The Leading Edge of Bioprocess Automation

Liquid Handling & Robotics

SciBot™

Customised laboratory robots

- Cell culture in microtitre plates
- Flexible liquid handling platform
- Additional sensor and actuating systems can be integrated
- Easy integration into up- and downstream applications
- Simple programming via hteMaster™ software
- Optional:
  - Tool changer
  - Miscellaneous tools
  - Sterilisable (24 h / 90 °C)

AUTOSAM™

Automatic sample collector, four different models with sample bottles from 1.5 ml to 2,000 ml are available

- Bottling of samples
- Submission of educts
- Quenching, mixing and diluting
- Liquid handling
- Optional:
  - Integrated magnetic stirrer
  - Cooling incubator
  - Heater
- Freely programmable methods with LiquiMaster™ software

Gas Analytics & Mixing

Gmix™

High precision gas mixing station

- Best possible accuracy and reproducibility
- Precise process control
- No inaccurate multiplex operation
- Regulates each gas at every single input separately
- Useable for stand-alone and remote operation
- Compact design

HiSense™

Precision gas analytics for biotechnology

- 1 to 5 measurement channels for 1 to 4 fermenters
- high-resolution measurement
- Real OUR-, CER- and RQ-measurement
- Humidity correction
- Low cross sensitivity
- Overpressure possible
- Wear-free sensor technology
- Optional:
  - Freely programmable
  - RQ and OTR based feed control

Services & Didactics

Re-Engineering, Services & Maintenance

Your fermenter control is outdated, you run your processes manually and want to have more time for your core capabilities?

As a competent partner for automation we can offer you a wide range of solutions. Please talk to us!

From planning to training

- Planning and projecting
- Plant automation
- Reconstruction and modernisation
- Order programming
- User training

Contact

Request our free of charge main catalogue containing more than 1,000 products for

- Chemistry
- Pharmaceuticals
- Biotechnology
- Food technology

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Fermentation Technology

RAMOS®

Bioprocess optimisation in shake flasks and microtitre plates

- Exhaust gas analysis OTR, CTR, RQ
- Differentiation between process-based and biological effects
- An alternative to more expensive stirred tank bioreactor experiments
- Equivalent cultivation conditions compared to standard shake flasks
- Virtual non-stop processing through extremely short setup times
- Establishes optimal screening conditions

CULTILUX™

The CultiLux™ exposure measurement module for the RAMOS®, allows an individual exposure of every flask.

For the cultivation of plant cells or rather generally of phototrophic organisms, light energy is an essential requirement for semi-syntheses (light and dark reaction)

The exposure time as well as intensity, can be varied according to exposure profiles.

OmniFerm®-mini

Flexible parallel fermenter system for R&D applications

- High automation level
- Extensive sensor system
- Online analytics-based regulation possible
- Solid-state temperature control without heat carrier
- Optional:
  - Gravimetric dosing
  - Gas analytics & mixing
  - Rotary oscillating single-use square bottles

OmniFerm®

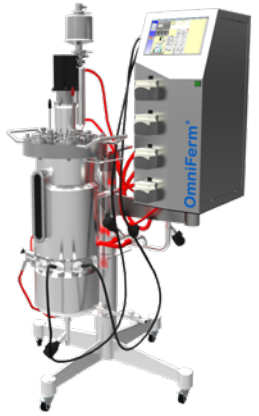
Automated laboratory fermenter systems

- Full research fermenter functionality
- Complex process control possible with EasyBatch™ or HiBatch™ recipe control
- Seamless data chain from work order to LIMS
- Extensive sensor system
- Optional:
  - Gravimetric dosing
  - Gas analytics
  - Gas mixing unit

OmniFerm® pilot fermenter

Fully automated pilot fermenter for R&D applications

- Full research fermenter functionality
- Fully automated
- Sterilisation in place (SIP)
- High mobility level
- Monitoring and data recording
- Seamless data chain from work order to LIMS
- Customised configuration



Bioreactor Systems

RAMOS®-fb

The RAMOS® fed-batch system allows for performing controlled fed-batch experiments in shake flasks.

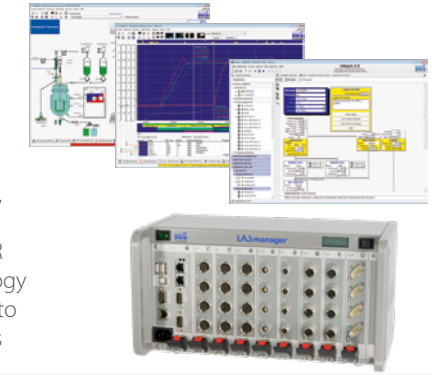
The feeding can be achieved by creating freely combinable feed profiles with a combination of constant, linear or exponential profiles or feed rates.

Automation Technology

LAMBmanager® & LAMBVision®

The industrial standard for automation of laboratory plants, miniplants as well as pilot plants

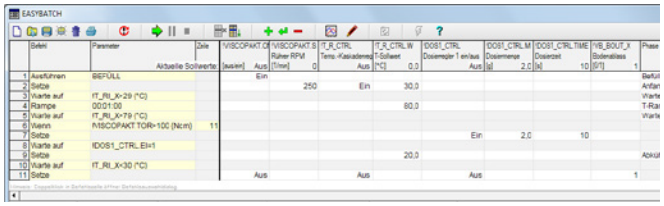
- Easy handling
- Modular design
- Highly precise, e.g. temperature measurement with 1 mK resolution
- Extremely adaptable, compact and robust
- Comfortable NAMUR connection technology
- Scaleable from 4 up to 3,040 inputs/outputs



EasyBatch™

Spreadsheet-based recipe control

- Intuitive operation
- More efficient operation
- Automatic testing
- Modification of parameters during run time
- GLP- and GMP-compliant operation



Dosing Systems & Pumps

LAMBDos® PERISTALTIC

The universal dosing pump

- High media resistance
- Low pulsation conveying
- Selectable conveying direction
- Calibration possible in mg/min and ml/min
- Highly precise drive
- Easy to clean and maintain
- Robust and compact stainless steel casing
- Controllable via serial interface or manually

SyrDos™

High-precision syringe doser

- High media resistance
- Wetted parts: glass, PTFE and Kel-F, optional ceramics
- Syringes from 25 µl up to 50 ml
- 48,000 steps per stroke
- Optional:
  - Continuous conveying with shock-free changeover
  - Overpressure shutdown
  - High pressure up to 90 bar
  - Dispensing push-button

LAMBDos® SOLID

Solid dosers for dosing, portioning and filling

- For powder, granules, crystals, chips etc.
- Chemically resistant
- For mounting on an NS29 socket or as a desktop unit
- Optional:
  - Stand-alone version
  - Vacuum- and pressure-resistant design