



CONTROL UNITS

CONTROL UNITS (MINIPRO-LAB = CONTROL OF ONE VESSEL - PRO-LAB = TWO VESSELS)

Dimension MINIPRO-LAB / PRO (HxLxP)	535x300x380mm / 610x300x380
Power supply	230V, 50/60Hz, 5A or 10A
Material	Stainless steel 304 painted
Certification	CE or UL standard
Screen	PC screen 23"
SCADA communication	Ethernet/Wifi
Gas inlet pressure	0.5bar
Water inlet pressure	0.5bar

MOTOR (DIRECT AND QUIET DRIVE WITHOUT MAINTENANCE)

Rated power	204W
Rotation speed (Configurable speed in these ranges)	200mL, 500mL, 1L, 1.5L, 2L: 0 - 1800rpm 5L: 0 - 1200rpm 8L, 10L: 0 - 800rpm 3L SU: 0 - 300rpm

ELECTRODES, SENSORS AND PROBES

Temperature	PT100 Range: 0-40°C (heating blanket) 0-70°C (heating/cooling plate) 0-70°C (double jacketed vessel)
pH	Combination electrode Range: 2-12 u.pH Size : 120, 225, 325, 425 mm
pO ₂	Optical Range: 0-200% Size : 120, 225, 325, 425 mm
Anti-foam	Electrical conductivity sensor
Optical density	Optical Wavelength: 840nm – 910nm OPL: 5 or 10nm Range: 0-4 CU
pCO ₂	Potentiometric Range: 0-20% of pCO ₂

PUMP MODULE

Number	Maximum 4 per vessel			
Type	Fixed speed			
Model	Watson Marlow Series 114			
Speed	60rpm	190rpm	350rpm	
Flow (mL/min) (For a 1.6mm pipe thickness)	ID:0.5mm 1.4 ID:0.8mm 2.6 ID:1.6mm 8.4 ID:3.2mm 28.5 ID:4.8mm 51	ID:0.5mm 4.3 ID:0.8mm 8.2 ID:1.6mm 26.5 ID:3.2mm 90.5 ID:4.8mm 160	ID:0.5mm 8 ID:0.8mm 15 ID:1.6mm 49 ID:3.2mm 165 ID:4.8mm 300	
Type	Variable speed			
Model	102R	114	313	314
Speed	8-130rpm	8-408rpm	8-408rpm	8-408rpm
Flow (mL/min) (For a 1.6mm pipe thickness)	ID:0.5mm 0.16-2.76 ID:0.8mm 0.4-6.44 ID:1.6mm 81.8-28 ID:3.2mm 6.4-104 ID:4.8mm 13-212	ID:0.5mm 0.16-8 ID:0.8mm 0.32-16 ID:1.6mm 1.1-57 ID:3.2mm 3.8-194 ID:4.8mm 6.8-347	ID:0.5mm 0.24-12 ID:0.8mm 0.56-29 ID:1.6mm 2.2-112 ID:3.2mm 8-408 ID:4.8mm 18-900 ID:6.4mm 29-1500 ID: 8.0mm 75-2040	ID:0.5mm 0.24-12 ID:0.8mm 0.48-24 ID:1.6mm 2.0-102 ID:3.2mm 6.8-350 ID:4.8mm 15-780 ID:6.4mm 24-1224 ID: 8.0mm 32-1632

AERATION MODULE

Type	Rotameter
Quantity	Maximum 4 per vessel
Inlet gases	Air/O ₂ /CO ₂ /N ₂
Ranges	0-1L/min 0-5L/min 0-10L/min
Type	Mass flow controller
Quantity	Maximum 6 per vessel
Ranges	Different ranges available from 0.1 to 20L/min

TEMPERATURE MODULE

Simple jacketed vessel	Electric heating system and automatic cooling water valve connected to a 304L stainless steel plate
	Electric heating blanket
Double jacketed vessel	Thermostat system with recirculation pump and automatic cooling water valve connected to the double jacketed
Single-use vessel	Electric heating blanket
	Thermostat system with recirculation pump and automatic cooling water valve connected to the double jacketed blanket

PERIPHERAL CONNECTED EQUIPMENT

Balance, external variable speed pump, gas analyzer, thermostatic bath, water chiller, ...

AUTOCLAVABLE, DOUBLE JACKETED GLASS VESSELS

Working Volume (L)	1	1.5	2	5	8	10
Total Volume (L)	1.3	2	3	7.5	11	13.5
Materials	Borosilicate glass, stainless steel, AISI316L, EPDM					
Vessel type	Hemispherical bottom					
Headplate ports	9	9	11	13	16	16
Height*/Diameter	425/268	520/268	520/274	614/337	664/382	730/382

AUTOCLAVABLE, SINGLE JACKETED GLASS VESSELS

Working Volume (L)	0.2	0.5	1	1.5	2	5	8
Total Volume (L)	0.25	0.6	1.3	2	3	7.5	11
Materials	Borosilicate glass, stainless steel, AISI316L, EPDM						
Vessel type	Hemispherical bottom						
Headplate ports	x	x	9	9	11	13	16
Vessel side ports	3	3	x	x	x	x	x
Height*/Diameter			360/268	370/288	435/288	530/340	562/390

VESSEL ACCESSORIES

Condenser

Baffles

Impellers :

- Rushton
- Marine
- Pitch blade
- Anti-Foam

Spargers:

- Ring sparger
- Micro sparger
- Nut sparger

Spin filter for perfusion

Dip tube

Sterile filling system

Stainless steel stand for bottles

Glass bottles

Polycarbonate bottles

Ports adaptors

CONSUMABLES

Filter

Mechanical seal

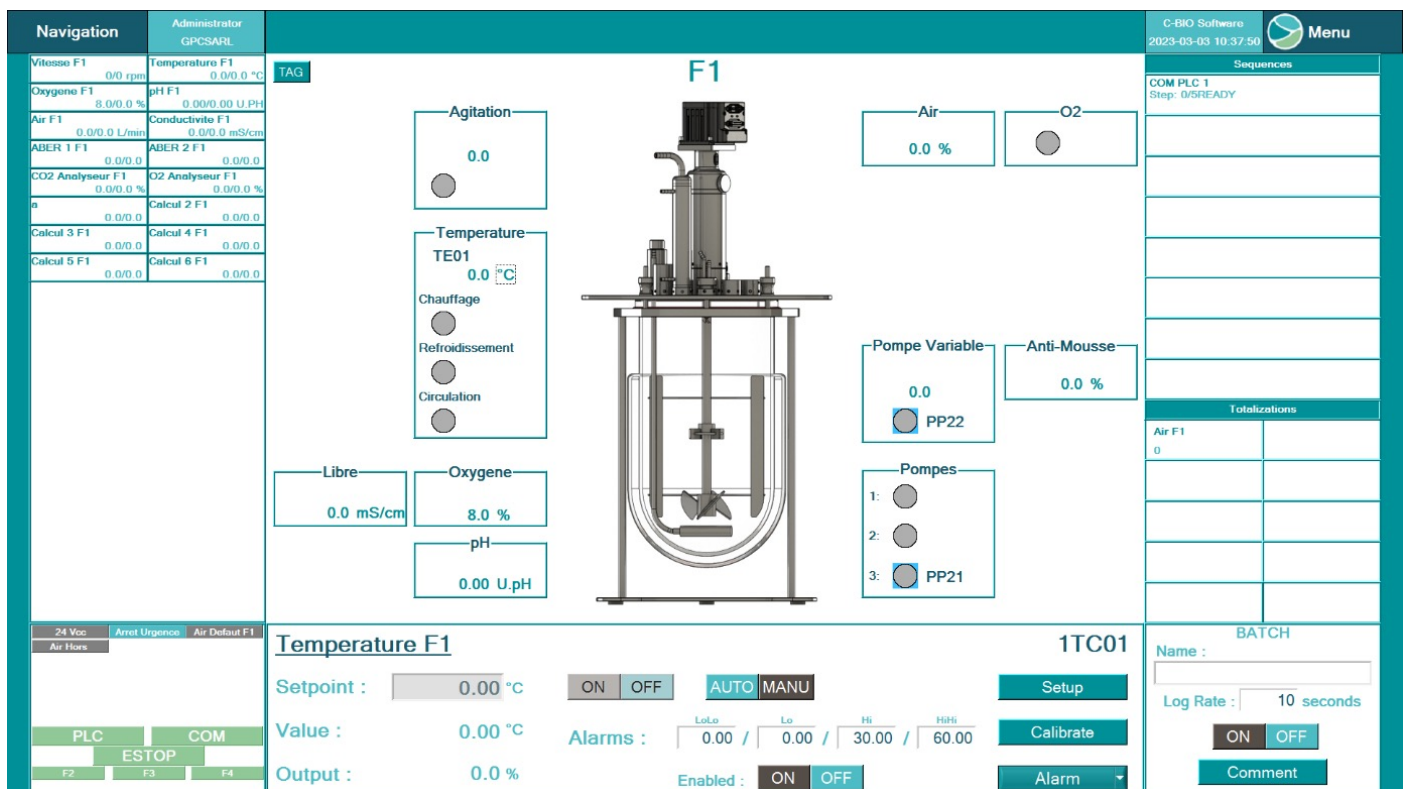
Seal

Silicone tubing

The above data is for reference only.
It can be adjusted upon request.

C-BIO 2™ SOFTWARE

The C-BIO 2™ software has an intuitive interface that provides quick access to all your controllers' parameters, to facilitate the management of your fermentation or cell culture process.



TECHNICAL INFORMATION

Operating system

Windows 11

Access Security

3 levels access with passwords

Operator

- Start or stop a controller
- Send a set-point to a controller
- Calibrate the pH and pO2 probes
- Start or stop a sequence
- Change the description of a sequence
- Visualize the progress of a sequence
- Visualize the alarms
- Visualize the Audit Trail
- Start or stop a batch
- Start or stop a profile
- Visualize the list of digital inputs/outputs
- Use the trends module
- Perform an emergency stop

Engineer
(in addition to the operator)

- Change the controllers' configuration
- Calibrate all the controllers
- Create and change alarms
- Create and change a sequence
- Create and change a profile
- Create and change new controllers from the calculation module

Administrator
(in addition to the operator and engineer)

- Create, modify or delete users