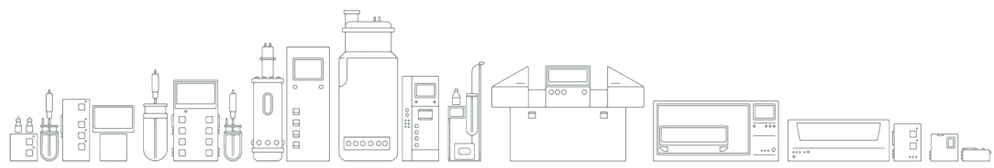
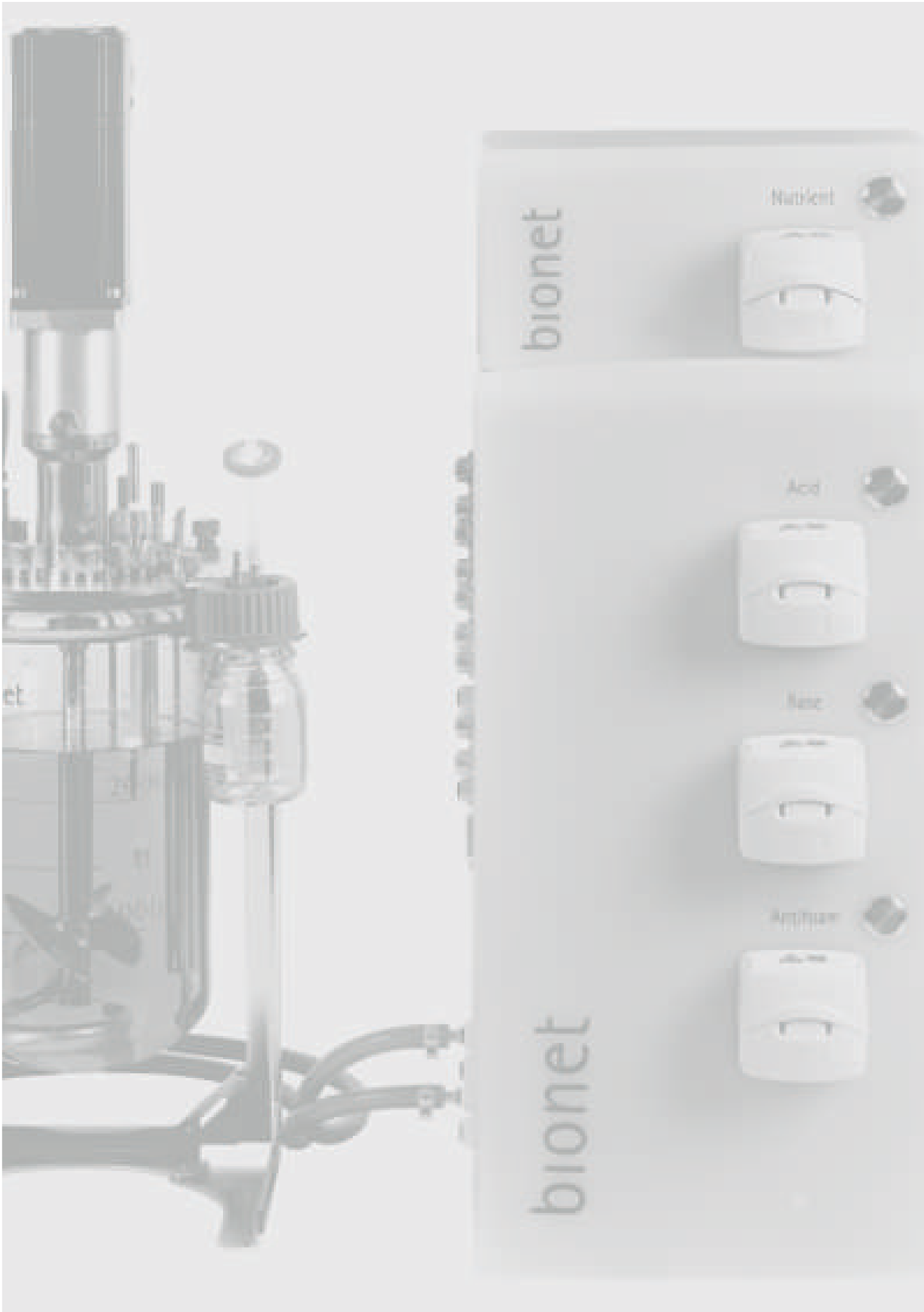
bionet®

Bioprocess lab and pilot equipment

Enhancing Knowledge



FO-BABY | F1 | F2 | F3 | M1 | M2 | ROSITA | & | MARTA


bionet
Nutrient
Acid
Base
Ammo
bionet

OUR **F0-BABY** IS AN EXPANDABLE, COST-EFFECTIVE AND USER-FRIENDLY MODEL

The F0-BABY is an ideal entry level autoclavable benchtop bioreactor for a range of microbial and cell culture R&D activities up to 10L for the agro-, food-, cosmetics- and biopharma industries as well as training and education purposes.

Unrestricted from Your Initial Decision:
Our modular Plug&Play design paves the way for seamless **expandability**, ensuring you're prepared for future enhancements and functionalities.

Cost-Efficiency Meets Peak Performance:
Our specialized and **cost-effective** solution ensures peak performance and operational efficiency, guaranteeing your bioprocess success.

Simplified and effortless operation:
Our intuitive system design redefine, small footprint, and ROSITA software redefine **user-friendliness** while maintaining advanced capabilities.

KEY BENEFITS

EXPANDABILITY

Perfect for R&D phases: Ideal for those dynamic research and development phases where the requirements are constantly evolving and uncertainties abound. The Plug&Play modular design offers a strategic advantage by allowing you to address dynamic process requirements without the need for a substantial upfront investment

The bBreath exhaust gas analizer, the module you need to carry out O2/CO2 composition analysis of your bioreactor exhaust gas (i.e. metabolic indicators) and get the maximum of this data to enhance the quality and productivity of your process.

The **bScale** is the module you need for the connection of scales, from a range of scale precisions and brands used in lab and production settings.

The Variable Speed Pump (bVSP) is the module you need when expanding the number of freely assignable pumps to cover multiple additions or withdrawal/harvesting actions according to a number of feeding/bleeding profiles or advanced controls.

On-Site expansion: enjoy hassle-free modifications at your location. Our experts will handle the modification of actuators such as integrating new mass flow controllers in our expandable gas module, ensuring your equipment remains cutting-edge without the need for factory returns.

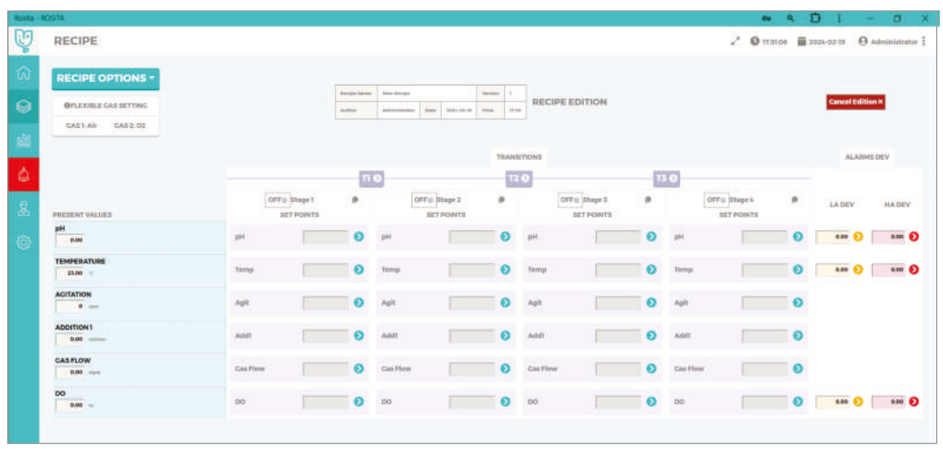
KEY BENEFITS

COST-EFFECTIVE

The F0-BABY bioreactor offers unmatched configurability, scalability, and robust software controls, all at an incredible price. Featuring versatile gas module options, interchangeable vessels up to 10L, and the ability to expand functionalities with external modules, this system empowers your bioprocessing endeavors. With software capabilities including recipes, profiles, dissolved oxygen cascade, and more, the F0-BABY is your gateway to enhanced productivity and flexibility.

Configure your bioreactor setup for microbial or cell culture applications using autoclavable vessels with capacities of up to 10 liters or single-use vessels of 2 liters. Tailor your mass flow controller settings by specifying the flow rate and bioreactor inlet for each controller. Additionally, explore our extensive selection of top-tier accessories and instrumentation to enhance your process development and ensure optimal results.

Powerful automation with our ROSITA software you will be increasing consistency in your experiments, which enhances reproducibility of your results and thereby approval of your bioprocess. Ensuring understanding of your strain's nature and your bioprocess' parameters evolution and relationship in real time, facilitating optimization tasks and design of next experiments. Enabling predictability of your bioprocesses' evolution, results and product characteristics.



KEY BENEFITS

USER-FRIENDLY

With ROSITA, you can perform your experiments and operations through an intuitive and comprehensive interface that simplifies every step of your workflow. Our software offers a seamless transition from lab scale experiments to full-scale industrial applications, as it shares clear and consistent workflows with our MARTA software, specially designed for pilot and industrial bioreactors. This integration ensures a smooth and efficier scalability of your bioprocess, allowing you to confidently and effectively advance your research or production from small-scale experimentation to large-scale, commercial manufacturing. ROSITA and MARTA work in perfect harmony, providing you with a powerful software ecosystem to support your bioreactor endeavors at every stage of development.

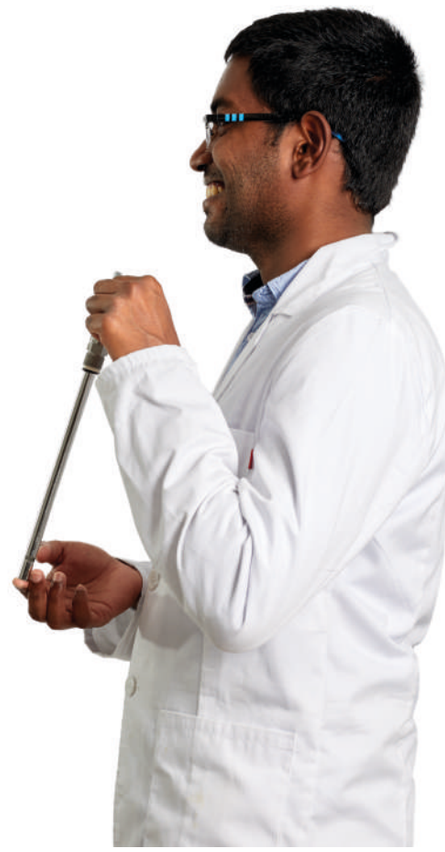
ROSITA
Bioprocess SW

The F0-Baby bioreactor boasts a user-friendly design and compact footprint, simplifying both operation and maintenance. Conveniently located signals and utility connections on the side adhere to a consistent structure seen in our other lab and pilot models, ensuring users feel comfortable while scaling-up. Easy access to lid components further enhances the seamless operation of the bioreactor. Paired with our comprehensive and extense documentation package, the F0 stands out as a well-rounded product, offering numerous functionalities while maintaining user-friendly management

PREMIUM QUALITY

Our unwavering commitment to quality is reflected in our practice of incorporating top-tier instrumentation and components from the market, ensuring that our product achieves the highest standards of performance.

Your go-to choice for small-scale or sample productions: the F1 can be designed, constructed, and qualified in strict accordance with GMP guidelines, ensuring unparalleled quality and compliance.



DATA SHEET

BIOREACTOR CONTROL UNIT (BCU)	
GENERAL DATA	
Weight [kg]	~16
Dimensions H x W x D [mm]	470 x 245 x 400
DOSAGE MODULE	
Basic configuration	3x Fixed Speed Pumps
Optional	1x External Variable Speed Pump (bVSP) & 1x Continuous Process Module (CPM)
GAS MODULE	
Basic configuration	2x Mass Flow Controllers (MFCs) for Air/N2 [1] & Air/O2/CO2/N2 [2] via Sparger
Optional	2x MFCs for Air/O2/CO2/N2 via Sparger/Overlay
Range	**Low**: 20 - 2000 sccm | **Mid**: 0.1 - 9 slpm | **High**: 0.2 - 18 slpm
TEMPERATURE MODULE	
Cooling	Cooling figner (External chiller water)
Heating	Heating blanket
Range	10 to 55 ºC
AGITATION MODULE	
Agitator	Top mounted - Single mechanical seal
Impellers	**MB**: 2x Rushton | **CC**: 1x Pitched balde
Speed [rpm]	**(MB) 1L**: 80-2000 | **3L**: 80-1800 | **5L**: 80-1600 | **8L**: 80-12000 | **10L**: 80-1000 **(CC) 2L**: 80-500 | **4L**: 80-500 | **6L**: 80-500 | 8L: 80-500
UTILITIES REQUIREMENTS	
Power supply	230 V (± 10 %), 50 Hz, Max. power consumption 1000 W 120 V (± 10 %), 60 Hz, Max. power consumption 1000 W (UL compliant version) Device protection class IP 21
Gases supply	**Gases supply pressure**: calibrated pressure 2 barg. Max. pressure 3 barg All gases must be dry, oil and dust free **Connection**: press fitting OD 6 mm
Chilled water	**Water supply minimum pressure**: 0,4 barg | **Max pressure**: 2 barg **Minimum water flow rate**: 3 L/min **Connection**: hose ID 6 mm or press fitting OD 6 mm

AUTOCLAVABLE BIOREACTORS					
MICROBIOLOGY (MB)					
Model	F0-1 MB	F0-3 MB	F0-5 MB	F0-8 MB	F0-10 MB
Total volume [L	2.2	4.3	7.1	11.4	13.3
Working volume (max) [L]	1.3	3.0	4.8	8.0	10.0
Working volume (min) [L]	0.35	0.65 [1]	0.8	1.7 [2]	1.5
Vessel material	Borosilicate glass				
Frame & lid material	SS 316				
Dimensions (H x W D) [mm] [3]	402 x 186 x 182	459 x 220 x 212	595 x 276 x 254	595 x 276 x 267	650 x 276 x 286
CELL CULTURE (CC)					
Model	F0-2 CC	F0-4 CC	F0-6 CC	F0-8 CC	
Total volume [L	3.4	5.2	8.55	9.65	
Working volume (max) [L]	1.85	3.5	6.0	7.0	
Working volume (min) [L]	0.41	1.05	0.9	1.0	
Vessel material	Borosilicate glass				
Frame & lid material	SS 316				
Dimensions (H x W D) [mm] [3]	400 x 186 x 182	445 x 276 x 235	506 x 276 x 257	534 x 286 x 260	
SINGLE-USE BIOREACTORS					
Model	F0-SU				
Total volume [L	3.0				
Working volume (max) [L]	2.4				
Working volume (min) [L]	1.0				
Vessel material	Polycarbonate				
Frame & lid material	HDPE				
Dimensions (H x W D) [mm]	249 x 241 x 241				

PROCESS CONTROLS & INSTRUMENTATION	
BASIC CONFIGURATION	**OPTIONAL**
pH	Weight
Dissolved oxygen	Optical density
	Exhaust gas (O_2/CO_2)
Temperature	ORP
	Dissolved CO_2
Level	Viable cells

[1] Standard is 1.5L minimum working volume. This 0.65L is with an optional Add-on Kit
[2] Standard is 2.65L minimum working volume. This 1.7L is with an optional Add-on Kit
[3] Dimensions for autoclave without motor & condenser

AFTER-SALES SERVICE

We acknowledge that acquiring our bioprocess equipment signifies the start of a lasting partnership, and rest assured, we'll be here to support you every step of the way! Our core business is after-sales service, and this does not exist only in the form of maintenance and repair work but goes far beyond that. We offer product and process training to unblock gaps in processes or train your new employees.

Our global after-sales service is a source of immense pride, delivered through our dedicated network of distributors who receive regular training at Bionet headquarters.

Why Bionet?

A consolidated, configurable, scalable and integrated technological environment

A support team specialized in bioprocesses to help you from R&D to production

A partner for your entire project lifecycle, from initial technology configuration to after-sales

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From Lab to Industrial