



Bacteria Welcome

BioBLU® f Single-Use Vessels for microbial cultures

»Defining single-use fermentation«

Simplifying fermentation

Combine the benefits of single-use bioreactor technology with the reliable performance of conventional glass or stainless steel bioreactors – Discover the Eppendorf BioBLU product line.

BioBLU single-use fermentation vessels were developed as true replacements for existing fermentation vessels. Utilizing an industrial standard, rigid-wall design, BioBLU f Single-Use Vessels allow microbial process development at the highest level. These stirred-tank single-use vessels are specifically designed for high-cell density fermentation with bacteria, fungi, and yeasts. Eppendorf exclusive interior cooling baffles create the necessary turbulence for mixing and mass transfer, while providing a proper cooling source inside the vessel for heat removal.

How BioBLU single-use fermentation technology benefits you:

- > Reduced validation costs for cleaning and sterilization
- > Reduced capital investment, use your existing equipment
- > β -irradiated and autoclavable vessel options available
- > Increased productivity with reduced turnaround time between runs
- > Simplified handling reduces cross contamination
- > Reliable scalability through industrial design
- > Simplify installation with rigid-wall design, reduced potential for vessel damage
- > Single layer polymer design mitigates issues related to leachables and extractables (no additives such as softeners used)

Scalable single-use design: The Eppendorf BioBLU® f vessels.



Innovative accessories

Tri-port, septum, compression fitting, and blind plug for Pg 13.5 port



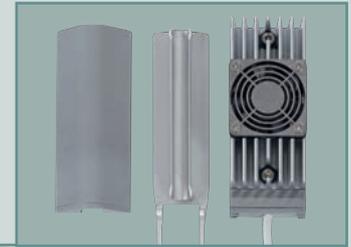
Industrial head plate

Multiple Pg 13.5 ports for sensor flexibility, integrated liquid addition and sampling ports. Enclosed magnetic drive reduces contamination risk. (BioBLU 0.3f shown)



Industry standard design

Standard impeller size and vessel dimensions for efficient mixing and mass transfer with scalable results



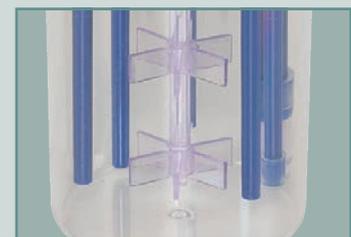
Effective exhaust treatment

Water-cooled or liquid-free (Peltier) exhaust condensation



Innovative cooling baffles

Provides efficient heat removal through active cooling interior to vessel, while aiding mixing and mass transfer (BioBLU 1f and 3f).



High-performance impellers

Powerful magnetic overhead drives featuring Rushton-type impellers for optimum mass transfer (BioBLU 0.3f shown)





Suitable for high cell density

Compared to cell culture applications, fermentation processes have much higher mass transfer and heat removal requirements. Proven stirred-tank design, powerful overhead drives featuring Rushton-type impellers, and innovative baffles for cooling make it possible for the BioBLU f vessels to achieve these demands.

	BioBLU 0.3f	BioBLU 1f	BioBLU 3f
Stirring	up to 2,000 rpm	up to 1,500 rpm	up to 1,200 rpm
Heat transfer	> 50 W/L	> 50 W/L	> 50 W/L
Gassing	up to 2 vvm	up to 2 vvm	up to 1.5 vvm

Premium solutions for microbiology

The Eppendorf BioBLU f Single-Use Vessels fully address the specific needs of fermentation.

- > Sealed magnetic overhead drives with Rushton-type impellers for excellent mixing
- > High-performance mass and heat transfer suitable for high-cell density fermentation
- > Minimal set-up times and simplified handling
- > Water-cooled or liquid-free (Peltier) exhaust condensation available
- > Raw materials used to produce BioBLU vessel body and head plate comply with USP Class VI standards and are BSE/TSE free



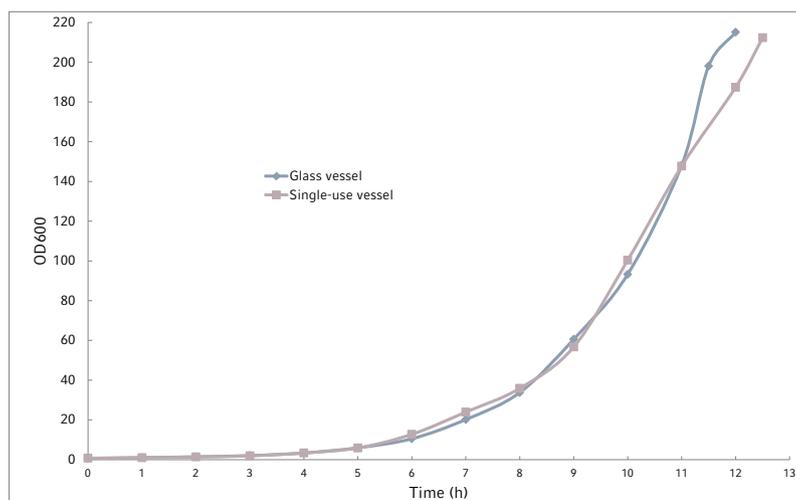
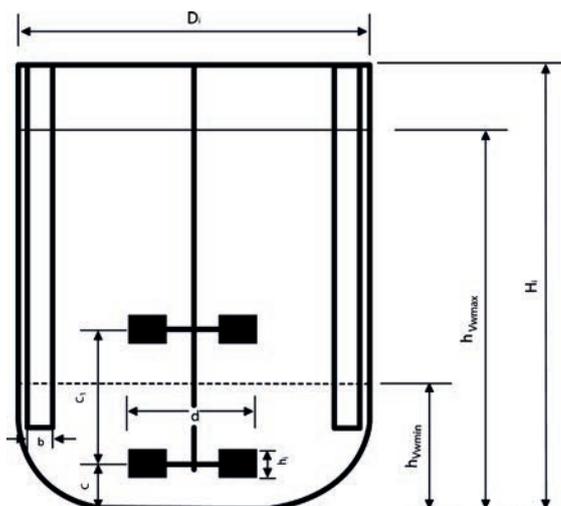
> Are you looking for more information, including application data? Visit our website by scanning the QR code or going to www.eppendorf.com/BioBLUf

As Good as Glass

When making the decision to move to a single-use process the vessel should fit your process, not the other way around. BioBLU fermentation vessels are designed as drop-in replacements for your existing autoclavable vessel. From vessel geometries to process capabilities, BioBLU vessels make the switch to single-use easy.

	BioBLU 0.3f	BioBLU 1f	BioBLU 3f
Ratio H_i/D_i = Vessel height : Vessel ID	1.8	2.0	2.0
Ratio h_{Vwmax}/D_i = Max. liquid height : Vessel ID	1.2	1.5	1.5
Number of impellers	2	2 or 3	3
Ratio d/D_i = Impeller OD : Vessel ID	0.4	0.4	0.4

ID = inner diameter, OD = outer diameter



A high-cell density fed-batch cultivation of *E. coli* K12 in 3 L glass vessels and BioBLU 3f Single-Use Vessels, respectively, resulted in outstanding 200 OD₆₀₀ and highly similar growth curves—proving the excellent comparability of the vessel designs.

Single-Use Now



BioBLU Single-Use Vessel Adaptor Kits & Single-Use Vessel Bundles

BioBLU vessels are designed for use with the Eppendorf DASbox® and DASGIP® Parallel Bioreactor Systems, BioFlo® 120, and BioFlo 320. A range of adaptor kits is offered as well, enabling your existing bioreactor system for single-use operation without the expense of replacing the whole system.

BioBLU Single-Use Vessel Bundles provide you with highest flexibility. They ease up to switch your bioreactor system from single-use to reusable vessel usage, back and forth.

www.eppendorf.com/catalog

Technical data*

	BioBLU® 0.3f	BioBLU® 1f	BioBLU® 3f
Working volume (total)	65 – 250 mL (380 mL)	250 mL – 1.25 L (1.8 L)	1.25 L – 3.75 L (5 L)
Material	Vessel: polystyrene (PS), polycarbonate (PC) (USP Class VI) Tubing: silicone	Vessel: polystyrene (PS), polycarbonate (PC) (USP Class VI), Tubing: silicone	Vessel: polycarbonate (PC) (USP Class VI) Tubing: silicone
Sterilization	15 kGy β -irradiated		
Autoclavable	No	No	Yes
Max. operating temperature	45 °C	45 °C	45 °C
Head plate ports			
Pg 13.5	2x	3x	4x
Liquid addition	1x submerged, 2x overlay	2x submerged, 3x overlay	1x submerged, 3x overlay
DO sensor port	1x (permeable gas membrane)	1x (permeable gas membrane)	1x (Pg 13.5)
Gas sparge	■	■	■
Exhaust	■	■	■
Harvest tube	■	■	■
Thermowell	■	■	■
Baffles (with integrated cooling)	–	4x	4x
Drive	Magnetic overhead drive		
Impellers	2 Rushton-type impellers (6 blades)	2 or 3 Rushton-type impellers (6 blades)	3 Rushton-type impellers (6 blades)
Recommended agitation speed**	20 – 2,000 rpm	100 – 1,500 rpm	25 – 1,200 rpm
Exhaust condensation***	Liquid-free (Peltier)	Liquid-free (Peltier)/water-cooled	Water-cooled
Sensors***	Dissolved Oxygen: polarographic (DASGIP DO Sensor, 162/4.7 mm) Temperature: Pt100 - RTD pH: standard 120/12 mm glass sensor	Dissolved Oxygen: polarographic (DASGIP DO Sensor, 278/4.7 mm) Temperature: Pt100 - RTD pH: standard 220/12 mm glass sensor	Dissolved Oxygen: polarographic or optical (225/12 mm) Temperature: Pt100 - RTD pH: standard 225/12 mm glass sensor

Ordering information

Vessel	Impellers	Quantity	Order number
BioBLU® 0.3f	2 x Rushton-type	4-pack	78903509
BioBLU® 1f	2 x Rushton-type	4-pack	1386110200
	3 x Rushton-type	4-pack	1386110300
BioBLU® 3f	3 x Rushton-type	1-pack	1386000900
	3 x Rushton-type	4-pack	1386001000

* Technical specifications are subject to change without notice. ** Agitation speed range may be limited by capabilities of controller.

*** Specifications apply to the operation with Eppendorf DASbox, DASGIP, and BioFlo controllers, respectively. These accessory parts are separate items.

Your local distributor: www.eppendorf.com/contact

Eppendorf AG · Barkhausenweg 1 · 22339 Hamburg · Germany
eppendorf@eppendorf.com · www.eppendorf.com

www.eppendorf.com