



# Scalable Cell Culture Perfusion

## Applikon BioSep

Continuously optimize your bioprocess by simply mounting the Applikon BioSep to your bioreactor. It automatically removes cell debris without fouling or blocking the system. The ideal solution for your long term operation.

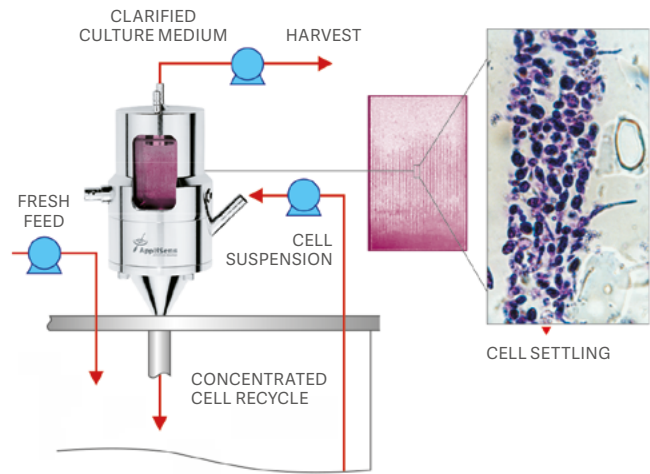
The Applikon BioSep is a unique cell retention device for high-density perfusion processes, which has been established in the market for 20 years. Using high frequency resonant ultrasonic waves to separate cells instead of a physical mesh or membrane, it offers all the benefits of traditional devices but without their inherent problems and limitations. It is a non-fouling / non-clogging retention system, which

makes it a favorable instrument for continuous perfusion cultures. The Applikon BioSep can be applied in both R&D (min. 0.1L/day), process development and at production scale (1000 L/day). It is applicable to both multi-use (glass autoclavable and stainless steel systems) as well as single-use bioreactors. Additionally, it can be connected to any brand of bioreactor due to the different connection options available.

# Acoustic Cell Retention System

An extensive characterization has proven full scalability between the different sizes allowing you to start in perfusion mode directly at the beginning of your process optimization all the way through to production. The Applikon BioSep system is available in 1 L/day, 10 L/day, 50 L/day, 200 L/day and 1000 L/day, giving it an operating range from 0,1 L up to 1000 L/day.

Using the technology of acoustic resonance allows for high separation efficiency without damaging any cells. The Applikon BioSep can be directly mounted onto the bioreactor head plate. One standard mode of operation employs, for example, a harvest pump at the exit port of the resonator chamber, and a recirculation pump for the return of separated cells that settled from the acoustic energy field within the resonator chamber. Alternatively the Applikon BioSep system can also be set up to allow for semicontinuous operation or alternative strategies of cell recirculation.



## Features:

- Proven under cGMP conditions
- Easy to install and to operate
- Can be used in combination with any brand of bioreactor
- Long-term cultivation possible (> 6 months)
- No fouling or blocking
- No damage to the cells
- High separation efficiency (> 95%)

## Applications:

- Perfusion cultures
- Concentration of cell/particles
- Process development studies
- Washing
- First step in downstream processing

1 L BIOSEP



10 L BIOSEP




50 L BIOSEP



200 L BIOSEP



 Scalable perfusion from 1 L to 1,000 L

Getinge is a global provider of innovative solutions for operating rooms, intensive care units, sterilization departments and for life science companies and institutions. Based on our firsthand experience and close partnerships with clinical experts, healthcare professionals and medtech specialists, we are improving everyday life for people – today and tomorrow.

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