ESCO

WORLD CLASS. WORLDWIDE.

CelSafe® CO$_2$ Incubator

CelSafe®

CO$_2$ Incubators

The Safest Way To Grow Your Beautiful Cells

Products and Applications

Life Sciences Laboratory Equipment

Sample Preparation
- Class I Biological Safety Cabinets
- Class II Type A2 Biological Safety Cabinets
- Class II Type B2 Biological Safety Cabinets
- Class III Biological Safety Cabinets
- Horizontal Laminar Flow Clean Benches
- Vertical Laminar Flow Clean Benches
- Laboratory Animal Research Workstations
- Freeze Dryers

Sample Cultivation
- CO_2 Incubators with Cooling System
- CO_2 Incubators with Stainless Steel Exterior
- CO_2 Incubators (Water Jacketed)
- Laboratory Shakers

Sample Analysis
PCR Thermal Cyclers
- Conventional Thermal Cyclers
- Realt-time PCR Systems

PCR Sample Handling
- Microplate Shakers
- PCR Cabinets

Sample Storage & Sample Protection Solutions
- Ultra-low Temperature Freezers
- Lab Refrigerators and Freezers
- Sample Database Management Software
- Intelligent Remote Monitoring Application Protocol
- Remote Monitoring, Datalogging, Programming Software
- Wireless Monitoring System

Chemical Research
- Ductless Fume Hoods
- Laboratory Fume Hoods
- Fume Hood Airflow Monitors
- Exhaust Blowers
- Powder Weighing Balance Enclosures

General Equipment
Laboratory Thermostatic Products
- Laboratory Oven
- Laboratory Incubator
- Refrigerated Incubator
- Constant Climate Chamber

Medical / IVF Equipment

- Time-Lapse Embryo Incubators
- Benchtop Multi-room Embryo Incubators
- CO_2 Incubators
- IVF Workstation
- Anti-Vibration Table
- CO_2 / O_2 Temperature Validation Unit

Pharmaceutical Equipment

Airflow Containment
- Downflow Booths
- Ceiling Laminar Airflow Units
- Laminar Flow Horizontal Trolley
- Laminar Flow Vertical Trolley
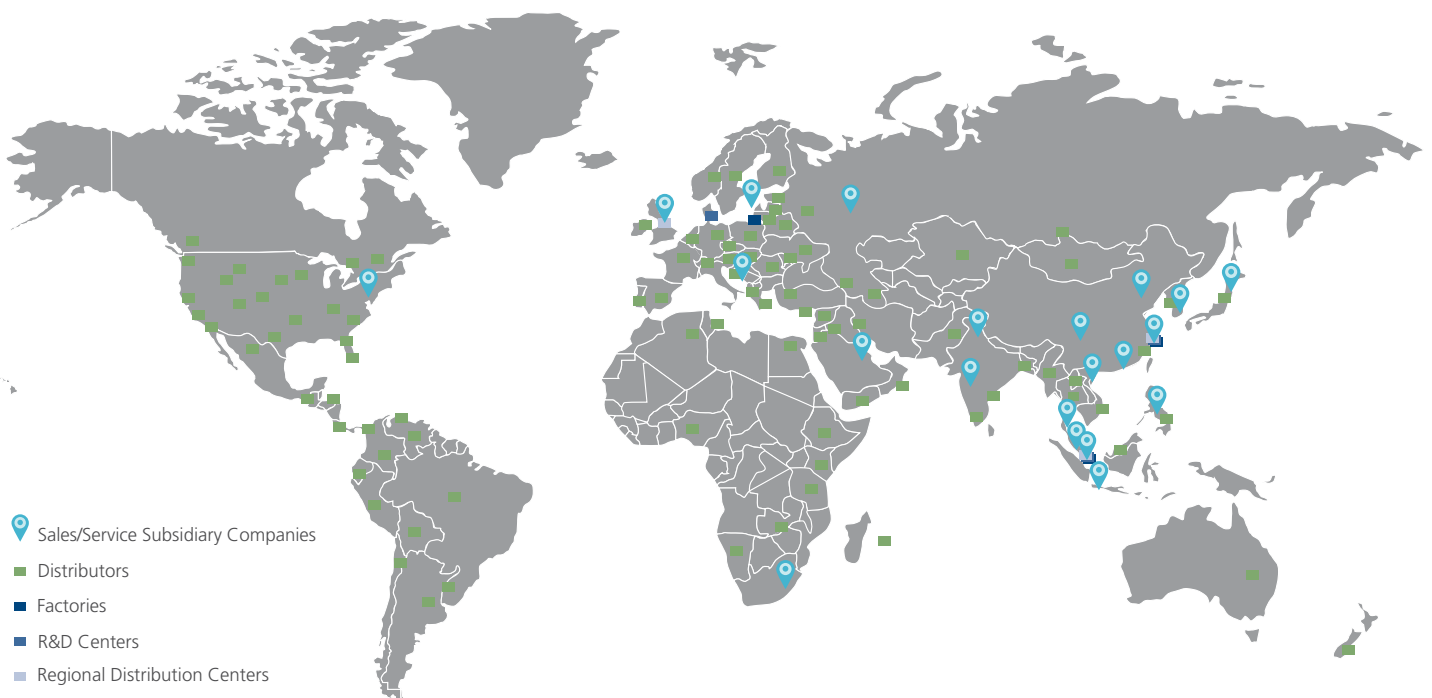- Laminar Flow Straddle Units
- Garment Storage Cabinet

Isolation Containment
- Aseptic Containment Isolator (ACTI)
- Weighing and Dispensing Containment Isolator (WDCI)
- General Processing Platform Isolator (GPPI)

Cross Contamination Facility Integrated Barrier
- Cleanroom Air Showers
- Air Shower Pass Box
- Cleanroom Transfer Hatch
- Pass Boxes
- Soft Wall Cleanroom
- Dynamic Passboxes and Dynamic Floor Label Hatches

Global Network

- Sales/Service Subsidiary Companies
- Distributors
- Factories
- R&D Centers
- Regional Distribution Centers

CelSafe®: NEW GENERATION CO$_2$ INCUBATOR

Esco's CelSafe® CO$_2$ incubator with touch screen user interface and latest advanced technology represents safety of your precious samples, efficiency on your lab work and enhanced user experience.

With CelSafe®, You will never look for another CO$_2$ / O$_2$ Incubator

- 200°C High Heat Sterilization System
- Remote Control Functions via PC Interface
- Advanced Sensor Technology
- Superior Performance
- Optimized Chamber Design
- Suppressed O$_2$ Models
- Complete Security System
- Optional Active Humidification System
- CelTouch Screen User Interface
- Green Product: Double Insulation System
- Complete Data Collection and Graph Functions
- ISOCIDE™ Anti-microbial Powder Coating

KEY COMPONENTS OF CelSafe® CO$_2$ INCUBATOR

MAGNETIC DOOR LOCK
- Manual and automatic lock functions.

STERILIZATION COOLING FAN
- Helps to emit the hot air during sterilization cycle.

DIRECT HEAT AND AIR JACKETED DESIGN
- Fast uniform heating
- Rapid temperature recovery without overshoot
- Air jacket improves chamber stability
- Double insulation system

INNER DOOR LATCH
- Lock/unlocks the glass door.
- Automatically turns off the Pump, Gas Supply, and Heating Functions when inner door is opened.

SHELVING
- Perforated shelving to improve uniformity
- Anti-tip
- Stainless steel
- Built-in grip

WATER RESERVOIR (Active Humidification Mode)
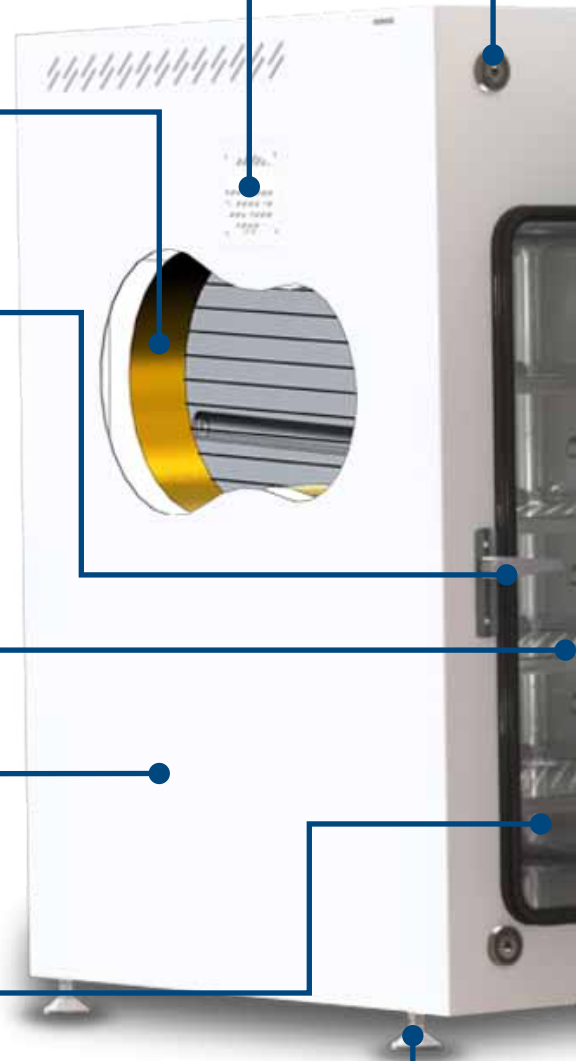- User can precisely set %RH required for specialized application.

WATER PAN (Standard Model)
- Precisely heated by base heater to provide humidity.

LEVELING FEET
- Easily adjustable

DOOR HINGE

- Better door alignment and contact.

CelTouch:
TOUCHSCREEN INTERFACE

- Big, clear and easy-to-read parameter display.
- Easy to follow onscreen icon menus

USB INTERFACE

- For exporting of data log parameters
- Entering set up parameters
- Easy software updates

INNER DOOR

- Reversible (Factory Installed)
- Easy viewing of samples

SAMPLE PORT

- Allows direct measurement of chamber atmosphere such as temperature, CO_2, O_2 and humidity.

OUTER DOOR

- Reversible (Factory Installed)
- Heated to prevent condensation
- Back cover is made of stainless steel

RIBBED TYPE CHAMBER DESIGN

- Seamless design
- Facilitates faster cleaning
- More chamber space

QUALITY ESCO CONSTRUCTION

- External surfaces are powder coated with Esco ISOCIDE™ to eliminate 99.9% of surface bacteria within 24 hours of exposure.
- Inner chamber and main door back cover is made of stainless steel for cleaner look and easy maintenance.

HIGH HEAT STERILIZATION CYCLE

With a simple touch on the screen, CelSafe® sterilization cycle assures deactivation of microbes, spores, fungi, vegetative cells and other harmful microorganisms that can affect the growth of your precious samples.

- Fully automatic 200°C sterilization cycle with a simple touch on the screen.

- Effectiveness of high heat sterilization cycle is validated thru in-house laboratory test.

- All components and accessories are designed to meet 200°C temperature requirement.

- Complies with different international guideline requirements for dry heat sterilization such as U.S. and E.U. Pharmacopeias.

- Everything is STANDARD. Avoid running cost on other external accessories and consumables just to perform decontamination / sterilization cycle.

- The entire sterilization cycle period is 8 hours.

LATEST INFRARED CO$_2$ SENSOR TECHNOLOGY
The new Carbon dioxide IR Sensor probe withstands high temperature sterilization.

- CARBOCAP® technology for heat durability and long term stability.

- CO$_2$ probe remains inside the incubator chamber during sterilization cycle.
  This saves time and reduce the risk of cross contamination.

- Water vapor, dust, other chemicals, change in temperature, humidity, other gases and
  pressure do not affect the performance of the IR sensor.

- Internal pressure sensor improves accuracy and stability.

- With full temperature and pressure compensation.

- Sensor head is heated to prevent condensation.

OPTIMIZED CLEAN CHAMBER DESIGN
Less components mean more space for your samples.

- New ribbed design chamber allows installation of shelves without
  screws or pilasters.

- Minimize risk of contamination.

- Easy maintenance.

- Quick and easy to clean.

- More chamber space.

MODELS	CelCulture®	CelSafe® (Natural Humidification)	CelSafe® (Active Humidification)
90 mm Petri Dish	675 pcs	825 pcs	975 pcs
Treated Flask 25 cm² Surface Area	632 pcs	796 pcs	843 pcs
Treated Flask 175 cm² Surface Area	190 pcs	250 pcs	264 pcs
Cell Culture Plate (96 wells)	466 pcs	576 pcs	612 pcs
Cell Culture Plate (24 wells)	366 pcs	405 pcs	450 pcs
Cell Culture Plate (48 wells)	366 pcs	405 pcs	450 pcs

COMPLETE SECURITY SYSTEM
Protection for Samples, User and Environment

- Multiple over-temperature protection system guarantee maximum sample, user and environment protection.

- All electrical components are UL recognized.

- Electrical circuit protection is in accordance with UL requirements.

- PIN code prevents unauthorized access on screen menu and functions.

- Magnetic Door Lock System
  - Manually locks during normal operation to protect samples.
  - Automatically locks during high heat sterilization cycle to protect users.

- Inlet Door Latch function turns off pump, gas supply, and heating functions when the door is opened.

Door Lock Option

PIN Code Security Display

CELTOUCH SCREEN CONTROL SYSTEM
High-tech, Simple and Functional CelTouch screen interface

- Big, clear, and easy-to-read parameter display

- Easy to follow on-screen icon menus

- Actual Data Graph, Data Logging functions, Event Logs and Alarm Functions are easily seen on the screen

- Easy download of data log files using USB Write menu

- Can be performed with gloved fingers

- Multiple language selections: English, German, Spanish, French, Italian

Home Screen

Icon Menu

Graph Display

Data Log Display

Language Option Display

COMPLETE DATA COLLECTION AND GRAPH FUNCTION

High-tech, Simple and Functional CelTouch screen interface

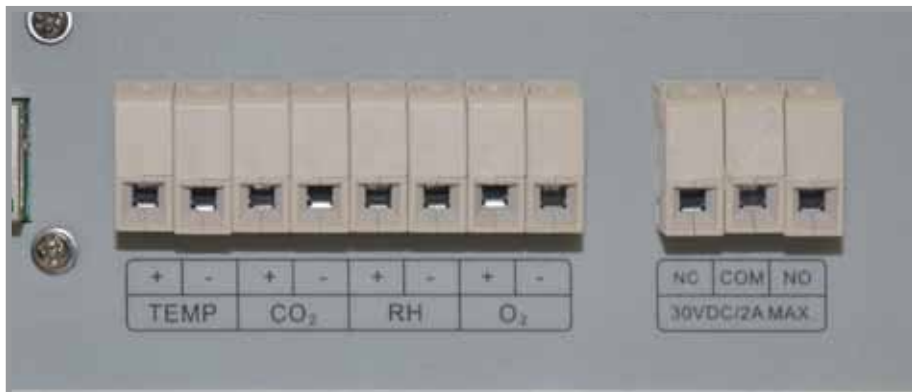## USB PORT

USB Port

USB Write Screen

ANALOG OUTPUT

• Stand-by 0-5 VDC 4-20 mA analog output which allows the chamber to be connected to an in-house data acquisition or alarm system.

ALARM CONTACTS

• A set of relay contacts located on the rear of the unit is provided to monitor temperature, humidity or CO_2 alarms. The alarm contacts can be connected to a remote alarm system.

Analog Output and Alarm Contacts

ANTI-MICROBIAL POWDER COATING
Protection for Samples, User and Environment

• Electro-galvanized steel with white oven-baked epoxy-polyester antimicrobial powder-coated finish.

• External surfaces are powder coated with Esco **ISOCIDE™** to eliminate 99.9% of surface bacteria within 24 hours of exposure.

• Ensures healthier, safer and cleaner lab environment.

ISOCIDE™ ANTI-MICROBIAL COATING
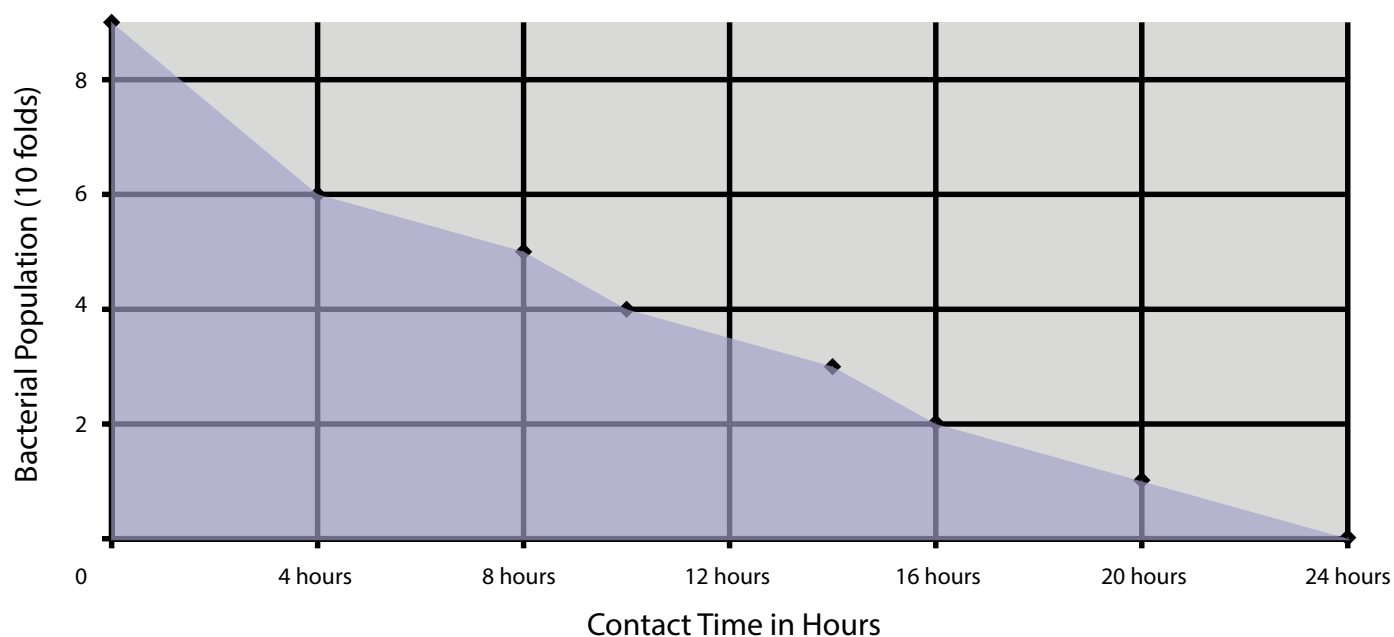
All exterior painted surfaces are powder-coated with Esco Isocide™, an antimicrobial inhibitor to minimize contamination. Isocide is integrated into the coating substrate and cannot wash out or diminish by repeated cleaning. Performance results are available upon request.

GREEN PRODUCT

DOUBLE INSULATION SYSTEM = LESS HEAT EMISSION
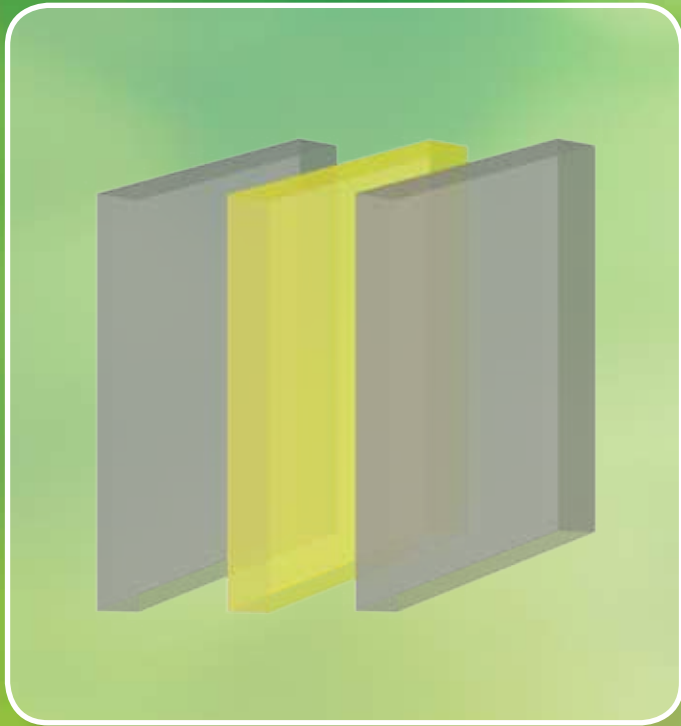
Regular CO_2 Incubator with Single Insulation
Heat Emission Value: Aproximately 42 W/sec
Energy Consumption: 150 kWh
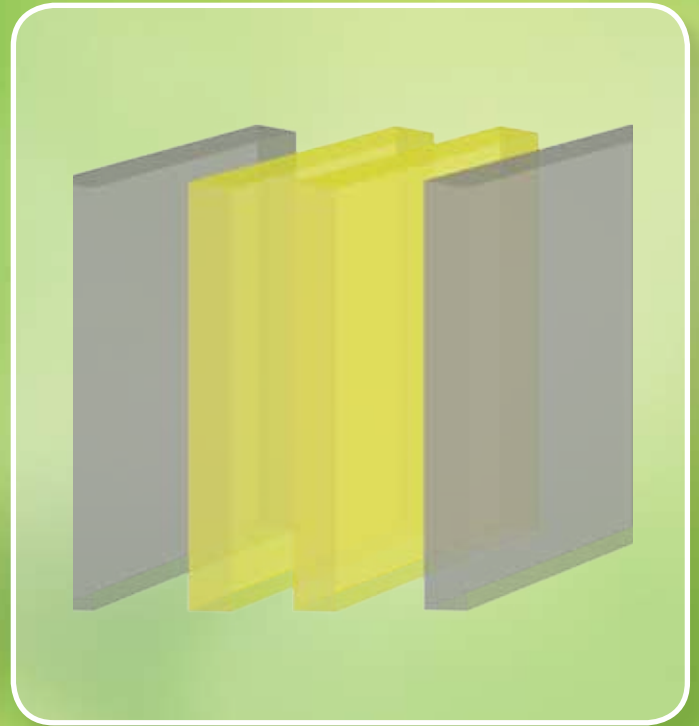
CelSafe® CO_2 Incubator with Double Insulation
Heat Emission Value: Aproximately 39 W/sec
Energy Consumption: 142 kWh

One with nature.
Esco builds eco-friendly products.

ACTIVE HUMIDIFICATION SYSTEM

Flexibility on your CelSafe® CO$_2$ Incubator

- In order to provide optimal environmental conditions for cell growth that requires specific relative humidity, the CelSafe® CO$_2$ incubator with optional active humidity control allows user to actively control humidity from up to 95%. Natural humidification method is from 85% to 90%.

- Water reservoir is located at the back of the chamber. No more water pan.

- Heats up and maintain water reservoir based on RH control.

- Water inlet valve is triggered by water level sensor.


Water Reservoir

SUPPRESSED O$_2$ MODEL

O$_2$ REQUIREMENT FOR SPECIALIZED APPLICATIONS

- Esco CelSafe® CO$_2$ incubators with suppressed O$_2$ provides accurate environmental control inside the incubator chamber. Oxygen levels are controlled through precise introduction of nitrogen into the incubator culturing system.

- Esco Celsafe CO$_2$ incubator with suppressed O$_2$ has an optional nitrogen gas switching system in order to install two nitrogen gas tanks. Making sure you will not run out of N$_2$ gas.

- New Zirconium type O$_2$ Sensor provides faster response time and more reliable than Galvanic type O$_2$ Sensor.
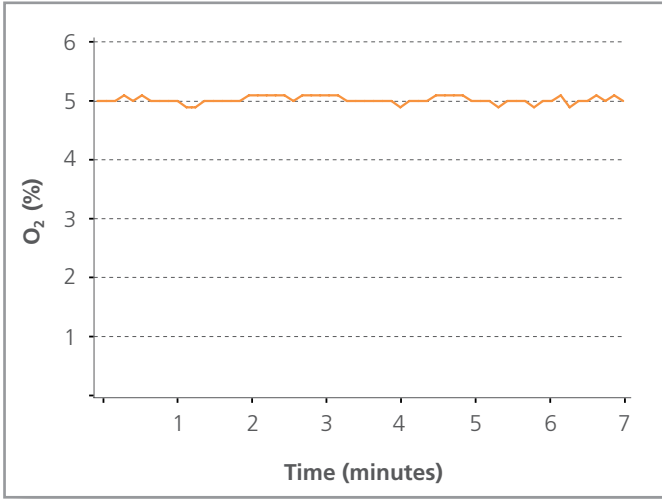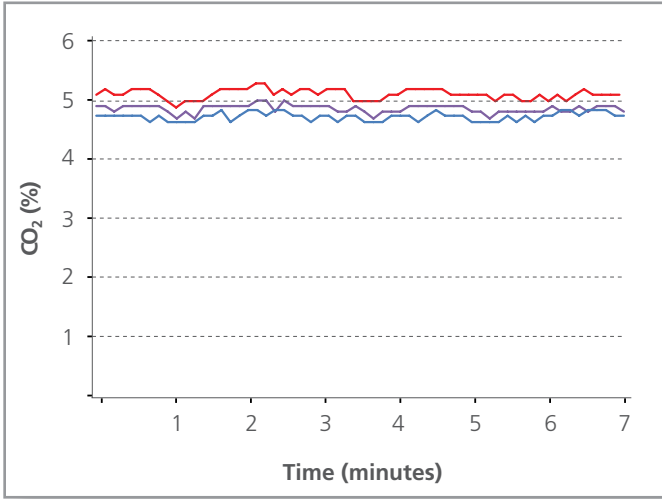
SUPERIOR PERFORMANCE

PRECISE PARAMETER CONTROL

- Uniformity test measures the difference between the coldest spot and warmest spot in the chamber when the CO$_2$ incubator is operating at set temperature.

- Esco Celsafe® CO$_2$ incubator has excellent uniformity under normal operating condition.
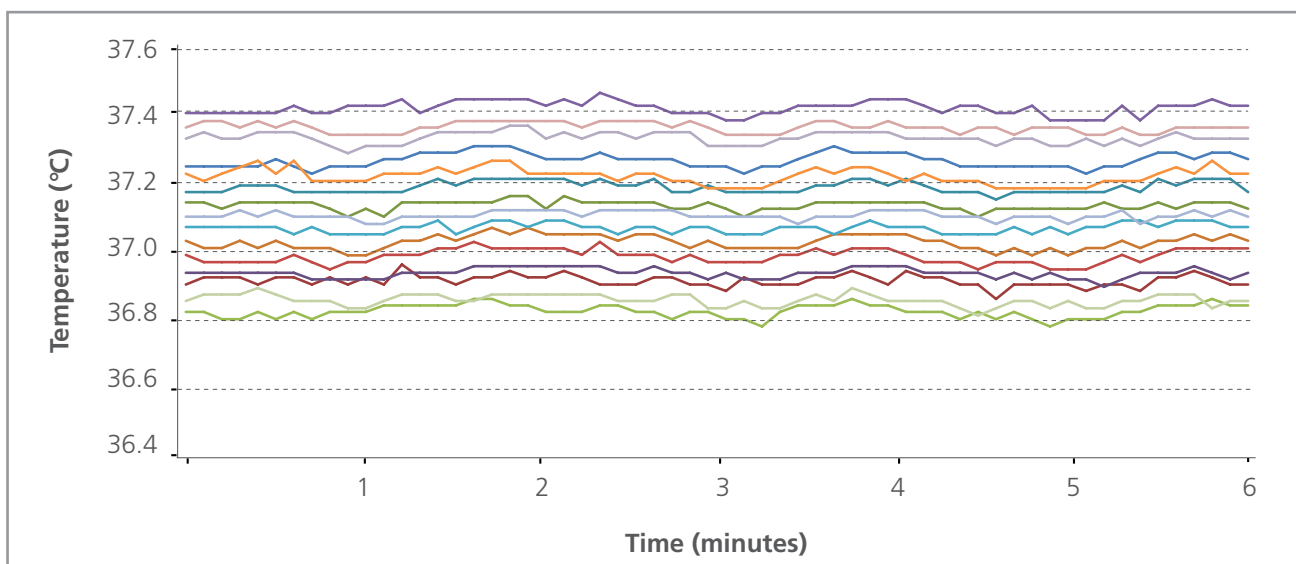
*Temperature Uniformity Graph at 37°C*

CO₂ Uniformity / Stability at 5% CO₂ concentration Graph

O₂ Fluctuation at 5% O₂ concentration Graph (for Suppressed O₂ model)

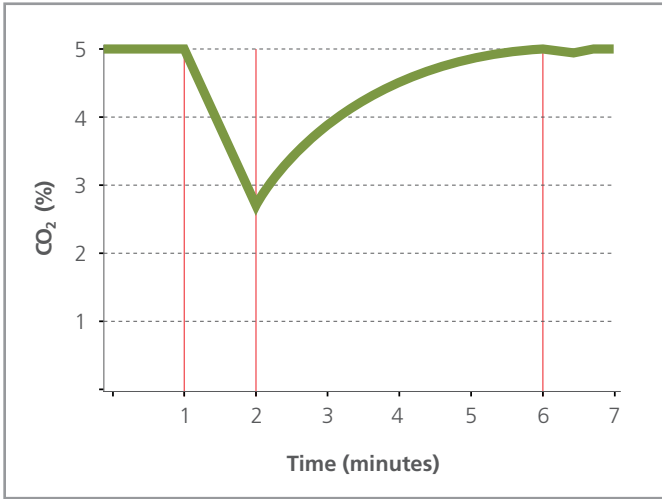## FAST TEMPERATURE, O₂, CO₂ HUMIDITY RECOVERY TIME AFTER DOOR OPENING

- Esco CelSafe® recovers temperature, %CO₂, %O₂ and %RH in minutes following a 30 seconds door opening.
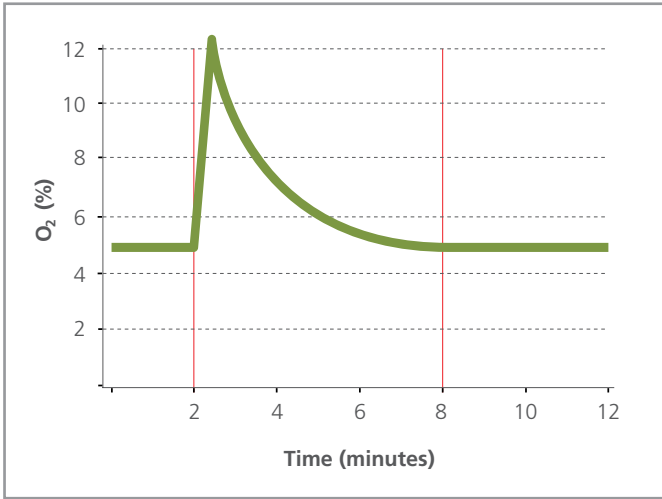 Fast recovery of %CO₂, %O₂ and %RH ensures integrity of the growth of the samples.
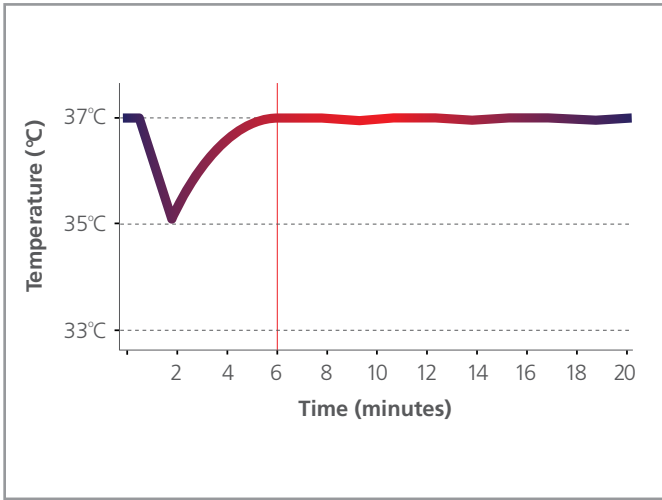
Temperature Recovery Graph
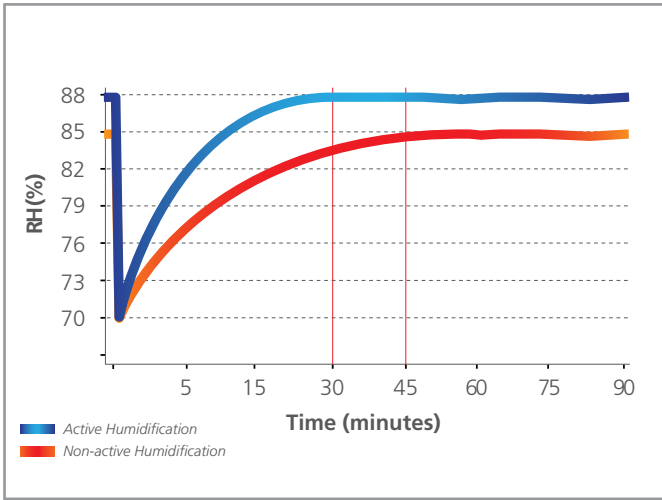
Humidity Recovery Graph

CO₂ Recovery graph

O₂ Recovery graph (for Suppressed O₂)

EFFECTIVENESS OF STERILIZATION CYCLE

- The Esco CelSafe® CO_2 Incubator 200°C Sterilization Cycle has been evaluated thru in-house laboratory test and shown to be an effective method in deactivating fungi, bacterial spore, and vegetative cells.
  This testing is also effective in deactivating *Geobacillus stearothermophilus* which is a heat-resistant microorganism.

- 200°C High Heat Sterilization process completes within 8 hours.

MODELS	Before Decon	After Decon
Bacillus atrophaeus	Log 6	0
Aspergillus brasiliensis	Log 4	0
Pseudomonas aeruginosa	Log 6	0
Staphylococcus epidermidis	Log 6	0
Escherichia coli	Log 6	0
Staphylococcus aureus	Log 6	0
Enterobacter faecalis	Log 6	0
Geobacillus stearothermophilus	Log 6	0
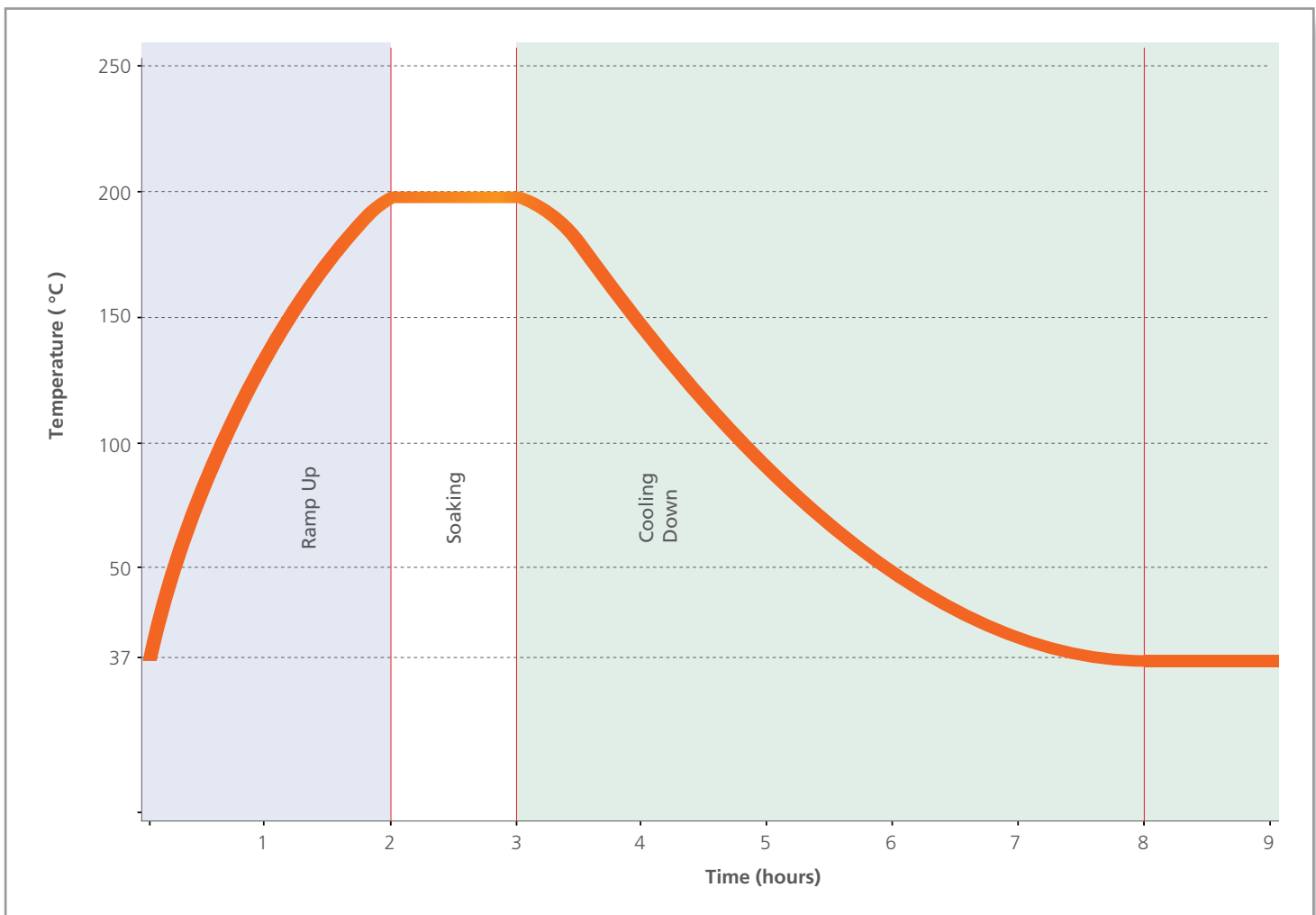
Sterilization Graph

STILL WANT MORE PROTECTION?

ESCO GOT YOU COVERED USING ESCO VOYAGER® SOFTWARE SYSTEM OR ESCO PROTECT® SYSTEM

Voyager®

Remote Monitoring, Datalogging, Programming Software

Esco Voyager® is a PC-based software package developed for the remote monitoring, datalogging, and programming / device configuration of Esco thermostatic products.

Voyager® interfaces with individual Esco equipment over RS485 using the EscoBUS communications protocol. Up to 16 devices of equipment may be interfaced to a single PC.

Compatible Equipment

• Lexicon® II - Ultra-low Temperature Freezer

• CelCulture® - CO_2 Incubator (CCL)

• CelMate® - CO_2 Incubator (CLM)

• Isotherm® - Forced Convection Oven (OFA)

• Isotherm® - Forced Convection Incubator (IFA)

• Isotherm® - Low Temperature Incubator (IFC)

• OrbiCult™ - Laboratory Shakers

PROtect®

A completely independent and redundant sample monitoring system, which is a critical component in providing protection for important sample.

CFR-21 Compliant Software
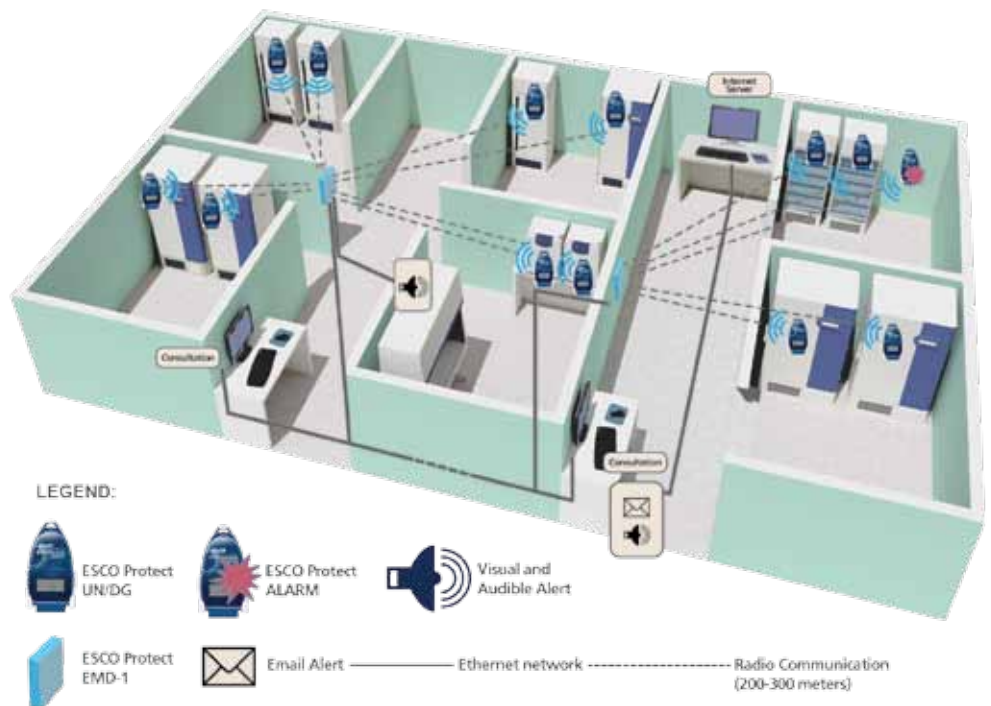
REAR PANEL

1 Cooling Fan
The cooling fan prevents the electrical panel from overheating.

2 Power Supply Inlet
The power supply inlet connects the incubator unit to the power source.

3 RS485 Communication Port
The RS485 provides serial communication port for PC. It can be daisy chained from product to product and connected to a PC.

4 Analog Port
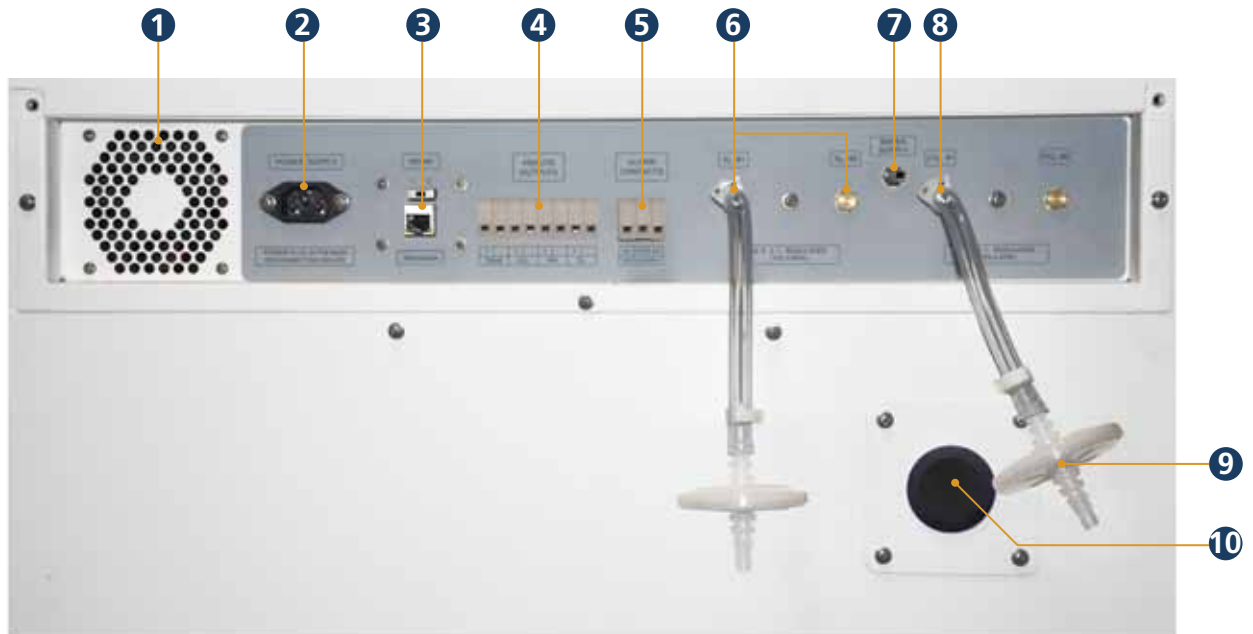The analog port allows the incubator to output analog signals representing temperature, CO_2/O_2 concentration and relative humidity, depending on the options available in the incubator. This allows the incubator to be connected to an in-house data acquisition or alarm system.

5 Alarm Contact
A set of relay contacts located on the rear of the unit is provided to monitor temperature, humidity or CO_2 alarms. The alarm contacts can be connected to a remote alarm system.

6 N_2 Gas Supply Inlet (for Suppressed O_2 model)
The N_2 gas supply inlet is only applicable for models with N_2 Control function. Inlet pressure requirement is 15 psi.

7 Water Inlet
(For models with Active Humidification System)
To fill up water in the reservoir tank use in the active humidification.

8 CO_2 Gas Supply Inlet
The CO_2 gas supply inlet connects the CO_2 gas supply with the incubator unit. Inlet pressure requirement is 15 psi.

9 Gas Inline Filter
Inline filters are provided to remove any contaminants from the gas supply.

10 Access Port
Allows cables, hoses or additional sensors to be routed into the work space. A rubber stopper with controlled leak is installed as standard configuration and is part of standard accessories.

ORDERING INFORMATION

IR SENSOR MODEL WITH STAINLESS STEEL CHAMBER

MODELS	DESCRIPTION
CLS-170-B-8 (2170187)	CelSafe® Incubator, 170 L, IR Sensor, CO_2 Control, High Heat Sterilization, 230 VAC, 50/60 Hz
CLS-170-B-9 (2170188)	CelSafe® Incubator, 170 L, IR Sensor, CO_2 Control, High Heat Sterilization, 115 VAC, 50/60 Hz

IR SENSOR MODEL WITH STAINLESS STEEL CHAMBER AND ACTIVE HUMIDIFICATION

MODELS	DESCRIPTION
CLS-170-B-8-RH (2170192)	CelSafe® Incubator, 170 L, IR Sensor, CO_2 Control, High Heat Sterilization, Active Humidification, 230 VAC, 50/60 Hz
CLS-170-B-9-RH (2170194)	CelSafe® Incubator, 170 L, IR Sensor, CO_2 Control, High Heat Sterilization, Active Humidification, 115 VAC, 50/60 Hz

SUPPRESSED O_2 MODEL WITH STAINLESS STEEL CHAMBER

MODELS	DESCRIPTION
CLS-170-T-8 (2170130)	CelSafe® Incubator, 170 L, IR Sensor, CO_2 Control, O_2 Control, High Heat Sterilization, 230 VAC, 50/60 Hz
CLS-170-T-9 (2170151)	CelSafe® Incubator, 170 L, IR Sensor, CO_2 Control, O_2 Control, High Heat Sterilization, 115 VAC, 50/60 Hz

SUPPRESSED O_2 MODEL WITH STAINLESS STEEL CHAMBER AND ACTIVE HUMIDIFICATION

MODELS	DESCRIPTION
CCL-170T-8-RH (2170193)	CelSafe® Incubator, 170 L, IR Sensor, CO_2 Control, O_2 Control, High Heat Sterilization, Active Humidification,230 VAC, 50/60 Hz
CCL-170T-9-RH (2170195)	CelSafe® Incubator, 170 L, IR Sensor, CO_2 Control, O_2 Control, High Heat Sterilization, Active Humidification,115 VAC, 50/60 Hz

OPTIONS AND ACCESSORIES

COA-1002 / COA-1002-F CO_2 Backup

This option allows two tanks of CO_2 to be connected to the incubator. It will automatically switch from the primary tank to the secondary tank when low gas pressure is detected on the primary tank.

COA-1007 / COA-1007-F N_2 Back-up

This option allows two tanks of N_2 to be connected to the incubator. It will automatically switch from the primary tank to the secondary tank when low gas pressure is detected on the primary tank.

COA-2033-F Sealed Inner Door Kit

CelSafe® CO_2 Incubators can be equipped with 4 glass doors, which allow access to defined sections of the incubator without disturbing the inner atmosphere. This minimizes recovery times and contamination risks. The Sealed Inner Door is available as a factory installed option or field installed retrofit kit.

COA-2005-F 2-Stage Gas Regulator for CO_2/N_2

CO_2 and N_2 gas input regulators reduce pressure from the tank to the incubator. It has dual pressure gauges, barbed line connection and shut-off valve. It prevents over-pressurization of the gas supply into the incubator which could cause the tubing to burst.
- CGA 320 connector (U.S. Standard)
- BP-BS341-#8-NT4 connector (British Standard)
Note: Compatible with European DIN477, French NFE29-650 and Australia AS2473
- G5/8-RH connector (China Standard)

COA-2034-F Roller Base 170 L

Roller base is available with casters for mobility of your incubators and to provide protection against floor contamination.

COA-2035-F Floor Stand 170 L

Floor stands are available with adjustable feet, with a nominal range of 180 mm to 250 mm (7.1" to 9.8") for comfortable access to the incubator and to avoid floor contamination.

COA-2036-F Floor Stand 170 L

This support stand raises the incubator to a height of 700 mm (27.6") above the floor for comfortable access. It comes with casters for mobility of your incubators.

COA-2037-F Extra Shelf

Each CelSafe® CO_2 Incubator comes standard with 3 shelves for 50 L / 4 shelves for 170 L & 240 L and it can accommodate up to a maximum of 4 shelves for 50 L / 7 shelves for 170 L & 240 L.

COA-2010-F Electronic CO_2 Analyzer, for CO_2 / Temp Measurement
COA-2016-F Electronic CO_2 + O_2 Analyzer, for CO_2 / O_2 / Temp Measurement
COA-2017-F Electronic CO_2 + O_2 + RH Analyzer, for CO_2 / O_2 / RH / Temp Measurement

The Electronic Analyzer allows the measurement of CO_2 concentration, O_2 concentration, relative humidity and temperature (temperature probe already included).

COA-2015-F Inner Door Shelving Kit (4 Sets with total 12 mini shelves for one incubator)

These mini shelves are to be used with the Sealed Inner Door Kit installed. There are 4 sets with a total of 12 mini shelves on each incubator.

PROtect® - Redundant Wireless Sample Monitoring System

A completely redundant, sample monitoring system to provide the utmost protection of precious samples.

Voyager® Software Kit

Esco Voyager® is a PC-based software package developed for the remote monitoring, data logging and programming / device configuration of Esco controlled environment laboratory equipment. Compatible equipment includes Laboratory Ovens and Incubators, Low Temperature Incubators, CO_2 Incubators and Ultra-low Temperature Freeze, and Laboratory Shakers.

ACCESSORIES FOR CO$_2$ INCUBATOR, MODEL CLS-170_-_

Item Code	Options and Accessories	Description	Unit of Measurement
5170472	COA-1002	Option, CO$_2$ Backup (Tank Switcher), Factory Installed	UT
5170473	COA-1002-F	Option, CO$_2$ Backup (Tank Switcher), Field Installed	UT
5170696	COA-2033-F	Option, Sealed Inner Door Kit for 170 L (4 Glass Doors With Latches), Field Installed	UT
5170701	COA-2038	Option, Sealed Inner Door Kit for 170 L (4 Glass Doors With Latches), Factory Installed	UT
5170490	COA-1007	Option, N$_2$ Backup (Tank Switcher), Factory Installed	UT
5170491	COA-1007-F	Option, N$_2$ Backup (Tank Switcher), Field Installed	UT
5170697	COA-2034-F	Accessory, Roller Base	PC
5170698	COA-2035-F	Accessory, Floor Stand 200 mm (8") Adjustable Feet	PC
5170699	COA-2036-F	Accessory, Floor Stand 700 mm (27.6")	PC
5170481	COA-2005-F	Accessory, 2-Stage Gas Regulator For CO$_2$ / N$_2$	PC
1080588	CGA 320	CGA 320 Connector (US Standard)	PC
1080589	BP-BS341#08-NT4	BP-BS34-#8-NT4 Connector (British Standard)	PC
1080590	G5/8-RH	G5/8-RH Connector (China Standard)	PC
5170700	COA-2037-F	Accessory, Extra Stainless Steel Shelf	PC
5170329	COA-2010-F	Accessory, Electronic CO$_2$ Analyzer (Worldwide), for CO$_2$ / Temp Measurement (with Temperature Probe)	UT
5170397	COA-2016-F	Accessory, Electronic CO$_2$ Analyzer (Worldwide), for CO$_2$ / O$_2$ / Temp Measurement (with Temperature Probe)	UT
5170398	COA-2017-F	Accessory, Electronic CO$_2$ Analyzer (Worldwide), for CO$_2$ / O$_2$ / RH / Temp Measurement (with Temperature Probe)	UT
2170020	COA-2011-F	Accessory, IQ/OQ Documentation	UT
5170487	COA-2015-F	Accessory, Inner Door Shelving Kit	UT
5250001	Voyager®	Voyager® Software Kit	SET

GENERAL SPECIFICATIONS
CelSafe® CO_2 INCUBATORS

	CLS-170_-_
TEMPERATURE	
Ambient Temperature Range	18°C to 34°C (64°F to 93 °F)
Temperature Control Method	Direct Heat and Air-Jacketed using PID microprocessor
Temperature Range, °C	ambient +3 to 60
Temperature Uniformity, °C	± 0.3*
Temperature Accuracy, °C	± 0.1
Recovery Time** (after 30 seconds door opening), minutes	6
Start up time (25°C ambient 37.0°C), minutes	40
CO_2	
CO_2 Control System	Microprocessor PID
CO_2 Range, % CO_2	0-20
CO_2 Accuracy, % CO_2	0.1
CO_2 Fluctuation, % CO_2	± 0.2
CO_2 Sensor	Infrared (IR) Sensor* (with Temperature and Pressure Compensation)
CO_2 Recovery Time*** (after 30 seconds door opening), minutes	Standard Unit: 4
O_2 SPECS (FOR SUPPRESSED O_2 MODEL)	
O_2 Control System	Microprocessor PID
O_2 Range, % O_2	1-20.7%
O_2 Accuracy, % O_2	0.1
O_2 Fluctuation, % O_2	± 0.2
O_2 Sensor	Zirconium (Solid)
O_2 Recovery Time**** (after 30 seconds door opening), minutes	At 5.0% O2 volume: 8
HUMIDITY	
Humidification Method	Natural Humidification
	Active Humidification (Optional)
Humidity Range*****	Natural Humidification: 85% - 90% Active Humidification (Optional): 90% - 95%
PHYSICAL CONSTRUCTION	
Interior Volume	170 L (6.0 cu. Ft.)
External Dimensions (W x D x H)	660 x 725 x 980 mm (26.0" x 28.5" x 38.6")
Internal Dimensions (W x D x H)	505 x 530 x 635 mm (19.9" x 20.9" x 25.0")
Net Weight	99 Kg (218 lbs)
Shipping Weight	118 Kg (260 lbs)
Shipping Dimensions (W x D x H)	850 x 770 x 1135 mm (33.5" x 30.3" x 44.7")
Number of Shelves	4
Maximum No. of Shelves	7
Shelves Area (W x D)	502 mm x 475 mm (19.8" x 18.7")
Max. Load per Shelf	11 Kg/shelf (24.3 lbs/shelf)
Available Electrical Configuration	230 V, 50/60 Hz (8)
	115 V, 50/60 Hz (9)
Interior Material	Stainless Steel, Type 304
Nominal Power at 37˚C, Watts	70
Maximum Power at 200˚C, Watts	1050
CONTAMINATION CONTROL	
Contamination Control Methods	1) High Heat Sterilization Cycle ; 2) Main body is electrogalvanized steel with ISOCIDE™ antimicrobial coating; 3) 0.2 micron in-line filter for gas input; 4) 1 micron in-line filter for air circulation

* Data recorded under optimum factory setting conditions

** For temperature not exceeding 37°C

*** For CO_2 not exceeding 5.2%

**** For O_2 not exceeding 5.2%

***** Esco does not guarantee condensation free chamber at higher humidity level.