

# BIOBOOK NET



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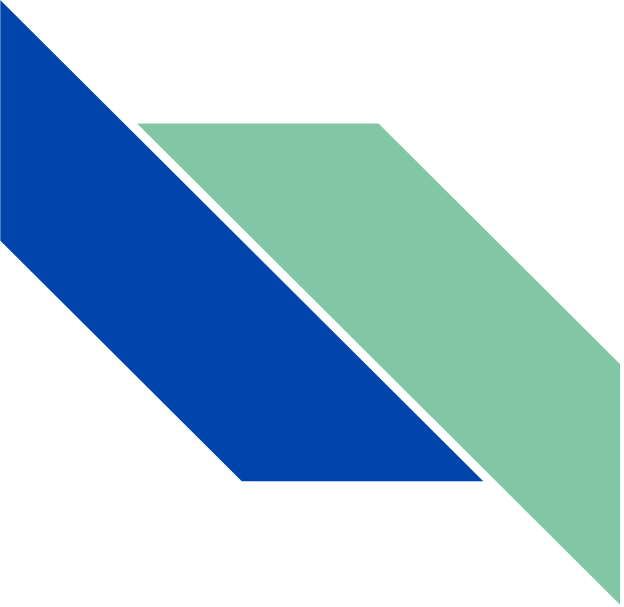
## Biobook NET: An advanced Module for Parameter Control in Scientific Applications.

The Biobook NET module is an independent device specifically designed for precise control of crucial parameters in scientific processes. It offers a wide range of capabilities, making it an ideal choice for various scientific applications that require meticulous monitoring and control of key variables.

The Biobook NET series offers a remarkable advantage by enabling the implementation of stand-alone solutions without the need for a complete bioreactor system. This versatility opens up new possibilities for researchers and scientists who require precise parameter control and monitoring in their experiments or processes.

With the Biobook NET Module, users gain the ability to regulate essential parameters, including:

- **Stirring:** The module ensures efficient and controlled agitation, critical for the homogeneous mixing of substances in scientific experiments.
- **Addition Lines via peristaltic pumps:** Accurate and adjustable peristaltic pumps enable precise dosing and controlled addition of various substances to the process, ensuring optimal experimental conditions.
- **Process parameter sensor:** The Biobook NET supports multiple sensor inputs, allowing real-time monitoring of crucial process parameters such as pH (Acidity/alkalinity), DO (Dissolved Oxygen), pCO<sub>2</sub> (Partial pressure of carbon dioxide), biomass, and more. This enables scientists to closely analyze and optimize their experimental conditions.
- **Gas Lines Controlled by MFC Valves:** The module offers the ability to regulate gas flow rates using Mass Flow Controller (MFC) valves, ensuring precise control of gas concentrations and enabling accurate gas exchange in scientific setups.
- **Temperature Control Lines:** Temperature plays a vital role in scientific processes and the Biobook NET facilitates precise temperature control through dedicated temperature control lines. This allows researchers to maintain and adjust the desired temperature with high accuracy.
- **Gas Analyzer Lines:** The module supports connections to gas analyzers, enabling researchers to measure and analyze the composition of gases involved in their experiments.



The Biobook NET modules offer two functionalities:

1. Expand your Biobook by integrating the Biobook NET module into your existing Biobook System. You can enhance its capabilities by incorporating additional parameter control options to obtain greater flexibility and customization to suit your specific scientific requirements.
2. Stand-Alone Parameter Control: Alternatively, the Biobook NET module can be utilized as an independent device solely dedicated to the precise control and monitoring of process parameters. This enables researchers to set up dedicated control systems for specific experiments, providing enhanced control and reliability.

## Biobook NET Specifications

Working volume from 0.5L up to 20L

Small footprint for laboratory usage

Flexible, powerful and intuitive controller

Variable speed pumps

Individual temperature and agitation control

pH and pO<sub>2</sub> control with cascade modes on agitation, gas mixing and pumps

Individual gas mixture from Air, O<sub>2</sub>, CO<sub>2</sub> and N<sub>2</sub> via MFC's

Gassing to headspace, sparger and/or overlay

Antifoam and Level control

Individual real-time gas-analysis of O<sub>2</sub>, CO<sub>2</sub>, NH<sub>4</sub>, SO<sub>2</sub> for direct calculation of OTR, CTR and RQ

Available integration to bioprocess analyzer, biomass analyzers, cell counter, HPLC, etc.



## Biobook NET PRO: A Versatile Module for Expanding Bioreactor Control Units

Biobook NET PRO offers a seamless solution for expanding the control unit of your bioreactor. By incorporating additional probes, this module enables real-time monitoring of essential parameters, such as pH, dissolved oxygen, temperature, and more. The advanced technology ensures efficient communication and integration, facilitating precise data acquisition and analysis. With Biobook NET PRO, researchers and operators can enhance their bioprocess monitoring capabilities, leading to informed decision-making and optimization of bioreactor performance. Embrace scientific advancements with Biobook NET PRO and unlock new possibilities for precision control in bioreactor operations.

## Biobook NET PRO Specifications

Power supply	115V - 60Hz 220V - 50Hz
Dimensions	305Wx175Hx 450D
Connectors & Communications	N° 8 Modbus 485 Ports N° 8 4-20 mA Ports N°1 Mixer Motor Port N°1 Data Chiller RS 232-Modus Port N°1 Heating mantle Port N°1 ETH Port (pc) OPC UA
Peristaltic Pumps	No
Rotameter	No
MFC	No
Wet Module	Custom
Thermo Chiller Peltier	Custom
PC	Custom
Bioflex software start	Included



## Biobook NET MOT: Extending Bioreactor Control Units with Additional Peristaltic Pumps

Biobook NET MOT is a powerful module designed to expand the capabilities of your bioreactor control unit. With the integration of extra peristaltic pumps, this module empowers you to achieve enhanced control and precision in your bioprocesses.

By incorporating Biobook NET MOT into your bioreactor system, you gain the ability to accurately control the flow rates of multiple media or additives. This allows for precise dosing, feeding, or sampling at specific intervals, ensuring optimal nutrient supply, waste removal, and sample collection.

With seamless communication and integration, Biobook NET MOT enables real-time adjustment of pump settings, providing flexibility and adaptability to changing process requirements. The module's user-friendly interface simplifies programming and monitoring, facilitating efficient operation and data analysis.

Expand the potential of your bioreactor control unit with Biobook NET MOT and experience heightened control over your bioprocesses. Achieve precise and customizable flow management, ultimately leading to improved process optimization and research outcomes

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## Biobook NET MOT Specifications

Slave module	Custom
Dimensions	305Wx175Hx 450D
Connectors & Communications	N°1 ETH Port (pc) OPC UA
Peristaltic Pumps	4 Pumps for the master module 4 Pumps for the slave module (custom)
Rotameter	No
MFC	No
Wet Module	No
Thermo Chiller Peltier	No
PC	Custom
Bioflex software start	Included





## Biobook NET MFC Enhancing Bioreactor Control with Additional Mass Flow Controllers

Biobook NET MFC is a versatile module designed to augment your bioreactor control system by integrating additional Mass Flow Controllers (MFCs). Whether as an expansion to an existing setup or a standalone module, Biobook NET MFC offers enhanced precision and control over gas flow in bioprocesses.

By incorporating Biobook NET MFC into your bioreactor system, you gain the ability to accurately regulate multiple gas flows with precision and flexibility. This enables precise control of parameters such as oxygen, carbon dioxide, or other gases critical to your specific application.

## Biobook NET MFC Specifications

Power supply	115 V – 60Hz 220V- 50Hz
Slave module	Custom
Dimensions	305Wx175Hx 450D
Connectors & Communications	N°1 ETH Port (pc) OPC UA
Peristaltic Pumps	No
Rotameter	4 Rotameters for the master module 4 Rotameters for the slave module (custom)
MFC	4 MFC for the master module 4 MFC for the slave module (custom)
Wet Module	No
Thermo Chiller Peltier	No
PC	Custom
Bioflex software start	Included



## Biobook NET R-WET & DR-WET Advanced Thermal Regulation for Bioprocesses

Biobook NET R-WET and DR-WET are powerful modules designed to provide precise and efficient thermal regulation in bioprocesses. Whether integrated into an existing system or used as standalone modules, they offer enhanced control over temperature for optimal experimental conditions.

With Biobook NET R-WET and DR-WET, you can introduce or expand thermo regulation capabilities in your bioreactor setup. These modules ensure accurate temperature control, maintaining stable and controlled environments crucial for various biological processes.

## Biobook NET R-WET & DR-WET Specifications

Dimensions	305Wx175Hx 450D
Ports	R-WET: N°1 In Take - N°1 Drain - N°1 In Condenser - N°1 Out Condenser - N°1 Top Vessel - N°1 Bottom Vessel - N°1 In Chiller - N°1 Out Chiller DR-WET: 2X N°1 In Take - N°1 Drain - N°1 In Condenser - N°1 Out Condenser - N°1 Top Vessel - N°1 Bottom Vessel - N°1 In Chiller - N°1 Out Chiller
Temperature Range	Envorimental temperature: <75° C With Thermo Chiller Peltier: +5/-75°C
Temperature stability	± 5°C
Connectors & Communications	R-WET: N°1 Data Port DR-WET: N°2 Data Port
Thermo Chiller Peltier	Custom

Specifications are subject to change without notice

Spec. Version A



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