



# ***Take a step ahead in Bioreactor Technology from 1 ml to 1,000,000 ml***

- ✓ **Micro Bioreactors**
- ✓ **Single-Use-Bioreactors**
- ✓ **ez-Control and i-Control for optimal bioprocess control:**
  - industrial power (Siemens, Allen Bradley, DeltaV)
  - adaptive control • touchscreen • OPC • ethernet • USB
- ✓ **BioBundles:**
  - autoclavable • Bench-top SIP/CIP • Pilot SIP/CIP

**Miniaturize without  
compromise**  
**Microbial & Cell Cultures**  
**in 24 / 96 well plates**

**$\mu$ -Flask**  
*by Duetz*

- no cross contamination
- defined headspace air exchange rate
- limited evaporation



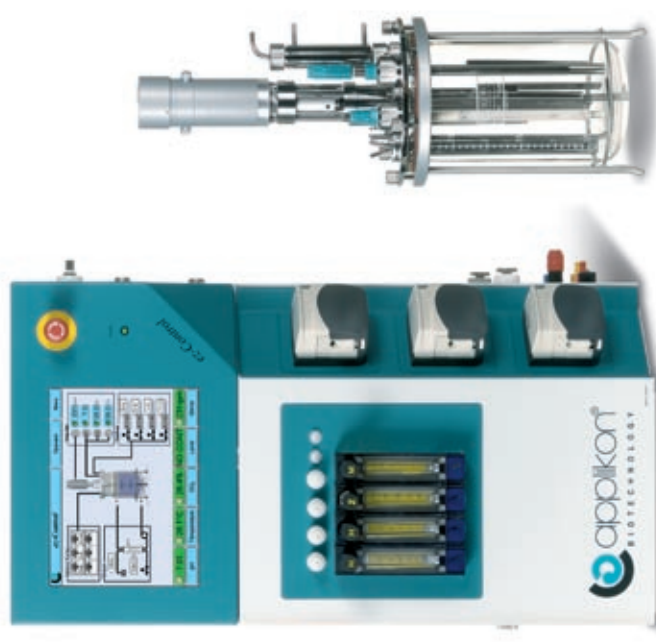
**$\mu$ -24**  
**Bioreactor**

- 24 bioreactors on one well plate and fully controlled for pH, DO & T

**AppliFlex™**  
**Single-Use-Bioreactors**  
**10L - 50L**



**Autoclavable Bioreactors**  
**& ez-Control**  
**1L - 20L / Microbial**  
**and Cell Culture**

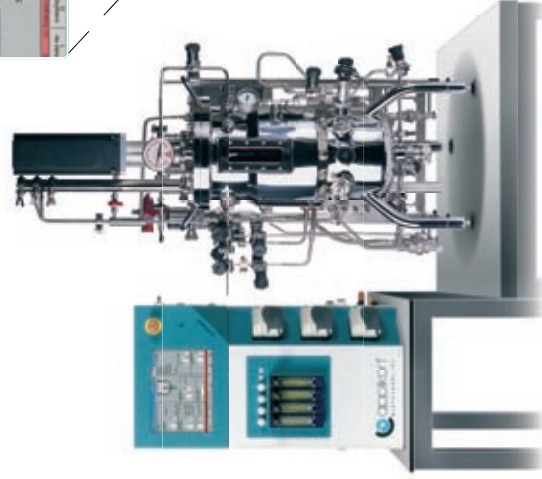


**From 1 ml to 1,000,000 ml**  
**in R&D, Pilot and**

# cGMP Manufacturing

## *i-Control* The most powerful Biocontrol System

- **Flexible**
  - for autoclavable or SIP/CIP systems
  - multiple reactor control options (Dual, Quad)
- **Industrial Power control platforms:**
  - Siemens (PLC)
  - Allen Bradley (PLC)
  - DeltaV (DCS)
- **Compliance**
  - OPC
  - 21CFR part 11
  - designed according S88 and GAMP



**Standard Bench-top  
SIP/CIP Bioreactors  
7L - 30L**

## **Standard SIP/CIP Bioreactors** (20L - 300L) and Projects (300L ≤ 2m<sup>3</sup>) *Microbial and Cell Culture Application*



BIOTECHNOLOGY

**A STEP AHEAD**

# *Applikon Biotechnology: a complete bioreactor program*

	<i>Fermentation</i>	<i>Cell culture</i>
<b><i>Laboratory Bioreactors</i></b> <ul style="list-style-type: none"> <li>• Micro Bioreactors,</li> <li>• Single-Use-Bioreactors</li> <li>• Bench-top S.I.P./C.I.P. Bioreactors</li> <li>• Advanced measurement/control</li> <li>• SCADA</li> </ul>	✓	✓
<b><i>Pilot Bioreactors</i></b> <ul style="list-style-type: none"> <li>• Single-Use-Bioreactors</li> <li>• S.I.P./C.I.P. Bioreactors</li> <li>• Advanced measurement/control</li> <li>• SCADA</li> </ul>	✓	✓
<b><i>Bioreactor Projects</i></b>	✓	✓
<b><i>Innovative sterilizable Sensors</i></b> <ul style="list-style-type: none"> <li>• pH<sup>+</sup>, DO<sub>LowDrift</sub>, Oxy<sup>+</sup>, mini sensors, single-use sensors</li> <li>• exhaust gas sensors CO<sub>2</sub> / O<sub>2</sub></li> </ul>	✓	✓
<b><i>BioSep</i></b> <ul style="list-style-type: none"> <li>• the unique and patented cell retention system for R&amp;D and production (cGMP)</li> </ul>		✓

***Take a step into the future  
of bioreactor technology***

***www.applikon.com***

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**A STEP AHEAD**