

Cell Selection and Retrieval

CellCelector Installation and Housing Options

Bespoke CellCelector Housing for all Application Requirements

- Incubator FlowBox for optimal sterility, temperature, humidity and CO₂ control of samples
- NuAire™ Class II biosafety cabinet for sterility and user protection
- PCR Hoods for user protection

CellCelector Flex

The CellCelector Flex consists of the main optical and picking unit (Fig. 1) and a workstation, comprising of two monitors and a manual joystick. The two monitors require between 80-100 cms of bench space and should be preferably placed on the right hand side of the main unit, whilst the PC and power units can be placed under the bench or behind the monitors. The installation needs only two 220V or 110V power socket for the entire system, including main unit, computer and monitors.

If sterile working conditions are required, the main optical and picking unit can be placed within the Incubator FlowBox or NuAire biosafety cabinets outlined within this technical flyer, or within a similarly sized biosafety cabinet (e.g. Thermo HeraSafe KS12 or similar). Necessary space is still required on the bench for the CellCelector monitors.





Figure 1: A typical CellCelector set-up, with the main unit in a biosafety cabinet, and the workstation placed to the side.

Ambient Conditions	Operating Temperature	10 - 40 °C
	Storage/Transport Temperature	15 - 80 °C
	Operating Humidity	30% - 85% non-condensing
	Storage/Transport Humidity	15% - 95% non-condensing
	Air Pressure	75 kPa - 106 kPa
Power Supply	115 - 230 V / 50 Hz (mains fuse 10 AT)	
	Two outlet for the CellCelector platform and accessories	
Unit Dimensions and Weight	CellCelector Weight	10 - 40 °C
	CellCelector Weight Dimensions	Main Unit Width x Depth x Height: 89.0 cm x 50.0 cm x 55.0 cm
	CellCelector Stage	Height: Approximately 29.5 cm from stage surface to the base of the feet
	CellCelector Microscope	Height: Approximately 25.5 cm from the top of the microscope to the stage surface
	Cable Connections	An additional 5.0 cm (rear) and 10.0 cm (side) is needed for cable connections

Table 1: CellCelector Flex Specifications

Incubator FlowBox

Working with live cells often requires sterile working conditions and the continuous maintenance of regulated physiological environments.

The Incubator FlowBox has been specifically designed for use with the CellCelector and provides a unique combination of a laminar flow cell culture hood with precise control of temperature, humidity and CO₂ levels.

These features ensure that any environmental changes between the tissue culture incubator and the Incubator FlowBox are kept to an absolute minimum, significantly decreasing time constraints to quickly measure, identify and transfer cells, before temperature or pH changes can impact cellular physiology.

Detailed product specifications can be found in Figure 2 and Table 2.

Features include:

Air Filters

Reliable filtering of dust, bacteria and aerosols using filters with pore sizes between 0.1 to 0.3µm (HEPA H14). Filtering continues when doors are opened. The air circulation system is equipped with a ventilation control to keep the air volume at a constant level regardless of the pollution level of the filter.

Fan

Equipped with an air circulation system and an exhaust system to maintain a permanent contamination-free working space, with air and transported into the exhaust air system of the building.

Heating

The compartment housing the CellCelector is maintained at a constant temperature of between 20 and 40 °C , and can be adjusted depending on experimental conditions using the control panel.

Humidity

A constant humidity of between 20 and 65% is maintained, depending on user specifications and experimental parameters. The system is provided with an empty 10 litre water tank located in the left cabinet of the floor unit which should be filled with distilled water to generate the desired humidity.

CO₂ Control

A constant 5% CO₂ atmosphere level is maintained within the housing, with the CO₂ control system consisting of a sensor and a pneumatic supply unit. A control valve releases or blocks CO₂ supply into the housing, which is optimally set at 1 bar.

UV Lighting

Disinfection of the FlowBox can be performed when the device is not in experimental use.

Safety

Sliding doors on the front and side of the box allow full and easy access to instruments and experimental setups placed inside without losing the controlled environment. All doors can be fully opened for the easy cleaning, maintenance, installation and removal of instruments or cell culture materials.

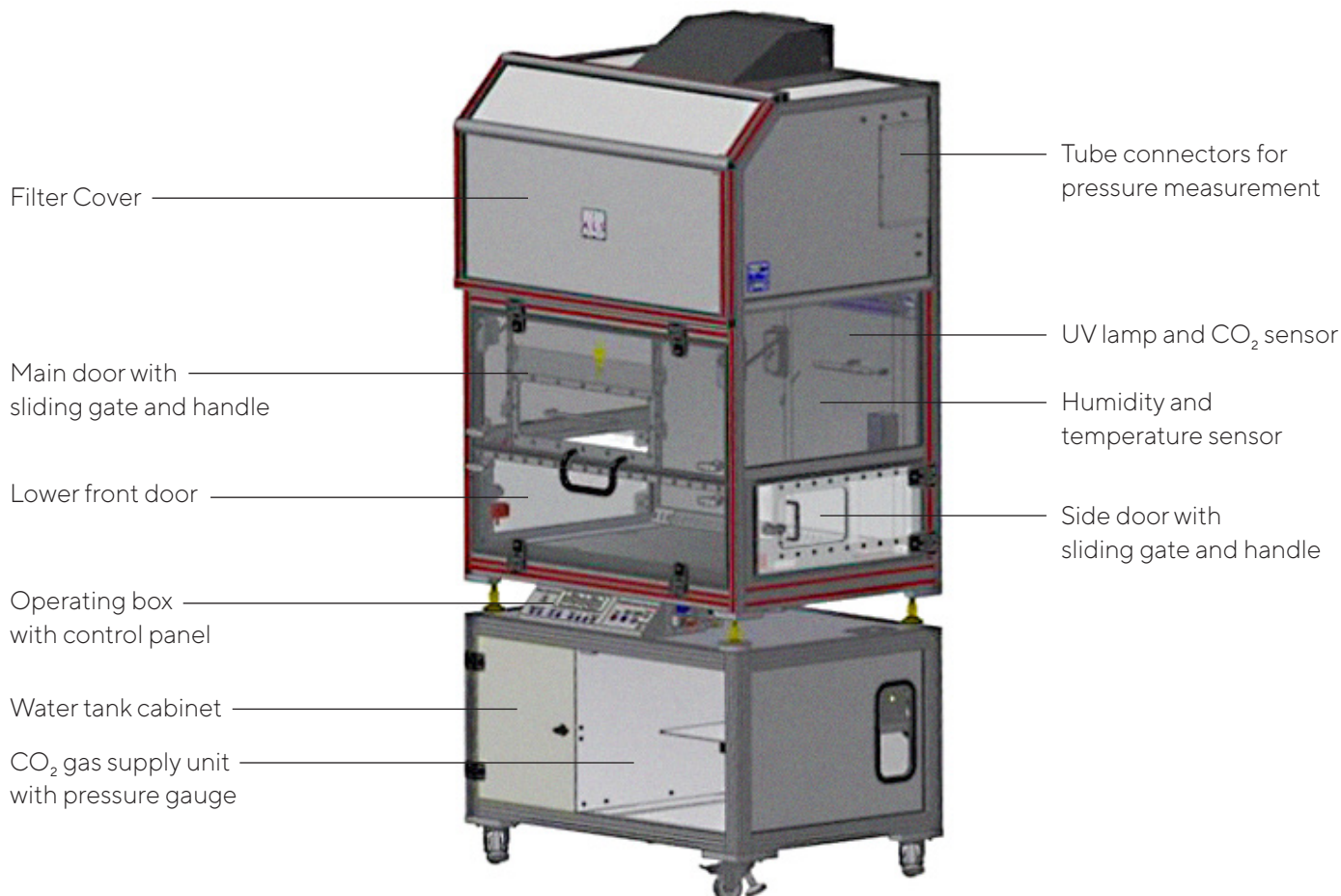


Figure 2: Features of the Incubator FlowBox

Product Number	Stand-alone unit CellSelector Configuration	FB1001 CC6003
Sterility	Laminar Flow	Continuous vertical laminar air flow
	Filters	HEPA H14 (0.1 – 0.3 µm)
	UV Sterilization	UV-C illumination lamps (4 × 15 W); operated from the control panel
Physiological Conditions	Temperature Control	Adjustable to 40 °C
	CO ₂ level and stability	5% ± 0.2% (constant level permanently regulated)
	Humidity level control	Up to 65%
	Purified water tank	10 liter (included)
Security	User protection	Automated security locks on all doors. Robot stops when door is opened
	Exhaust system	Possible connection to room exhaust (max. exhaust air volume: 400 m ³ /h)
Ancillary	Internal dimensions	Width × Depth × Height: 99 cm × 62 cm × 63 cm 39.0" × 24.4" × 24.8"
	External dimensions	Width × Depth × Height: 110 cm × 85 cm × 160 cm 43.3" × 33.5" × 63.0"
	Height with base stand	230 cm (90.6")
	Weight	175 kg (386 lb) with CellSelector: 225 kg (503 lb)
	Power	115 230 V; 60 50 Hz; max. 2300 W (without other equipment)
	Illumination	LED 42 W; switched from the control panel
	Base stand	On wheels and allows storage of water tank, PC workstation and other modules
Environmental Requirements	Temperature	10 – 40 °C
	Relative humidity	30 – 85% (not condensing)
	Air pressure	75 – 106 kPa

Table 2: CellSelector Incubator FlowBox Specifications

CellCelector NuAire™ Biosafety Cabinet

For working under sterile conditions, a specifically customized NuAire™ class II biosafety cabinet is offered which provides personnel, product and environmental protection through the use of laminar air flow and HEPA filtration.

Detailed product specifications can be found in Table 3.



Performance Specifications	Airflow	<ul style="list-style-type: none"> ▪ 30% exhausted 70% recirculated ▪ Dynamic air barrier 105 fpm (0.5 m/s) inflow ▪ True laminar airflow 60 fpm (0.30 m/s) down flow
	Filters	<ul style="list-style-type: none"> ▪ Filter load capacity 300% plus ▪ Filter life ± 10 years
Safety Features	UV Sterilization	Germicidal UV light
	Filters	<ul style="list-style-type: none"> ▪ 3" (76 mm) supply HEPA Filter 99.99 @ 0.3 µm efficiency rating ▪ 12" (305 mm) exhaust HEPA filter 99.99 @ 0.3 µm efficiency rating
Ancillary	User protection	Automated security locks on all doors. Robot stops when door is opened
	Internal dimensions	Width x Depth x Height: 117.8 cm x 65.4 cm x 72.4 cm
	External dimensions	Width x Depth x Height: 136.2 cm x 79.9 cm x 157.2 cm
	Weight	211 kg (465 lb) without CellCelector
	Power	115 230 V; 60 50 Hz
	Illumination	LED Lighting

Table 3: CellCelector NuAire™ Biosafety Cabinet Specifications

CellCelector PCR Hood

Not all applications require the use of an Incubator FlowBox or NuAire™ biosafety cabinet. If sterile working conditions aren't required, the CellCelector PCR hood is the perfect cost-effective solution, protecting the CellCelector from dust and debris and keeping it clean for everyday use.

Furthermore, it protects the user from the high forces and torques during instrument operation. The PCR hood has been specially designed for the CellCelector and is placed directly on the benchtop, with all access doors equipped with interlock sensors required for the operation.

Features include:

- High stability with a relatively low weight
- Resistant against alcoholic solvents, detergents and ultraviolet (UV) light to enable frequent disinfection and decontamination
- Lighting within the housing to illuminate the hood

Detailed product specifications can be found in Table 4.



Ordering	Product Number	CC6002
Dimensions	Housing only	Width × Depth × Height: 115.0 cm × 79.0 cm × 93.5 cm
	Housing only including open doors	Width × Depth × Height: 160.0 cm × 79.0 cm × 133.0 cm
	Height with support table	Approximately 175.0 cm (220.0 cm with open front door)
	Weight	68 kg
	Weight including CellCelector	120 kg
Electricity	Supply voltage	Power supply via CellCelector or 100–240 V ~50 Hz (optional 110–120 V ~60 Hz)
	Connected load	Max. 100 W (excluding CellCelector)
Security	User protection	Security sensors on all doors. Robot stops when door is opened
Ancillary	Internal lighting	Included; controlled from the control panel


Table 4: CellCelector PCR Hood Specifications

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