



DiSTEK

BiOne

SINGLE-USE BIOREACTOR SYSTEM

CONVERT TO A **SINGLE-USE BIOREACTOR** IN SECONDS!

The BOne single-use bioreactor exemplifies the bioprocessing industry's growing preference for single-use technologies, as it eliminates the need for assembly, cleaning, or sterilization, resulting in an efficient and hassle-free solution for bioprocessing applications. Assembled in Distek's advanced ISO-7 cleanroom, the BOne SUB is then gamma-sterilized, significantly reducing the risk of contamination.

The BOne's flexibility and compatibility with a range of bioprocess controllers make it an ideal choice for researchers, scientists, and bioprocess engineers seeking a reliable and efficient system for their experiments or production processes. Whether working on complex cell culture models or developing new gene therapies, the BOne single-use bioreactor provides an easy-to-use and versatile platform for bioprocessing applications.

Now available in 2L, 5L and 10L working volumes. Request your BOne SUB Evaluation Today!

The BOne logo features the word "BOne" in a stylized font. The "B" is red, and the "One" is blue. A small red and blue square is positioned to the right of the "e".

BOne

SINGLE-USE HEADPLATE

CUSTOMIZABLE ABOVE & BELOW THE HEADPLATE

- 2L, 5L & 10L Working Volume
- Optional Integrated Single-Use pH Probe
- Non-Invasive DO (Polarographic or Optical) & Optional Optical pH Probe Ports
- Weldable TPE Tubing
- Flute, Micro & Open Pipe Sparging Options
- Sterilizing Grade Inlet Filter Option
- USP Class VI Materials
- Repligen® ATF Perfusion Tube Compatible
- Animal Derivative-Free
- Low Antioxidant Liner Material
- Plug-and-Play Compatibility with Existing Bioreactor Systems

SINGLE-USE LINER

GLASS VESSEL

HEADPLATE
CONFIGURATION

ITEM	QTY (2L/5L)	QTY (10L)	DESCRIPTION
Addition Port	5	5	Tubing, TPE, 1/8" ID x 1/4" OD, C-Flex, Luer Connector
Exhaust	1	1	Tubing, Platinum Cured Silicone, 1/4" ID x 3/8" OD
Filters (Inlet / Outlet) (2L/5L)	3	-	(2) Inlet (25mm, 0.2µm PE Filter) / (1) Outlet (50mm, 0.2µm PE Filters) or (Optional 51mm Capsule Filter, 0.2µm PVDF Membrane)
Filters (Inlet / Outlet) (10L)	-	3	(2) Inlet (50mm, 0.2µm PVDF Membrane) / (1) Outlet (51mm Capsule Filter, 0.2µm PVDF Membrane)
Harvest Line	1	1	Tubing, TPE, 1/8" ID x 1/4" OD, C-Flex, Luer Connector
Non-Invasive DO Probe Port	1	1	12mm Standard DO Probe
Optional Non-Invasive Optical pH Probe Port	1	1	Up To 1/4" Optical pH
Overlay	1	1	Tubing, Platinum Cured Silicone, 1/8" ID x 1/4" OD
Sample Port	1	1	Tubing, TPE, 1/8" ID x 1/4" OD, C-Flex, Needleless Connector
Sparger	1	1	Tubing, Platinum Cured Silicone, 1/8" ID x 1/4" OD
Thermowell / RTD Port	1	1	Up To 1/4" RTD
Universal Port*	2	4	PG 13.5 / 12mm

*Universal sensor ports are compatible with 12mm probes for CO₂, DO, pH, biomass, glucose, etc.



2L/5L HEADPLATE



10L HEADPLATE

HIGHLIGHTED
INTERNAL FEATURES

pH, DO & PAT PROBE PORTS

- Non-Invasive DO (Polarographic or Optical) & Optional Optical pH
- PG-13.5 for Invasive PAT Installation
- Optional Integrated Single-Use pH Probe

PITCHED BLADE IMPELLER

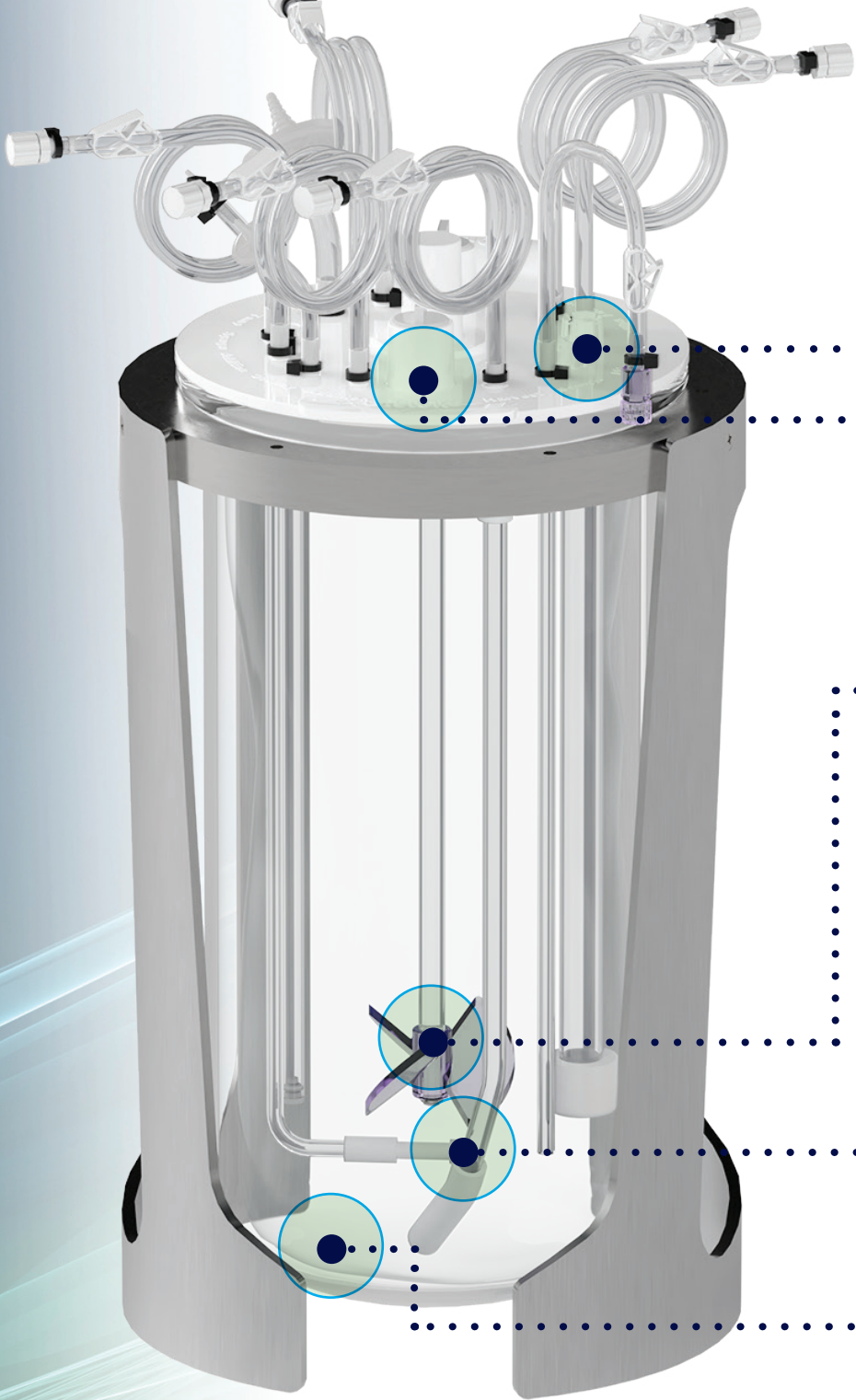
- Single or Dual Impeller

SPARGING OPTIONS

- Flute Sparger (7 x 1.5 mm hole)
- Micro Sparger (20-40 µm pore size)
- Open Pipe Sparger (1 x 3.0 mm)

LOW ANTIOXIDANT
LINER MATERIAL

- Outer Layer (LDPE) – Mechanical Strength
- Middle Barrier Layer (EVOH) – Gas Barrier
- Contact Layer (ULDPE) – Cell Culture Compatible, Biologically Inert



TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS	BIOne 2L	BIOne 5L	BIOne 10L
Working Volume (Maximum)	2L	5L	10L
Working Volume (Minimum)	0.9L	1.7L	2.5L
Operating Temperature Range	4°C to 60°C ¹	4°C to 60°C ¹	4°C to 60°C ¹
Operating Pressure (Maximum)	5 psig (.0345 mPa)	5 psig (.0345 mPa)	5 psig (.0345 mPa)
Agitation Range	15 to 450 rpm	15 to 450 rpm	15 to 450 rpm
Gamma Irradiated	Gamma Irradiated between 25 and 40 kGy		

¹ BIOne SUB materials rated for use in processes at temperatures up to 60°C (exception of Hamilton Single-Use pH probe, with a maximum operational temperature definition of 50°C). Structural Integrity Testing completed for operations up to 60°C. Leachable and Extractables Testing completed for operations up to 40°C.



TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS	BIOne 2L	BIOne 5L	BIOne 10L
Agitator Shaft (Overall)	6.87"	10.43"	14.15"
Agitator Shaft (Inter-Impeller)	3.23"	4.25"	7.10"
C-Flex Tubing (Inner Diameter)	0.125"	0.125"	0.125"
C-Flex Tubing (Length)	30"	30"	30"
Headplate (Inner Diameter)	4.87"	6.00"	7.25"
Impeller (Radius)	0.890"	1.180"	1.56"
Impeller (Power Number)	1.5	1.5	1.5

C-FLEX TUBING
Inner Diameter/Length

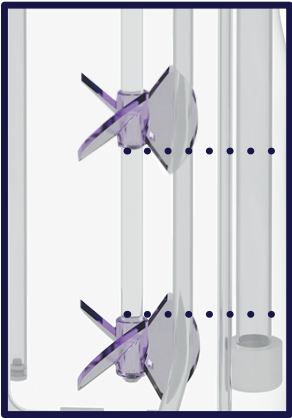
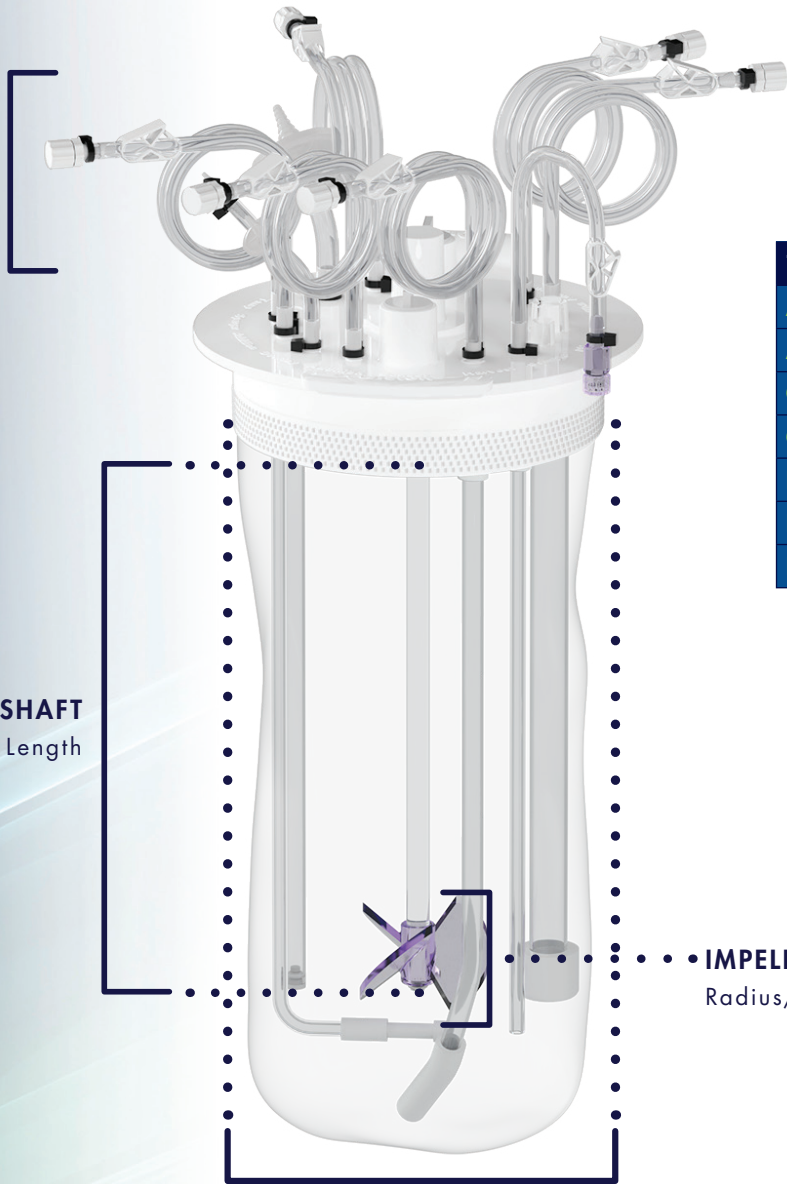
AGITATOR SHAFT
Overall Length

IMPELLER
Radius/Power Number

HEADPLATE INNER DIAMETER

DUAL IMPELLER

AGITATOR SHAFT
Overall Length

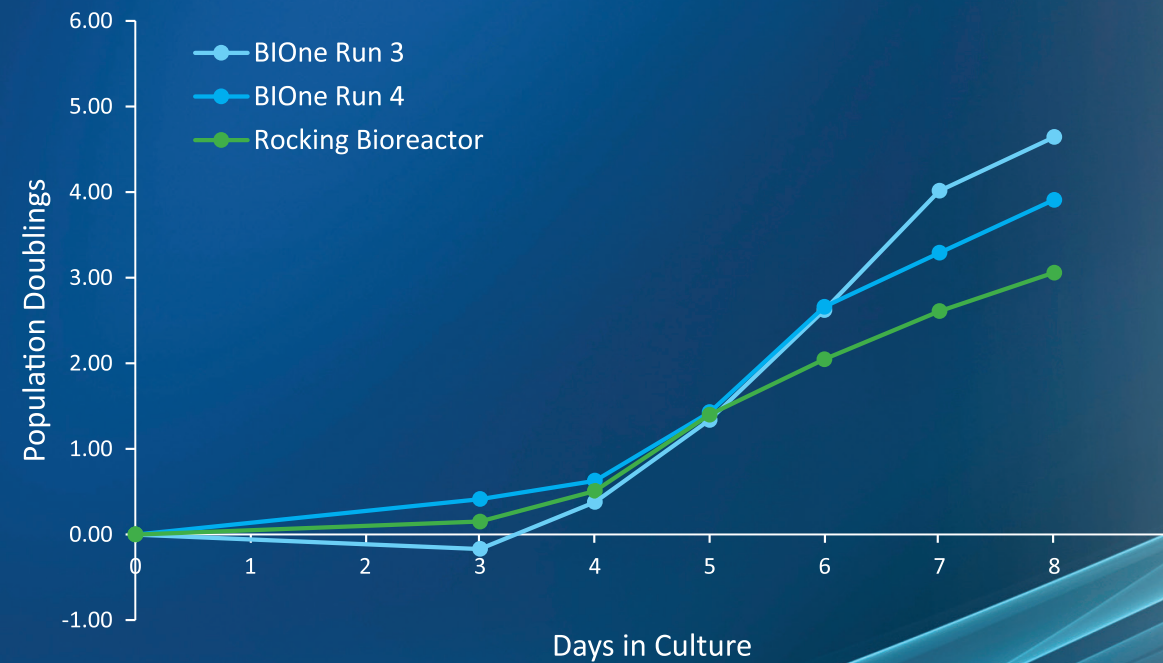


T-CELLS

Comparing a single donor across the BIOne 1250 stirred tank system with a 2L BIOne single-use bioreactor and the rocking bioreactor system indicates that the BIOne enables increased cell expansion toward the later stage of the cell culture. The average increase in expansion was 1.22 population doublings. This difference in expansion shown in this experiment could correspond to a 24-48 hour reduction in total culture length depending on the target yield. Culture is typically the limiting factor in production speed and reducing the length of time required to achieve a therapeutic yield will result in faster product release.

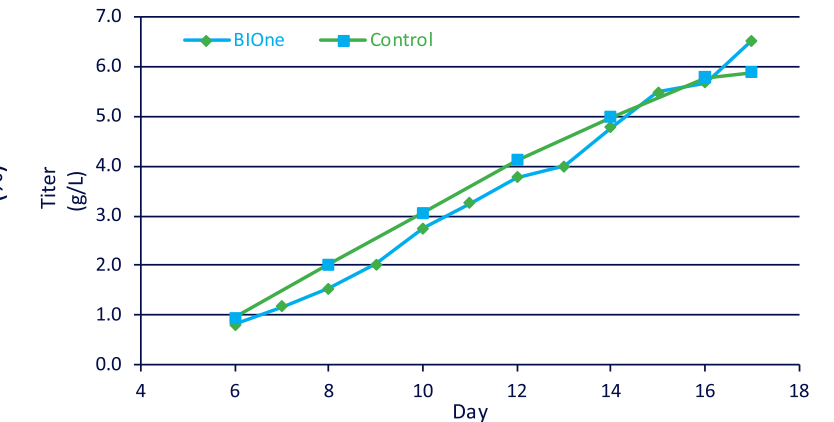
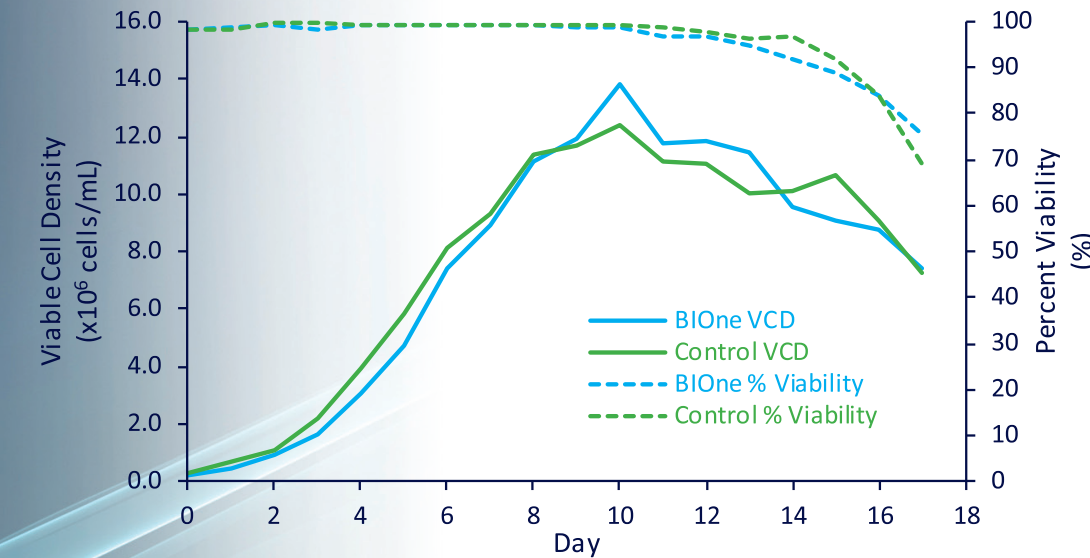
APPLICATIONS

- Process Development
- Process Optimization
- Stem Cell Cultivation
- Process Validation
- Adherent Cell Culture with Microcarriers



Cell Culture. Growth profiles and titer were evaluated with a CHO cell line in a 17 day fed-batch process. Titer was quantified starting on Day 6. Similar growth and titer were observed in the BIOne and glass vessel control. Performance results indicate that the BIOne single-use bioreactor system is a suitable bench scale SUB for mammalian cell growth and recombinant protein production.

CHO CELLS



The BIOne single-use bioreactor system effectively eliminates the time, risk, and costs associated with cleaning, assembling, and autoclaving non-disposable bioreactors. The BIOne achieved comparable growth profiles and recombinant protein production relative to a glass vessel bioreactor. Similar performance attributes in these key areas demonstrate the BIOne's utility as a robust model for bioprocess development.



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Request your BIONe SUB evaluation today. A standard evaluation includes one BIONe single-use bioreactor (standard configuration), vessel & stand rental and starter kit rental as well as tech transfer support to ensure a successful evaluation.

(Offer is available in US only. Other restrictions may apply.)

