® Single-Use Bioreactors

The new industry standard for cell cultivations!

We are convinced that single-use bioreactors will be the gold standard in the pharmaceutical industry to fulfill the growing demand for high-density cell cultures for cell and gene therapy applications. For more than a decade now, we have been serving the market with our well-known rigid-wall single-use bioreactors. Let our extensive experience benefit your process and reach out to our team today! Send a mail to bioprocess-info@ependorf.com for more information on our bioprocessing solutions.

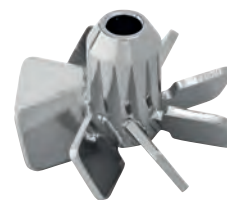
Single-Use Bioreactor Benefits

- > Closed systems and non-invasive sensor technology reduce contamination risks
- > Easy, user-friendly set-up for rapid turnaround, shorter development times and lower operating costs
- > Proven performance and scalability of stirred-tank design
- > Simplify installation with our rigid-wall design, and no risk of damages due to collapsing bioreactor bags
- > Special variants for adherent or aggregate cell cultures



BioBLU® c Single-Use Bioreactors for cell culture applications

Single-use solutions for small, bench and pilot-scale cell culture applications. A full portfolio of vessels covers a working volume range of 100 mL – 40 L, enabling you to scale-up your process up to 400-fold. The single-layer polymer design mitigates issues related to leachables and extractables.



Our Gentle »Stem Cell« Impeller Available for 0.3 L single-use and 0.3 L to 3.5 L glass bioreactors

Developed for aggregate stem cell cultures: Our special 8-blade impeller ensures reduced cell settling and homogeneous mixing at low agitation speeds to reduce the stress for your stem cells.



BioBLU® f Single-Use Bioreactors for microbial applications

Single-use solutions for fermentation applications, covering a working volume range of 65 mL – 3.75 L. Powerful overhead drives featuring Rushton-type impellers, and effective cooling make it possible to achieve the demands of fermentation processes on mass transfer and heat removal.

Find more information about BioBLU® Single-Use Bioreactors

Would you like to get more information about our single-use bioreactor solutions or discuss your individual requirements? Get in touch, we are all ears!

Visit our eshop: www.ependorf.group/single-use-bioreactors



Interested in learning more about the biocompatibility of BioBLU® Single-Use Bioreactors?

In biocompatibility studies on CHO cell culture in X-ray irradiated BioBLU Single-Use Bioreactors we found that during normal use there is no negative influence of the BioBLU material on CHO cell culture according to DECHEMA® guidelines. Find more details in our application note!

Download application note: www.eppendorf.group/AN-488

Industry Standards Meet Flexibility — Large-Scale Fermentors and Bioreactors



BioFlo 510 & CelliGen 510
Bench- and pilot-scale SIP fermentor and bioreactor
10.75 - 32 L working volume

- > SIP bench and pilot scale reactors designed to meet the needs of R&D through production.
- > Modular design allows for complete system flexibility.
- > Add or remove components pre- or post-delivery
- > Multiple impeller and gas flow options.
- > Integrated skid design with mobile table option to simplify transport.
- > Features intuitive RPC control software and touchscreen interface.
- > Integrated load cell for online vessel volume monitoring.
- > Fully automated SIP sequence for sterilization.
- > Flush mounted vessel ports for enhanced vessel design and drainability.
- > Documentation packages available to help qualify the system for use in GMP environments.
- > 7 additional analog input/output connections for local integration of ancillary equipment.
- > ASME®-rated pressure vessel.

Find more information: www.eppendorf.group/bioflo-510



BioFlo 610
Pilot-scale SIP fermentor
16 - 100 L working volume

- > Pilot production system without the traditional cost or footprint.
- > Modular design allows for complete system flexibility
- > Add or remove components pre- or post-delivery.
- > Multiple impeller and gas flow options.
- > Integrated mobile skid simplifies transport.
- > Features intuitive RPC control software and touchscreen interface.
- > Integrated load cell for online vessel volume monitoring.
- > Fully automated SIP sequence for sterilization.
- > Flush mounted vessel ports for enhanced vessel design and drainability.
- > Documentation packages available to help qualify the system for use in GMP environments.
- > 7 additional analog input/output connections for local integration of ancillary equipment.
- > ASME-rated pressure vessel.

Find more information: www.eppendorf.group/bioflo-610



BioFlo Pro
Large-scale SIP fermentor
45 - 2,400 L working volume

- > Large scale industrial system supporting operation in accordance to GMP and GAMP® guidelines.
- > Modular design with over a hundred options allows for high level of customization pre and post delivery.
- > Multiple impeller and gas flow options.
- > NEMA-4 (IP65) rated control cabinet with industry-standard Allen Bradley PLC .
- > Open piping skid allows for easy accessibility.
- > Fully automated SIP sequence for sterilization.
- > Clean-in-Place (CIP) options available for vessel and piping.
- > Flush mounted vessel ports for enhanced vessel design and drainability.
- > Documentation packages available to help qualify the system for use in GMP environments.
- > ASME-rated pressure vessel.

Find more information: www.eppendorf.group/bioflo-pro



BioFlo 720
Used with large-scale single-use bioreactors
10 - 500 L working volume

- > Compatible with Thermo Scientific® HyPerforma® 5:1 bioreactors from 50 L to 500 L.
- > High performance mass flow controllers capable of up to 500:1 turn-down allowing multiple vessel sizes to be run from the same controller.
- > Suitable for analog and digital sensors (Mettler-Toledo ISM and Hamilton® ARC).
- > Available with dual sparge, overlay and CO₂ stripping options.
- > 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 vessels and shrouds.
- > Mobile enclosure with a small footprint (0.7 m²/7.55 sq ft) fitting through a standard lab door.
- > Documentation packages available to help qualify the system for use in GMP environments*.
- > Compatible with DASware software suite and BioNsight cloud for advanced process control, interconnectivity and bioprocess information management.

Find more information: www.eppendorf.group/bioflo-720

* BioFlo 720 is not a medical device as defined by the Food and Drug Administration or other regulatory authorities.

SCADA Software for Large-Scale Fermentors and Bioreactors

BioCommand® software



The BioCommand software enhances your ability to monitor, control and log data from your fermentation and cell culture processes. Three distinct packages provide the tools needed for research, optimization, and if needed, the security and audit trails to support your regulatory requirements.

- > **Track and Trend:** Provides the ability to trend and control parameter setpoints, establish alarm settings, and produce batch records; and is ideal for basic process management
- > **Batch Control:** Additional enhanced control features including a sophisticated programming module, custom synoptic display window, and equipment lock feature
- > **Batch Control Plus:** Includes three levels of security, event logs, and audit-trail capabilities to be compatible with the FDA 21 CFR Part 11

Features	Track & Trend	Batch Control	Batch Control Plus
Batch info	•	•	•
User-defined event log	•	•	•
Summary	•	•	•
Loop info	•	•	•
Alarms	•	•	•
Trend graphs	•	•	•
Data log	•	•	•
Reports	•	•	•
Graphical programming		•	•
Script programming		•	•
Synoptic display		•	•
Equipment lock		•	•
Audit trail/security			•
21 CFR Part 11 compatibility			•
OPC compliance	•	•	•

Find more information: www.ependorf.group/biocommand



Discover Our Latest Addition to the Bioprocess Products Offering



- BioN Sight® cloud software - Your data, always available**
- > Cloud-based software solution for bioprocess monitoring and analysis
 - > Automated data transfer to the cloud from any bioprocess controller operated with DASware control 6
 - > Upload of historic data from DASware control to the cloud
 - > Upload of data from other SCADA software and external analyzers
 - > Remote monitoring of all your running processes
 - > Comparison to “Golden Batch” run
 - > Comparisons of runs and analysis of each parameter one-by-one or aligning them all with a single click
 - > Data preparation for AI-based analysis
 - > Easy data sharing with your team or collaboration partners
 - > Data export in machine-readable JSON format
 - > Hosted and built up on Microsoft Azure technology
 - > 56-bit AES encryption and Microsoft SOC2/ISO 27001 certification

Interested in learning more about the capabilities of BioN Sight® cloud?

Would you like to get more information about our single-use bioreactor solutions or discuss your individual requirements? Get in touch, we are all ears!

Visit our eshop: www.eppendorf.group/bioN Sight

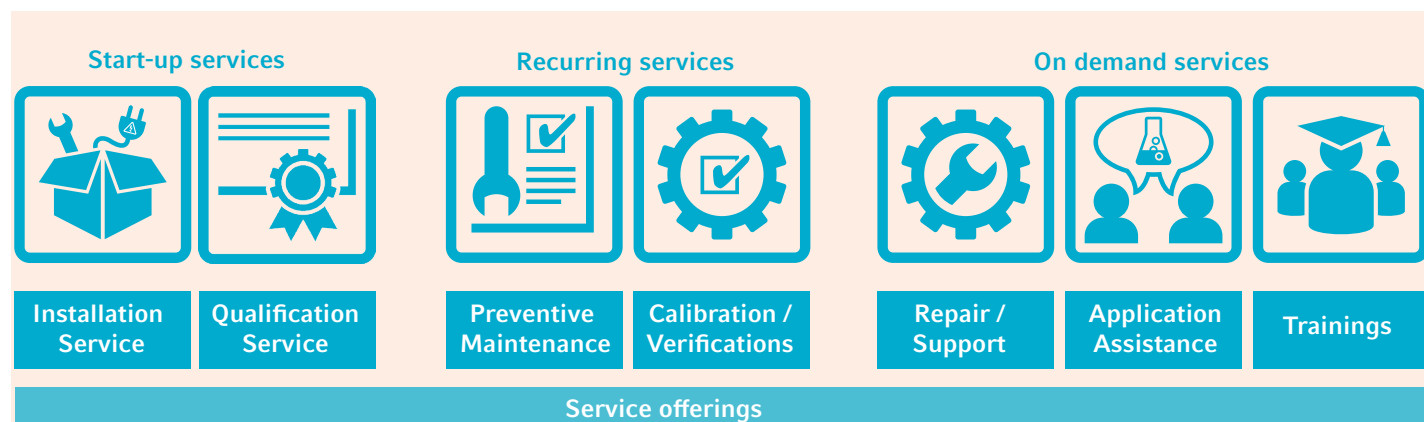


You Develop. We Support.

Ensure Peak Performance of Your Bioprocess System

You develop the bioprocesses of the future. We support you by ensuring you work with bioprocess equipment you can rely on. Our services begin with the installation of your bioprocess equipment by certified experts and continue with regular maintenance to detect issues before they become a problem. We provide training for new users and additional training for advanced users, as well as assisting you with your quality and regulatory audits.

Our globally distributed applications and technical service teams are there to support you. They are more than problem-solvers; they are dedicated to helping you reach your bioprocess goals.



Installation Services: Ensure your equipment is set up by experts to guarantee optimal performance and proper usage. Our representatives receive regular training directly from the manufacturer, providing them with the latest knowledge and best practices.

Training and application support: Profit from expert application support to optimize the use of your equipment and plan in training sessions for your staff to reduce the risk of incorrect handling.

Calibration and verification: The proper functioning of your instruments is crucial for achieving accurate bioprocess results. Calibration and verification ensure the functioning of your instrument according to the specified parameters.

Qualification services: Certified Eppendorf personnel provide a GxP-compliant installation qualification and operation qualification (IQ/OQ) documentation for certain equipment, which gives you security and reduces the workload for your qualification and audit processes.

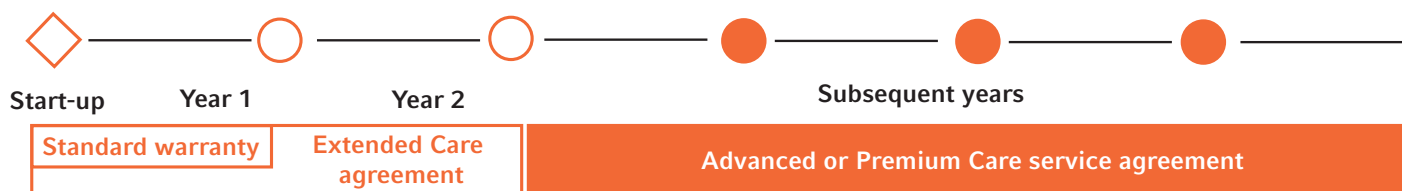
Preventive maintenance: An unexpected failure of your system results in additional costs related to time, materials and personnel. We offer maintenance plans ensuring that your equipment receives the care it requires to operate at peak efficiency.

Repair and support: Profit from our services worldwide with fast response times. The use of original/OEM spare parts ensures the reliable functioning of your equipment.



Service and warranty agreements

We can help you achieve peak performance of your staff as well as your equipment while managing your budget. Benefit from our service agreements to focus on results and let us handle the rest. We manage your equipment throughout its lifecycle: This allows you to concentrate on achieving reliable results. Our service agreements include regular equipment maintenance for a long service life and cover repair costs fully or partially. They help minimize downtime and costly disruptions, ensuring consistent productivity and budget control.



More Products for Your Bioprocess Workflow



■ Easypet® 3

Pipette controller for use with serological pipettes from 0.1 – 100 mL for aspiration, resuspension and serial dispensing.

- > Intuitive and convenient speed adjustment simply done with the tips of your fingers
- > Lightweight, well-balanced and ergonomic design that allows for fatigue-free pipetting



■ Serological Pipets

Quality and convenience designed to work in perfect harmony with Easypet 3.

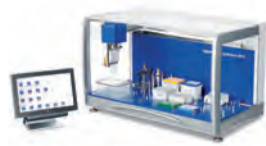
- > Color-coded pipets with clear and precise graduations for easy volume determination
- > Sterility assurance level of 10^{-6} and certified absence of detectable pyrogens, DNA, RNase and DNase, non-cytotoxic



■ Innova® S44i Incubator/Shaker

Stackable incubator shaker with high vessel capacity and for 24/7 operation.

- > Ideal for reproducible shake flask-based inoculum preparation
- > Reliable operation 24/7 with robust Eppendorf X-Drive



■ epMotion® 5075m

The most flexible member of our family of automated liquid handling systems.

- > Mixing, temperature control and magnetic bead separation abilities
- > Optical sensor verifies labware, tips and volumes before the run



■ Multipette® E3/E3x

A motor driven dispensing system that utilizes the positive displacement principle and is capable of accurately pipetting any liquid.

- > Eliminates time consuming volume calculations with auto Combitip recognition
- > One-button tip ejector for one handed operation and contact-free advanced ejection



■ Conical Tubes 5, 15, 25 and 50 mL

No Compromise! The Eppendorf Conical Tubes meet the highest demands of diverse laboratory applications.

- > The newly designed screw caps provide optimal sealing properties
- > High g-Safe® centrifugation stability allows fast protocols for shorter run times



Interested in more bioprocess information?

Our quarterly Bioprocess Spotlight newsletter keeps you up to date about educational material, events, and product news related to your cell culture bioprocess workflow.

Subscribe here: www.eppendorf.group/bioprocess-spotlight



■ CellXpert® CO₂ incubators

First CO₂ incubator engineered by Eppendorf - offers future flexibility and saves costs.

- > Easy cleaning and fanless design
- > Fast recovery rates and verified homogeneity



■ CryoCube® F740 series

Safe sample storage within ULT freezer with green cooling.

- > High-performance insulation for optimal temperature uniformity
- > Monitor your freezer by VisioNize for 24/7 safety



■ Centrifuge 5910 Ri

Experience performance, high capacity and outstanding versatility.

- > Spins up to 4 x 1 L at a max. speed of 4,347 x g with Rotor S-4xUniversal
- > Offers easy operation with the intuitive VisioNize® touch interface
- > Supports labs with GxP/GLP requirements with a documentation function and user management system

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Or simply mail to bioprocess-info@eppendorf.com with any question.

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