eppendorf

Together We Lift Standards

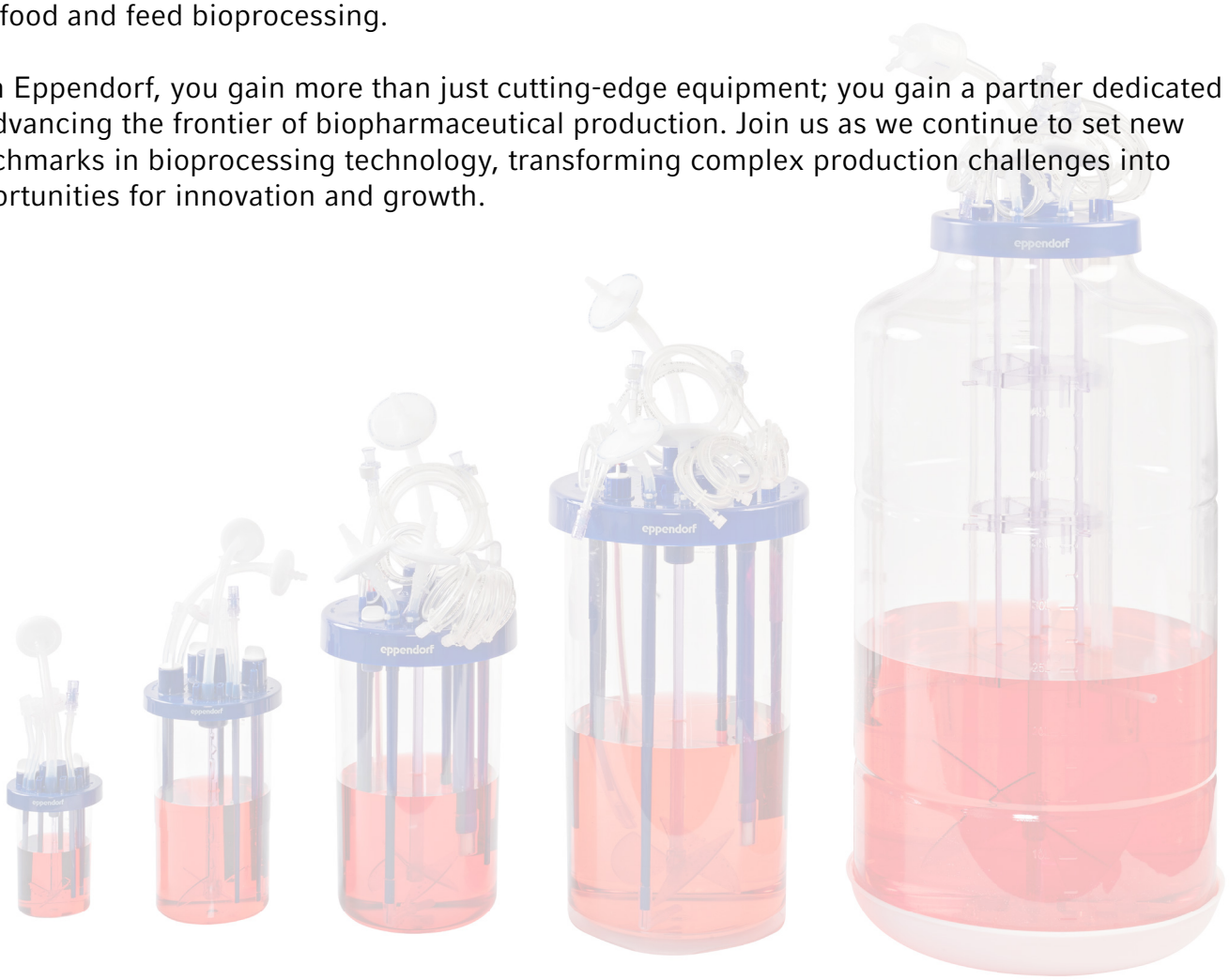
Eppendorf Upstream Bioprocess Equipment for Commercial Manufacturing

Trusted Solutions for Commercial Manufacturing

In the highly regulated world of biopharmaceutical production, precision, compliance, and efficiency are non-negotiable. Over 15 years ago, Eppendorf revolutionized bioprocessing with the development of the first rigid-wall single-use bioreactors, setting a new standard by merging the benefits of single-use technology with the reliable performance of traditional glass or stainless steel systems. Building on this legacy, Eppendorf has continuously advanced its bioprocess solutions, establishing the BioBLU® series as a benchmark for reliability and performance in both academic and industrial settings.

Eppendorf Bioprocess is committed to delivering exceptional equipment and software solutions that meet the rigorous demands of this industry. Our BioFlo® 320 bioprocess controller, BioBLU HNQ single-use bioreactors, and DASware control plus software are engineered to provide unparalleled performance across a wide range of applications, including cell and gene therapy development, antibody and hormone production, vaccine manufacturing, microbial production, and food and feed bioprocessing.

With Eppendorf, you gain more than just cutting-edge equipment; you gain a partner dedicated to advancing the frontier of biopharmaceutical production. Join us as we continue to set new benchmarks in bioprocessing technology, transforming complex production challenges into opportunities for innovation and growth.



Single-Use Scalability: BioBLU® HNQ 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@eppendorf.com** for more information on our bioprocessing solutions.

Single-Use Bioreactor Benefits

> Closed systems and none invasive sensor technology reduce contamination risks
> 400-fold scalability: Working volume range 65 mL to 40 L
> Rigid wall design eliminates the risk of folds and tears during unpacking and installation of the bioreactor
> Easy, user-friendly set-up for rapid turnaround, shorter development times and lower operating costs
> Proven performance and scalability of stirred-tank design
> Reduced qualification effort for cleaning and sterilization
> Special variants for adherent or aggregate cell cultures

BioBLU HNQ 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, offering unmatched scalability. The single-layer polymer design mitigates issues related to leachables and extractables.

Are you in the need of sufficient plasmid or vector production?
Try our BioBLU HNQ f Single-Use Bioreactors for microbial applications!

Single-use solutions for fermentation applications, covering a working volume range of 65 mL – 3.75 L. High yield plasmid production in small volumes. 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.

Interested in learning more about the capabilities of BioBLUs?

AAV vectors have gained momentum as one of the most effective gene & protein delivery tools in vaccine production as well as gene therapy. Read the application note to learn, how we used a suspension-adapted HEK293 cell line (Expi293F) as the host and incorporated a Helper-Free AAV System to eliminate the requirement for wild-type adenovirus co-infection.

Download our application note 450:
https://eppendorf.group/AAV-production

Universal Controller for R&D and Manufacturing

The next generation of our BioFlo 320 bioprocess control system combines the benefits of a classical industrial design with the power of our improved BioFlo control software. It seamlessly combines form and function in one state of the art package regardless of whether your process includes cell culture or fermentation, autoclavable or single-use bioreactors. A robust industrial design, intelligent sensors, Ethernet connectivity, and enhanced software capabilities are only a few of the features that set it apart from the competition. Developed to be used in GMP regulated environments, the BioFlo 320 simplifying tech transfer, scale-up, and recipe sharing in bioprocess research, process development and bench-scale manufactuing.

Four universal connections for analog or digital Mettler Toledo ISM sensors

High-powered direct and magnetic drive motor assemblies; capable of clockwise and counterclockwise rotation

Control up to eight units from a single user interface or with DASware control

Ultra-compact design with vessel nest for minimum footprint; left- and right-handed orientations to maximize lab space

Interchangeable TMFC drawers for sparge and overlay gas flexibility

Unique variable/ fixed speed front-mounted pumps capable of clockwise and counterclockwise rotation

Sixteen interchangeable autoclavable vessels and the comprehensive line of BioBLU Single-Use Bioreactors

Industrial, brushed stainless steel panels provide enhanced corrosion resistance

Single-use bioreactos:
0.40 L – 40 L

Process control:
Cell culture or Microbiology

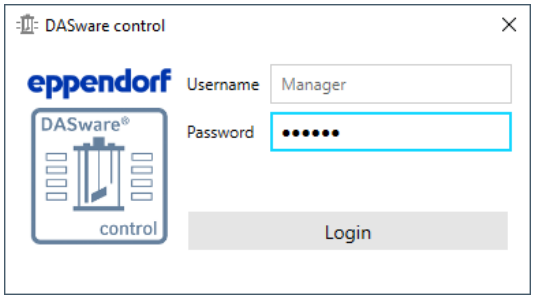
Vessel material:
Glass or Single-Use

Autoclavable bioreactors:
0.6 L – 10.5 L

Maximum Performance, Advanced Data Analysis

Already in the process development phase, data integrity is often vital – for documentation reasons, but also to be able to use this data for optimization efforts. With DASware control, process data will be stored centrally on a database storage with optimization for time series data and are quickly accessible with easy search and filter functions. Data logging intervals can be configured.
The software features managed access with user roles and domains and an integrated audit trail with alarms and events.

> User management uses a protocol that allows for single sign-on and centralized user management by corporate IT.
> Integrated audit trail with alarms and events.
> Alarms can be set for each loop with low and high alarms as well as low and high warnings to allow you to step in early in case of errors.



Unlocking Excellence: DASware control plus

SCADA Software with **21 CFR Part 11** and **EU GMP Annex 11 Compatibility** – Elevate Compliance, Empower Performance!

The intricate regulatory framework, 21 CFR Part 11 defines the prerequisites for Electronic Records and Electronic Signatures, signalling an era characterized by paperless production procedures and electronic signatures seamlessly mirroring their handwritten counterparts.
Navigate the complexities of regulatory compliance with DASware control plus SCADA software. The software is purpose-built with a focus on compatibility to 21 CFR Part 11 and EU GMP Annex 11, supporting users to achieve regulatory compliance with criteria set forth by those standards.

Benefits at a glance:

> User Authentication and Access Control: Aligning with the regulatory requirements to prevent unauthorized access and maintain data integrity.
> Electronic records: Track and document critical action in an audit trail, gaining a comprehensive view of data integrity and compliance history.
> Electronic Signatures with Confidence: Ensure the authenticity and reliability of critical documentation in your bioprocessing operations.
> Efficient Data Management: Retrieval and storage of human and electronic system readable data whilst adhering to rigorous data integrity standards.

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.

DASware® control plus

From Data to Insights

Transform bioprocessing with artificial intelligence

BioNsight cloud provides a seamless journey from data to insight through its integration with DataHowLab. DataHowLab is a unique bioprocess data analytics and modelling solution that empowers scientists to generate powerful AI-enabled process insights with their process data. Advanced technologies are embedded in a user-friendly environment developed for non-data-science experts.

Key capabilities of DataHowLab include:

Data analytics and visualizations

Effortlessly generate insights with DataHowLab's visualization boards. A wide variety of analyses and plots can be generated and customized in just a few clicks.

Model-based process development

More than just data insight, models can be used for key development tasks such as process optimization, robustness analysis, optimal experimental design, and more.

Access to advanced process models

Access a library of advanced process models, including DataHow's transformative AI-enabled hybrid models.

Advanced analytics with ease

DataHowLab has been developed for process scientists, providing guidance with workflows and automations to make even the most advanced analysis possible.

Scientists are often unable to unlock the value of their data due access and analytical constraints. The partnership of BioNsight cloud and DataHowLab offers a transformative path to data-driven, digital process development.

Native integration of BioNsight® cloud and DataHowLab	
Use data efficiently: Easily send all your data from DASware control to DataHowLab via BioNsight cloud	✓
Save time: Data from BioNsight cloud is pre-formatted. No need for manual processing for use with DataHowLab	✓
Gain convenience: Single sign-on (SSO) to log in to DataHowLab with your BioNsight cloud user data	✓

DATAHOWLAB

Find out more about DataHowLab
www.datahow.ch/products/datahowlab/

Find out more about BioNsight cloud

We'd love to tell you more about our software, answer any questions you may have, or schedule a software demo for you!

Visit our website for more information
www.eppendorf.group/BioNsight-cloud

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Find out more about our solutions for commercial manufacturing!

Learn more about our software, controller, and bioreactor solutions. Find answer to your questions you may have, or ask for a demonstration for you!

Visit our website for more information
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