



# CO<sub>2</sub> Incubators

These CO<sub>2</sub> incubators set advanced standards in performance and freedom from contamination. The two research models have the added benefit of a high temperature decontamination facility.

## *Advanced Microprocessor Control*

The specially developed microprocessor controller gives the user day to day control over all alarm settings, alarm delay and calibration adjustment. These settings are protected by an anti-tampering procedure. Sensors placed within key areas of the chamber constantly monitor and enable the control system to optimise temperature and CO<sub>2</sub> levels. After door opening, the culture conditions quickly recover without overshoot, and stable control is maintained. Profiled heating, a technique developed by LEEC, eliminates all risk of "hot-spots".

## *Active Contamination Control*

All models have a unidirectional airflow in the work area, an in-line HEPA filter and an ultra smooth stainless steel chamber with rounded edges. The indirectly heated inner glass door remains condensation free. These features all help to reduce the risk of contamination. The Research models also have a high temperature decontamination facility operated by a security keyswitch. User experience has shown high temperature to be especially effective in eliminating culture contamination.

## *In-Vivo Simulation*

The advanced LEEC-20.2 microprocessor combined with the ducted airflow system ensures that temperature and CO<sub>2</sub> stabilities (typically +0.1 °C and ±0.2%) are maintained to the tightest tolerances in order to give optimum "in-vivo" simulation.

## Standard Features

### *Control*

- Microprocessor control with soft touch panel.
- Bright LED digital displays for temperature and CO<sub>2</sub>.
- Comprehensive alarm system (audible and visual) monitors all critical functions.

### *Construction*

- Stainless steel outer cabinet for longer life.
- Ultra smooth stainless steel chamber helps contamination control.
- Adjustable levelling feet.
- Two cable access ports.

### *Heating and Safety*

- Built-in cooling coil can be connected to a source of chilled water for operation close to or below ambient temperature.
- High and low alarm warnings (temperature and CO<sub>2</sub>).
- Independent overtemperature safety cutout with failsafe.
- Remote alarm connections (volt-free, N/O, N/C).

### *Contamination Control*

- Unidirectional airflow.
- HEPA filter removes airborne contaminants.
- High temperature decontamination (Research models).
- Indirectly heated inner glass door prevents condensation.

INCUBATORS



## Cell Culture Incubators

	Research GA2000/GA3000	Standard GA2010/GA3010	Oxygen GA156
Temperature Range Control Variation Recovery Sensor	ta <sup>(1)</sup> to +60°C <±0.1°at+37°C <±0.2° at +37°C Typically < 6 minutes LEEC semiconductor	ta <sup>(1)</sup> to +60°C <±0.1°at+37°C <±0.2° at +37°C Typically < 6 minutes LEEC semiconductor	ta <sup>(1)</sup> to +60°C ±0.1°at+37°C ±0.2° at +37°C Typically 12 minutes Pt100
CO <sub>2</sub> Range Control Recovery Sensor	0 to 20% <±0.2% at 5% Typically 3 minutes LEEC tc	0 to 20% <±0.2% at 5% Typically 3 minutes LEEC tc	0 to 20% ±0.2% at 5% Typically 7 minutes LEEC tc
O <sub>2</sub> Range Control Recovery Sensor	N/A N/A N/A N/A	N/A N/A N/A N/A	0to21% ±0.1% at 5% Typically 7 minutes Maintenance free fuel cell
RH Range	All models - ambient or 95 - 98% by forced evaporation		
Construction	Stainless steel chamber (316). Powder coated white painted stainless steel outer cabinet. Indirectly heated inner door. Slow speed fan circulation. CFC free insulation.		
Alarms	High/low temperature High/low CO <sub>2</sub> Time delay Remote connections	High/low temperature High/low CO <sub>2</sub> Time delay Remote connections	High temperature
High Temperature Decontamination Facility	Standard	N/A	Standard

Electrical supply: 220/240v, 50/60Hz. Others to special order. Warranty: Two years comprehensive warranty, workmanship, parts and labour (UK).  
ta<sup>(1)</sup> = at least 5°C above ambient. Temperatures down to +20°C, using recirculating cooler, or lower with special cooling coil.

## Overall Dimensions

Model	Capacity	External-mm	Internal -mm	Shelves	Weight	Power Rating
GA2000 GA2010 GA156	150 litres	880h x 635w x 660d	600hx510w x 500d	4 adjustable	85kg	250W
GA3000* GA3010*	320 litres	1550hx635w x 660d	1275hx510w x 500d	6 adjustable	135kg	350W

\*One chamber with two inner glass doors and one outer door.



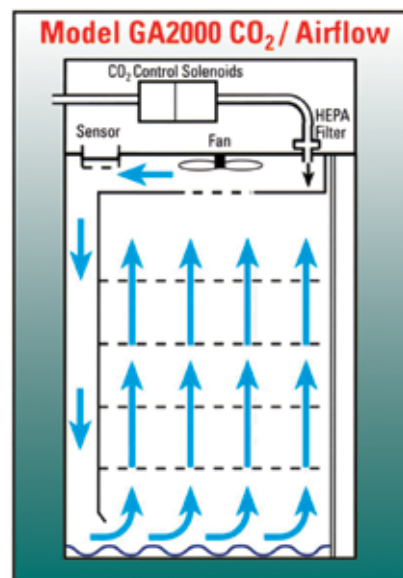
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Easy to read Soft Touch Control Panel

## Accessories

Ref.	Description
FYR	Fyrite CO <sub>2</sub> test kit (0 - 20%).
FYR/02	Fyrite O <sub>2</sub> test kit (0-21 %).
ST1	Wheeled dolly for one incubator.
ST2	Stacking stand for two incubators.
ST3	Stacking stand on castors for two incubators.
C3	Self-contained recirculating cooler.
PNEU	Automatic two-cylinder changeover unit for CO <sub>2</sub> or N <sub>2</sub> gas.
PRV	Cylinder pressure reducing valve for CO <sub>2</sub> gas.
PRV/N	Cylinder pressure reducing valve for N <sub>2</sub> gas.
R06	In-line CO <sub>2</sub> reducing valve with gauge (2psi to 30psi).
HF	In-line HEPA filter.
L1	Extra shelf with runners (fits all models).



Model GA2000