



# Cultivation Systems From Discovery to Production



Engineering for Life

# Single-use Bioreactors

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- Save time to prepare your bioreactor for the next batch
  - Time of highly trained staff and scientist is spent more efficiently
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## Applikon offers several types of Single-use bioreactors

- AppliFlex ST, stirred tank bioreactors
  - AppliFlex RB, rocking bioreactors from 10 to 50 liter
  - Millipore Mobius™ CellReady
  - HyPerforma SUB, stirred tank bioreactors from 66 to 2,700 L
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All systems are unique in their accurate measurement and control of key process parameters. The systems can be controlled using the Applikon ez2-Control, ez-Control, i-Control or my-Control. Most systems can be equipped with re-usable sensors as well as fluorophor pH and Dissolved Oxygen sensors. Our well trained sales consultants are able to advise you on the complete configuration of your Single-use bioreactor system. All systems go through standard IV/OV and FAT procedures before they are delivered and installed turnkey and fully documented at the customers site. The qualified Applikon technical support team can take care of the installation and will be your first point of contact for any questions.

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## Features

- Simple operation
- OPC compliant controller
- Accurate process control
- Classic and Single-use (fluorophor) sensors for measurement of pH, Dissolved Oxygen
- Accurate control of pH, DO, temperature, mixing
- Data logging & SCADA (21CFR part 11) available
- Turn-key delivery
- IV/OV/FAT and SAT for the complete system
- Fully documented delivery eases validation
- One point of contact for the complete system
- Qualified support and service

## Applications

- Cell culture
  - Microbial
  - Batch
  - Fed Batch
  - Perfusion
  - Suspension cells
  - Anchorage dependent cells
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# AppliFlex ST | Disposables Designed on Demand

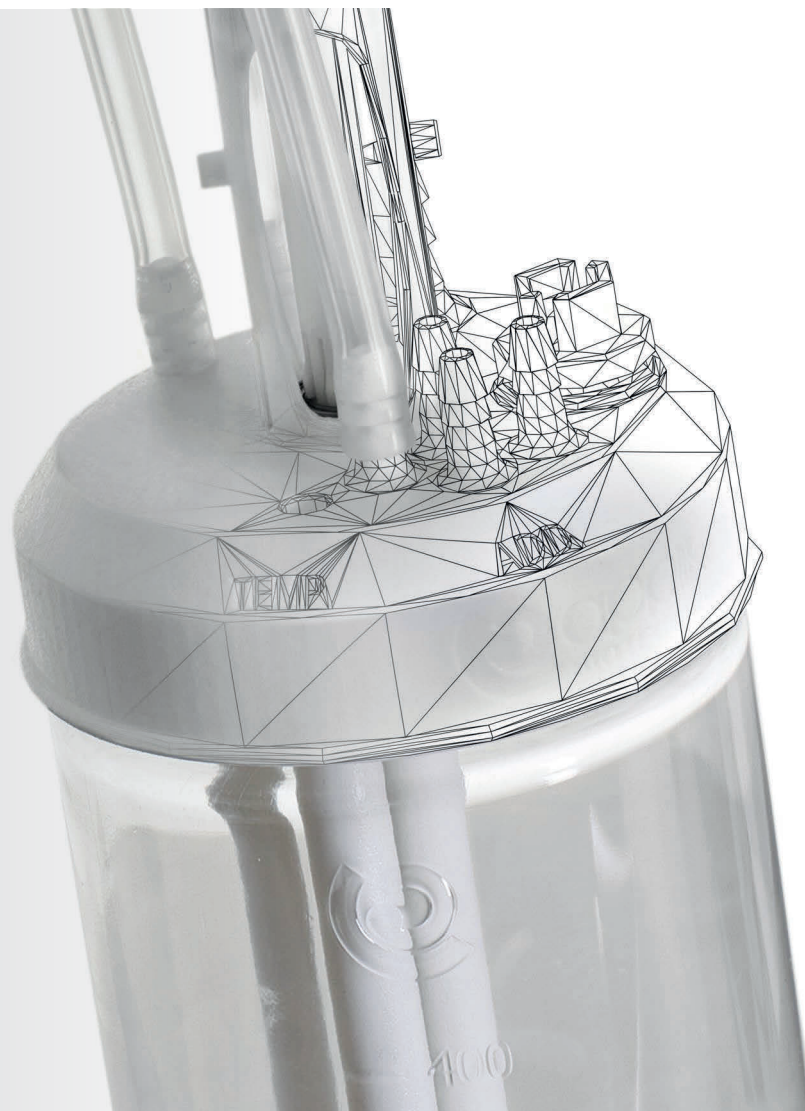
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Introducing the AppliFlex ST, a fully customizable single-use bioreactor available in 500 mL. Easily configure a new single-use vessel for each new process at lower initial investment costs, utilizing Applikon's innovative 3D printing. Build the bioreactor of your dreams.

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The AppliFlex ST is a fully customizable stirred tank bioreactor enabling you to customize your head plate to your process. You can choose the type and number of impellers, the number of liquid and gas additions, and the type of sparger that will be most optimal for your process. No more blind plugs. The 3D printing production technology guarantees complete reproducibility between the different bioreactors, guaranteeing exact identical conditions between runs.

The Single-use bioreactors are designed according to the high Applikon quality standard and are 1:1 interchangeable with Applikon's glass vessels of the same volume. This means that you can switch between Single-use and re-usable system in no time and at no additional costs. All measurement and control auxiliaries are completely interchangeable between the Single-use and the glass bioreactors as well.



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## AppliFlex RB

The AppliFlex RB bioreactor range consists of a 10, 20 and 50 liter bioreactor bag. The control system (pH, Dissolved Oxygen, temperature, mixing) is the standard Applikon ez2-Control / ez-Control. The rocking motion offers gentle mixing. The same rocker can be used for the 10 (2x), 20 and 50 liter bioreactor bags. The AppliFlex RB bioreactors are an easy scale-up to the HyPerforma bioreactors; the bags are made of the same materials which eases validation.



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## Millipore Mobius™ CellReady

The CellReady 3L Bioreactor combines the advantages of a traditional stirred tank design with the flexibility of single use, making it a powerful solution for bench scale cell culture process development. The CellReady 3L bioreactor is ready to use out of the box as it is delivered pre-assembled and sterilized by gamma irradiation.

### The bioreactor includes:

- Rigid tank design with the classic glass bioreactors geometry
- Pre-fitted, weldable C-flex tubing
- Vent filter, gas overlay, and two gas inlet filters
- 3 probe ports and one thermowell port
- Open-pipe and sintered microsparger
- Fluid addition/removal
- 4 Fluid Addition Lines
- 1 Sub-surface fluid inlet/outlet
- Bottom Drain port for harvesting
- In-line septum for small volume additions (i.e. anti-foam)
- Sampling: Sub-surface integrated side sampling to minimize sampling deal volume

The CellReady 3L bioreactor is supplied as a bundle with ez2-Control. The controller includes 2 rotameters with solenoid valves for control of pH and dissolved oxygen content, 1 pump for alkali addition, and a heating blanket for temperature control. It is possible to customize the controller with extra rotameters, mass flow controllers, built-in pumps, and the extended I/O board.





# HyPerforma

The HyPerforma SUB provides all the advantages of Single-use bioprocessing in a classical stirred tank bioreactor system design. The critical design parameters of the S.U.B., such as height to diameter ratios, mixer design and location and typical control system interfaces, have been maintained. The SUB is available with new optimized standard BioProcess Containers with improved dual sparge capability. Open pipe and frit sparging systems are included to provide a wider range of operating conditions. A key element to the Single-use design is the plastic (polyethylene) impeller with a bearing/seal assembly linked to an external mixer drive. The range includes units with maximum working volumes of 50, 100, 250, 500, 1,000 and 2,000 liter.



## Specifications



<b>AppliFlex ST</b>	<b>0,5</b>
Total volume (L)	0,5
Max working volume (L)	0,4
Min working volume (L)	0,1



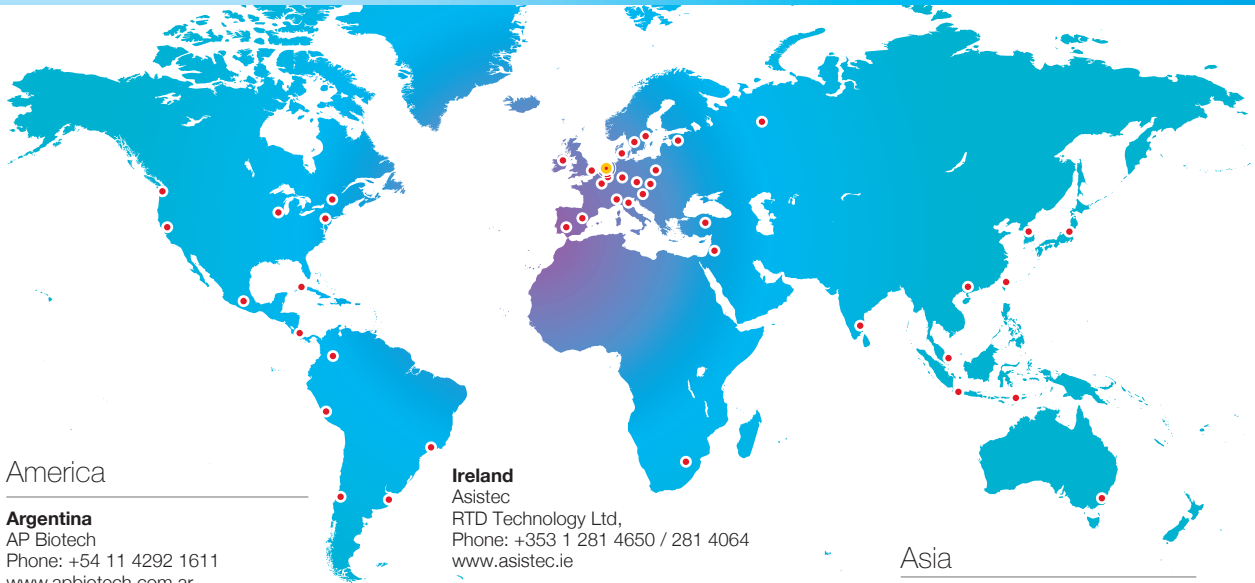
<b>AppliFlex RB</b>	<b>10</b>	<b>25</b>	<b>50</b>
Total volume (L)	10	25	50
Max working volume (L)	5	12.5	25
Min working volume (L)	2	5	10



<b>HyPerforma</b>	<b>50</b>	<b>100</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>
Total volume (L)	66	120	316	660	1320	2700
Max working volume (L)	50	100	250	500	1000	2000
Min working volume (L)	25	50	125	250	500	1000



<b>CellReady</b>	
Total volume (L)	3.0
Max working volume (L)	1.0
Min working volume (L)	2.4



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