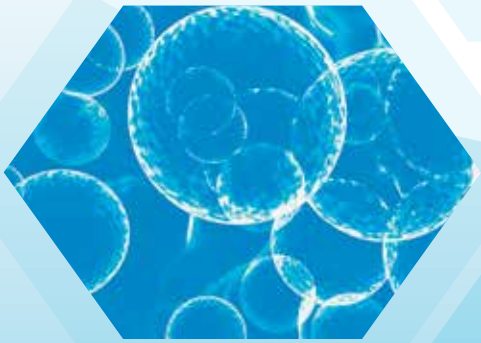
VACCIXCELL
ADHERENT BIOPROCESSING SPECIALIST

CelCradle™

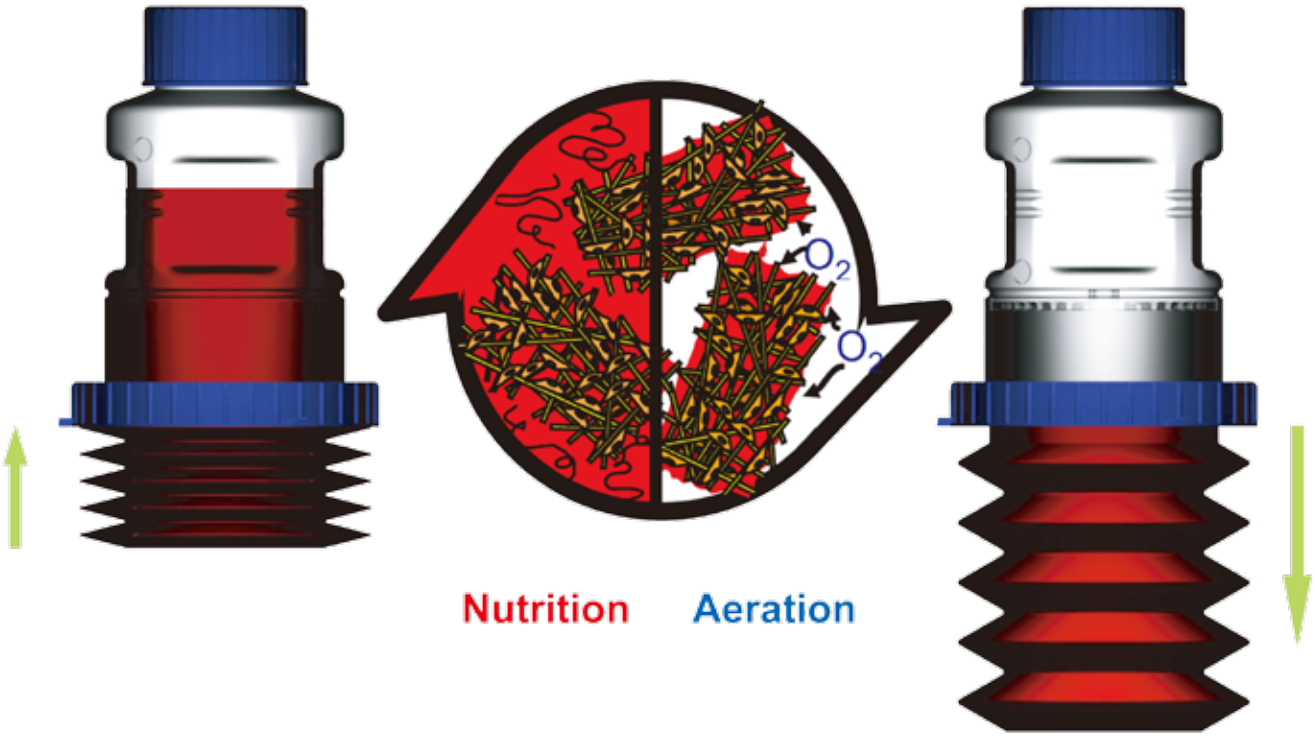
Cradle for High Density Cells



Introduction

The CelCradle™ is a cost-effective, single-use, benchtop bioreactor system capable of supporting high density culture of anchorage-dependent or adherent cells. It is the only single-used packed-bed bioreactor system that has linear scalability from laboratory scale to production scale, complete with automated cell harvesting.

The CelCradle™ operates through the tide motion principle wherein cells, which attach to BioNOC™ II carriers, are alternately exposed to aeration and nutrition via the decompression and compression of the bellows holding the culture medium. The gentle vertical oscillation of the culture medium creates a dynamic interface between air and culture medium on the surface of the cells, providing the cells with an environment that is of low shear stress, high aeration and nutrition levels, zero foaming, and no O_2 limitation. This efficient nutrient and oxygen transfer is what allows the CelCradle™ system to produce high density cell yield.



The CelCrade™ system is very simple to use with only four parameters to set – bottom holding time, top holding time, upward speed, and downward speed. Bottom holding time refers to the amount of time for aeration, while the top holding time refers to the amount of time the cells are exposed to the media. The up and down speed is the speed of the upward and downward oscillation of the culture medium, respectively. Temperature, CO_2 and O_2 levels are controlled by the CO_2 incubator.

The CelCradle™ is an ideal system for laboratory scale culture of adherent cells used for many different applications including vaccine production, cell therapy, recombinant protein production, and pharmacokinetic studies

Features

- Compact and small footprint: standard unit fits in a 6 ft^3 CO_2 Incubator
- Compatible with most serum-free medium
- Allows the harvest of whole cells or cell components
- Scale-up by direct multiplication of bottles or the use of TideCell®
- Reduced labor and space requirements
- Large surface area for cell attachment and growth
- Batch, fed-batch, perfusion system
- Single-use, pre-sterilized and ready-to-use bottles

Each CelCradle™ System accomodates up to four single-use bottles, making this an ideal screening device to test varying medium formulations or cell lines.

No steam or water lines, autoclave or utilities required, just a power outlet and CO_2 incubator

0.22 µm ventilation filter is provided in the cap

Useful for batch and semi-batch operation where process components are easily traceable

Simple to operate - virtually no learning curve

Cells remain entrapped in the BioNOC™ II matrix bed simplifying media replacement and product harvesting

Controller - adjusts nutrient and gas exchange of the bottle

Sampling Port enables aseptic removal of BionNOC™ II carries for cell counting

Magnetized controller enables convenient positioning by attaching on the outside surface of the incubator.

Retaining ring locks bottles into place in the CelCradle® Stage console

Collapsible bellows

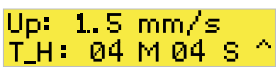
Extremely compact system fits in most standard CO_2 incubators.

Useful for continuous operation where process components are easily traceable

Tubing set with peristaltic pump head enable recirculation and continuous feeding of nutrient

CelFeeder enables four pumps operation with individual programming setting

Bright and large display is easy to read.



Autoclavable pump head support consistent feeding rate calibration free

Applications

The CelCradle™ System has been, as exhibited by journal articles (see literature support), and can be used for many different applications. The main applications of the CelCradle™ System include:

- Culture of anchorage-dependent or adherent cells
- Conversion from Roller Bottles to closed system, single-use cell culture
- Overcome limitations of microcarrier-stirred tank bioreactor technology
- Autologous and Allogeneic Cell Therapy
- Human and Animal Vaccines

Culture of anchorage-dependent cells

The CelCradle™ system is used for the culture of adherent cells, which attach to BioNOC™ carriers. Each CelCradle™ bottle consists 5.5g of BioNOC™ II providing 13,200 cm^2 of surface area for the attachment and growth of cells. Apart from its high surface area, BioNOC™ II carriers feature enhanced biocompatibility, long hydrophilicity, high porosity, low lint content, and excellent mechanical strength. These BioNOC™ characteristics, combined with the tide motion principle, allow the CelCradle™ system to support the high density culture of adherent cells. Some examples of cell lines that have been cultured with the CelCradle™ System include:

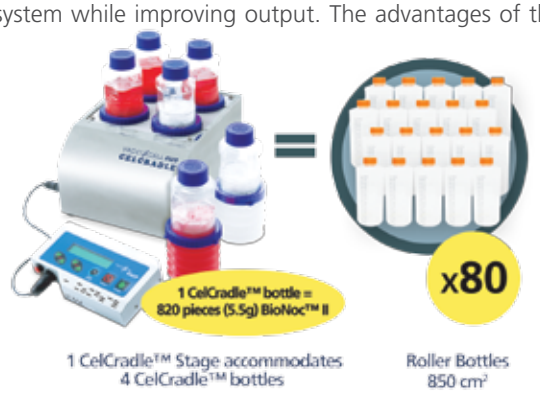
- Vero
- MDCK
- MDBK
- Sf-9
- HEK-293
- BHK-21
- CHO
- XC-18
- ST
- CEF
- GL 37
- Marc145

Conversion from roller bottle to single-use, closed system cell culture

The roller bottle system plays a major role in cell culture-based vaccine production as it is low cost and easy to operate, has a simple scale-up method, observable cell growth and CPE, and limited contamination ; however, the system has many limitations including intensive labor, large space requirement, high running costs, and low efficiency of culture medium utilization.

In principle, the roller bottle system is very similar to CelCradle™ system. In both systems, cells are alternately exposed to aeration and nutrition. The CelCradle™, however, can overcome the limitations of the roller system while improving output. The advantages of the CelCradle™ system over the roller bottle include:

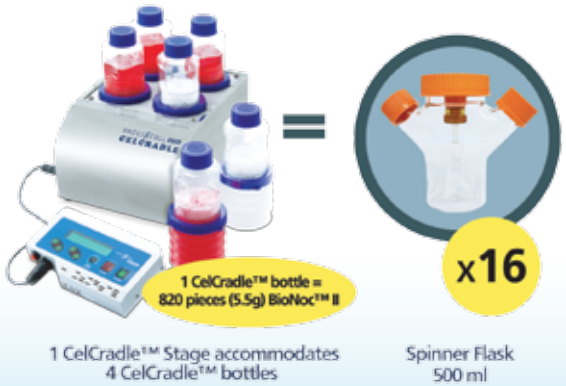
- One CelCradle™ system is equivalent to eighty roller bottles
- Reduced labor and space requirements
- More controllable
- Reduced contamination risks
- Cell harvest in a closed system
- Efficient use of culture medium
- High cell density and virus titer



Overcome limitations of microcarrier-stirred tank bioreactor technology

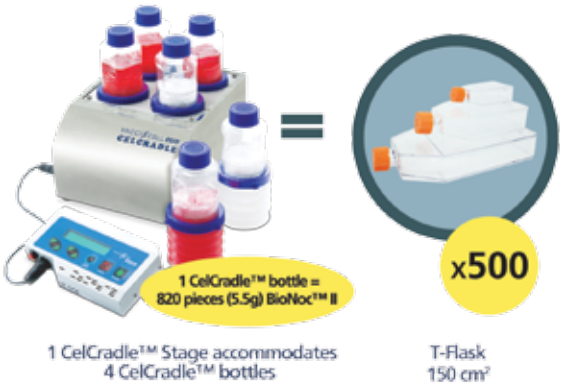
Another technology used for the culture of adherent cells is the use of microcarriers, specially-treated micro-beads which cells attach to and grow on. The microcarriers are suspended in culture medium in stirred tank bioreactors where the medium is continuously agitated and parameters are automatically monitored and controlled. The microcarrier technology, however, has several disadvantages including reduced cell attachment efficiency, shear stress, foaming, and lack of linear scalability, all of which the CelCradle™ system is able to overcome. The CelCradle™ system also has improve features compared to the microcarrier system in terms of the following:

- Virus titer and cell density
- Cell harvest efficiency
- Culture medium usage efficiency
- Harvest purity



Autologous and Allogeneic Cell Therapy

Cell Therapy is the use of live whole cells for the treatment of diseases and involves cultivation of cells to a certain density prior to administration. A commonly used cell type in cell therapy is mesenchymal stem cells, which are anchorage-dependent. Currently, cultivation of cells for cell therapy is done using T-flasks; however this method is quite laborious and time and space consuming, as T-flasks have limited surface area for growth and thus require handling of several hundred T-flasks and multiple passaging. The CelCradle™ system's large surface area and compact design help solve these problems, with a single CelCradle™ bottle equalling the productivity of several hundred T-flasks.



Human and animal vaccine

Cell culture-based vaccine production is the current trend in vaccine production as it offers several advantages over traditional vaccine production technologies including simpler mass production, rapid manufacturing, independent of SPF animal, controllable quality, and hypoallergenic products.

The CelCradle™ is an ideal system for laboratory-scale cell-culture based vaccine production as it is capable of supporting high density cell culture, production of high virus titer, and linear scalability to production level. VacciXcell's tide motion bioreactor system has been used for the research and development and production of vaccines for several indications including:

- Influenza
- JEV
- Rabies
- Hog Cholera
- Hepatitis A
- EV71
- Rabies
- IBDV

Apart from these, the CelCradle™ has also been used for other applications including recombinant protein production, pharmacokinetic studies, and cellular component production. Details of these applications can be found from literature support.

Literature Support

The following are some of the available literature support online for the various applications of the CelCradle™ system.

[1] *Asaoka, Y., Tanaka, T., Tsumoto, K., Tomita, M., & Ide, T. (n.d.). Efficient expression of recombinant soluble human FcγRI in mammalian cells and its characterization. Protein Expression and Purification, 155-161.*

[2] *Brown, A., Singer, D., Mcsharry, J., Barnard, R., Hazuda, D., & Drusano, G. (n.d.). In Vitro Dose Ranging Studies for Serine Protease Inhibitor, MK-4519, Against a Hepatitis C Virus (HCV) Replicon using the Bellocell System. Antiviral Research.*

[3] *Chen, Y., Wu, J., Wang, K., Chiang, Y., Lai, C., Chung, Y., & Hu, Y. (n.d.). Baculovirus-mediated production of HDV-like particles in BHK cells using a novel oscillating bioreactor. Journal of Biotechnology, 135-147.*

[4] *Drugmand, J., J.-F., J., Agathos, S., & Schneider, Y. (n.d.). Growth of Mammalian and Lepidopteran Cells on BioNOC® II Disks, a Novel Macroporous Microcarrier. Cell Technology for Cell Products, 781-784.*

[5] *Hammonds, J., Chen, X., Zhang, X., Lee, F., & Spearman, P. (n.d.). Advances in methods for the production, purification, and characterization of HIV-1 Gag–Env pseudovirion vaccines. Vaccine, 8036-8048.*

[6] *Ho, L., Greene, C., Schmidt, A., & Huang, L. (n.d.). Cultivation of HEK 293 cell line and production of a member of the superfamily of G-protein coupled receptors for drug discovery applications using a highly efficient novel bioreactor. Cytotechnology, 117-123.*

[7] *Hu, Y., Lu, J., & Chung, Y. (n.d.). High-density cultivation of insect cells and production of recombinant baculovirus using a novel oscillating bioreactor. Cytotechnology, 145-153.*

[8] *Huang, K., Lo, W., Chung, Y., Lai, Y., Chen, C., Chou, S., & Hu, Y. (n.d.). Combination of Baculovirus-Mediated Gene Delivery and Packed-Bed Reactor for Scalable Production of Adeno-Associated Virus. Human Gene Therapy, 1161-1170.*

[9] *Lu, J., Chung, Y., Chan, Z., & Hu, Y. (n.d.). A Novel Oscillating Bioreactor BelloCell: Implications for Insect Cell Culture and Recombinant Protein Production. Biotechnology Letters Biotechnol Lett, 1059-1065.*

[10] *Mcsharry, J., Singer, D., Kulawy, R., Brown, A., & Drusano, G. (n.d.). Use of the BelloCell System to Determine the Optimal Dose of Ribavirin to Inhibit the Expression of an HCV Replicon in 2209-23 Cells. Antiviral Research.*

[11] *Toriniwa, H., & Komiya, T. (n.d.). Japanese encephalitis virus production in Vero cells with serum-free medium using a novel oscillating bioreactor. Biologicals, 221-226.*

Disposable CelCradle™ Bottles

The CelCradle™ product line meets your specific needs. Different CelCradle™ bottles cover 90% of applications in cell culture.

- Batch, semi-batch or continuous culture
- Disposable
- BioNoc™ II carriers or preferred microcarriers
- Cell harvest with or without trypsin
- Pre-sterilized bottles are time and labor saving

Application/ Bottle	Item Code	Secreted Protein, Viruses	Cell Harvest (for non-secreted proteins, viruses or cells)	Carrier Harvest (for protein extraction or reuse of carriers)
CelCradle™ 500	1400001	Best Application	Applicable, but not optimal	Applicable, but not optimal
CelCradle™ 500A	1400003	Applicable, but not optimal	Best Application	Best Application
CelCradle™ 500P	1400002	Best Application	Applicable, but not optimal	Applicable, but not optimal
CelCradle™ 500AP	1400004	Applicable, but not optimal	Best Application	Best Application

CelCradle™ System Complete

The CelCradle™ System Complete contains all the necessary elements for users to begin a batch type cell culture.

Features

- Includes a CelCradleTM Stage and necessary accessories for startup of the cell culture upon receipt
- Extremely compact design system fits in most standard CO2 incubator
- Suitable for batch and semi-batch operation
- Suitable for most protein and monoclonal antibody production applications.

Ordering Information

CelCradle™ System Complete		
Product Name	**Item Code**	**Package**
CelCradle™ System Complete	2230006	1 x CelCradle™ Stage 1 x GlucCell® Glucose Monitoring System

CelCradle™ Continuous System Complete

The CelCradle™ Continuous System Complete features the same equipment as the CelCradle™ Complete, with the addition of the CelFeeder pump and tubing sets to provide medium exchange in the CelCradle-500P bottles.

Each CelCradle™ 500P bottle is equipped with additional inlet and outlet lines for medium recirculation. Each bottle is linked to an extra medium vessel, thus providing continuous exchange of nutrient, eliminating labor for medium exchange and avoiding possible shock to cells during culture.

Features

- Each package contains a CelCradle™ Stage, a CelFeeder pump module, two tubing complete sets, and accessories for the easy startup of the cell culture.
- Each bottle connects with independent medium reservoir to eliminate cross-contamination
- Programmable and On/Off pumping control simplifies the setting of recirculation rate for each bottle
- One CelFeeder pump module enables the operation of up to 4 pump heads with individual micro-processor control
- Suitable for cell mass production, cell component production, virus production and protein expression

Ordering Information

CelCradle™ Continuous System Complete		
Product Name	**Item Code**	**Package**
CelCradle™ Continuous System Complete	2230007	1 x CelCradle™ Stage 1 x CelFeeder Pump 2 x Tubing Complete Set

CelCradle™ Stage

The CelCradle™ Stage is capable of operating four CelCradle™ bottles simultaneously. It is compact and compatible in a CO_2 incubator.

CelFeeder Pump Module

The CelFeeder pump module is an auxiliary peristaltic pump to achieve the recirculation and perfusion processes for CelCradle™ 500 high density continuous cell culture system.

Tubing Complete Set

The Tubing Complete Set includes pre-assembled tubes, reusable pump head and head plate with a sampling port to support the continuous culture in CelCradle™-500P system.

Disposable Tubing Accessory

The Disposable Tubing Accessory provides the option to replace the tubes in the Tubing Complete Set, thus avoiding wear out of the tubes during operation. It is recommended to replace the tubes after three uses.

GlucCell® Glucose Monitoring System

The GlucCell® Glucose Monitoring System is a portable, light-weight, and palm-sized kit suitable for glucose measurement for both serum and serum-free culture medium in mammalian and insect cell culture. The GlucCell® glucose monitoring system responses promptly and gives reliable result. It has an accuracy of greater than 90%, precision of 95% and linearity of 0.9997.

Crystal Violet Dye Nucleus Count Kit

The Crystal Violet Dye Nucleus Count Kit contains crystal violet dye, citric acid and detergent used to disrupt the cells and release cell nuclei for cell count. The CVD kit is an efficient reagent for cell count in a porous matrix.

Ordering Information

Product Name	Item Code	Package
CelCradle™ Stage	2230005	1x Main Console 1x Control Box 1x 100-240 V power adapter 1x Signal Cable 1x Manual CD 2x Forceps 1x Crystal Violet Dye Nucleus Count Kit
CelFeeder Pump	1400067	1 x CelFeeder Pump
Tubing Complete Set	1400011	1x Disposable Tubing Accessory 1x Pump Head
Disposable Tubing Set & Pump Head	1400012	1x Tubing Set 1x Pump Head
Disposable Tubing Accessory	1400013	5x Disposable Tubing Accessory
GlucCell® Glucose Monitoring System	1400009	1 x GlucCell® Glucose meter 2 x Glucose Test Strip/bt
GlucCell® Glucose Test Strip	1400010	2 x Glucose Test Strip bts (2 x 25pcs)
Crystal Violet Dye Nucleus Count Kit	1400014	1 x CVD Bottle (100ml/bt)
Filtered Cap	1400015	Cap for CelCradle™ Bottle
Non-Vented Cap	1400016	Cap for CelCradle™ Bottle
Foreceps	1400017	Used for sampling of BioNOC carriers

CelCradle™ and Esco CO_2 Incubator | The Perfect Combination for high density adherent cell culture

The CelCradle™ System can be incorporated into an existing CO_2 incubator or can be purchased with an Esco CO_2 incubator. Esco offers a wide range of CO_2 incubators that suit clients' different requirements and provide superior performance and cell protection.

CelSafe® 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.

Features:

- 200°C High Heat Sterilization System
- Advanced Sensor Technology
- Optimized Chamber Design
- CelTouch Screen User Interface
  - Big, clear and easy-to-read parameter display
  - Easy to follow, on-screen icon menus
- Complete Data Collection and Graph Functions
- Green Product: Double Insulation System
- Optional Active Humidification System
- Complete Security System
- Available in 170 L and 240 L sizes
- Magnetic Door Lock
  - Manual and Automatic lock functions
  - Water Reservoir (Active Humidification Model)
  - User can precisely set %RH required for specialized application
- Water Pan (Standard Model)
  - Precisely heated by base heater to provide humidity
- USB Interface
  - For exporting of data log parameters
  - Entering set up parameters
  - Easy software updates
- Ribbed Type Chamber Design
  - Seamless design
  - Facilitates faster cleaning
  - More chamber space

CelSafe® CO_2 Incubators				
230 VAC, 50/60 Hz		115 VAC, 50/60 Hz		Description
Item Code	Model	Item Code	Model	
2170187	CLS-170B-8	2170188	CLS-170-B-9	CelSafe® Incubator, 170 L, IR sensor, CO_2 control, High Heat Sterilization
2170130	CLS-170T-8	2170151	CLS-170-T-9	CelSafe® Incubator, 170 L, IR sensor, CO_2 control, O_2 control, High Heat Sterilization
2170192	CLS-170B-8-RH	2170194	CLS-170-B-9-RH	CelSafe® Incubator, 170 L, IR sensor, CO_2 control, High Heat Sterilization, Active Humidification
2170193	CLS-170T-8-RH	2170195	CLS-170-T-9-RH	CelSafe® Incubator, 170 L, IR sensor, CO_2 control, O_2 control, High Heat Sterilization

CelCulture® Stainless Steel CO_2 Incubator

The Esco CelCulture® CO_2 incubator is also available with stainless steel exterior with the same superior features.

Features:

- Corrosion Resistant Surface
- Meets Pharmaceutical and Clinical Laboratory Requirements
  HPA-validated 90°C overnight moist heat decontamination cycle
- ISO Class 5 cleanliness via ULPA Filter System
- Available in 50 L, 170 L and 240 L sizes

CelCulture® CO_2 Incubator

Sleek, reliable and intuitive, Esco CelCulture CO_2 incubators provide all-rounded sample protection that brings your scientific dreams one step closer to reality.

Features:

- HPA-validated 90°C overnight moist heat decontamination cycle
- ISO Class 5 cleanliness via ULPA Filter System
- Direct heat, air jacketed system for fast and uniform heating and rapid recovery without overshoot
- Rounded corners and seamless design for easy cleaning
- Constructed using electrogalvanized with ISOCIDE™ powder-coating to eliminate 99.9% of surface bacteria within 24 hours of exposure
- With optional copper interiors for added antimicrobial protection
- Available in 50 L, 170 L and 240 L sizes
- ULPA Filter
  - 99.999% efficient, superior to conventional HEPA filters
  - Filters air continuously
  - Chamber returns to ISO Class 5 cleanliness in 13 minutes upon door closing to prevent contamination
- Direct Heat & Air Jacket
  - Fast and uniform heating
  - Rapid temperature recovery without overshoot
  - Air jacket improves chamber stability
- O_2 Sensor
  - Long life
  - Stable output signal
  - No influence from CO_2
- CO_2 Sensor
  - CelCradle™ and CO2 Incubator Combination
  - Single-beam, dual-wavelength IR sensor is drift-free
  - Auto-zeroing
- SmartSense™ Microprocessor Interface
  - Intuitive, fully equipped control and monitoring system

CelSafe® CO_2 Incubators IR Sensor Model with Stainless Steel Chamber				
230 VAC, 50/60 Hz		115 VAC, 50/60 Hz		Description
Item Code	Model	Item Code	Model	
2170034	CCL-050B-8	2170054	CCL-050B-9	Celculture® Incubator, 50 L, IR sensor, CO_2 control, Moist Heat Decon
2170002	CCL-170B-8	2170004	CCL-170B-9	CelCulture® Incubator 170 L IR Sensor, CO_2 Control ULPA, Moist Heat Decon
2170068	CCL-170B-8-NF	2170075	CCL-170B-9-NF	CelCulture® Incubator 170 L IR Sensor, CO_2 Control, Moist Heat Decon (No ULPA Filter)
2170058	CCL-240B-8	2170060	CCL-240B-9	CelCulture® Incubator 240 L IR Sensor CO_2 Control, ULPA, Moist Heat Decon
2170069	CCL-240B-8-NF	2170079	CCL-240B-9-NF	CelCulture® Incubator 240 L IR Sensor CO_2 Control, Moist Heat Decon (No ULPA Filter)
CelSafe® CO_2 Incubators Suppressed O_2 Models with Stainless Steel Chamber				
230 VAC, 50/60 Hz		115 VAC, 50/60 Hz		Description
Item Code	Model	Item Code	Model	
2170055	CCL-050T-8	2170056	CCL-050T-9	Celculture® Incubator, 50 L, IR sensor, CO_2 & O_2 control, Moist Heat Decon,
2170047	CCL-170T-8	2170048	CCL-170T-9	CelCulture® Incubator 170 L IR Sensor, CO_2 & O_2 Control ULPA, Moist Heat Decon,
2170070	CCL-170T-8-NF	2170076	CCL-170T-9-NF	CelCulture® Incubator 170 L IR Sensor, CO_2 & O_2 Control ULPA, Moist Heat Decon (No ULPA Filter)
2170061	CCL-240T-8	2170062	CCL-240T-9	Celculture® Incubator, 240 L, IR sensor, CO_2 & O_2 control, Moist Heat Decon,
2170071	CCL-240T-8-NF	2170080	CCL-240T-9	CelCulture® Incubator 240 L IR Sensor, CO_2 & O_2 Control ULPA, Moist Heat Decon (No ULPA Filter)

CelCulture® Water-Jacketed CO_2 Incubator

Esco CelCulture® Water-Jacketed CO_2 Incubator provides a very stable environment to grow and maintain cell cultures.

Water-Jacketed CO_2 Incubator can maintain temperature by surrounding the chamber by hot walls generated from the heated water. The heated water circulates and radiates heat around the inner chamber which maintains constant temperature.

Water-Jacketed CO_2 Incubator can hold the chamber temperature much longer when power is lost. The CO_2 incubator is also able to recover temperature much faster after power failure or door openings.

Features:

- More stable temperature control with faster recovery and better uniformity
- Increased temperature security during power failures
- HPA-validated 90°C overnight moist heat decontamination cycle
- ISO Class 5 cleanliness via ULPA Filter System
- Constructed using electrogalvanized with ISOCIDE™ powder-coating to eliminate 99.9% of surface bacteria within 24 hours of exposure
- Available in 50 L, 170 L and 240 L sizes

GUIDE TO MODELS, CelCulture® CO_2 Incubators (Water Jacketed)				
IR Sensor Model With Stainless Steel Chamber				
230 VAC, 50/60 Hz		**115 VAC, 50/60 Hz**		**Description**
Item Code	**Model**	**Item Code**	**Model**	
2170156	CCL-050B-8-WJ	2170162	CCL-050B-9-WJ	CelCulture® Incubator, 50 L, IR sensor, CO_2 Control, Moist Heat Decon, Water Jacketed
2170103	CCL-170B-8-WJ	2170110	CCL-170B-9-WJ	CelCulture® Incubator 170 L IR Sensor, CO_2 Control ULPA, Moist Heat Decon, Water Jacketed
2170143	CCL-240B-8-WJ	2170146	CCL-240B-9-WJ	CelCulture® Incubator 240 L IR Sensor CO_2 Control, ULPA, Moist Heat Decon, Water Jacketed
Suppressed O_2 Models with Stainless Steel Chamber				
230 VAC, 50/60 Hz		**115 VAC, 50/60 Hz**		**Description**
Item Code	**Model**	**Item Code**	**Model**	
2170132	CCL-050T-8-WJ	2170163	CCL-050T-9-WJ	CelCulture® Incubator, 50 L, IR sensor, CO_2 & O_2 Control, Moist Heat Decon, Water Jacketed
2170157	CCL-170T-8-WJ	2170164	CCL-170T-9-WJ	CelCulture® Incubator 170 L IR Sensor, CO_2 & O_2 Control ULPA, Moist Heat Decon, Water Jacketed
2170144	CCL-240T-8-WJ	2170147	CCL-240T-9-WJ	CelCulture® Incubator 240 L IR Sensor CO_2 & O_2 Control, ULPA, Moist Heat Decon, Water Jacketed

CelCulture® CO_2 Incubator with Cooling System

Esco CelCulture® CO_2 Incubator with Integrated Cooling System provides solution for highly specialized application. The integrated cooling system allows studies of samples that requires temperature at/or below ambient temperature.

Features:

- Wider temperature range of 12°C below ambient to 60°C above ambient
- Highly efficient, environment friendly Peltier Cooling System
- Constructed using electrogalvanized with ISOCIDE™ powder-coating to eliminate 99.9% of surface bacteria within 24 hours of exposure
- Complete contamination control methods
  - 90°C Validated Moist Heat Decontamination Cycle
  - ULPA Filter
  - 0.2 micron in-line filter
- Available in 170 L and 240 L sizes

GUIDE TO MODELS, CelCulture® CO_2 Incubators with Cooling System				
IR Sensor Model With Stainless Steel Chamber				
230 VAC, 50/60 Hz		**115 VAC, 50/60 Hz**		**Description**
Item Code	**Model**	**Item Code**	**Model**	
2170101	CCL-170B-8-P	2170115	CCL-170B-9-P	CelCulture® Incubator, 170 L, IR sensor, CO_2 control, Moist Heat Decon, Peltier System
Suppressed O_2 Models with Stainless Steel Chamber				
230 VAC, 50/60 Hz		**115 VAC, 50/60 Hz**		**Description**
Item Code	**Model**	**Item Code**	**Model**	
2170112	CCL-170T-8-P	2170153	CCL-170T-9-P	CelCulture® Incubator, 170L, IR sensor, CO_2 control, O_2 control, Moist Heat Decon, Peltier System

Highest Yield. Lowest Cost. Linearly Scalable.

A single CelCradle™ bottle replaces hundreds of petri dishes, tissue culture flasks, and dozens of spinner flasks, roller bottles etc.

1 CelCradle™ Stage accomodates 4 CelCradle™ bottles

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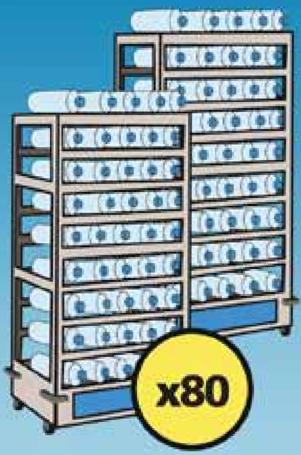


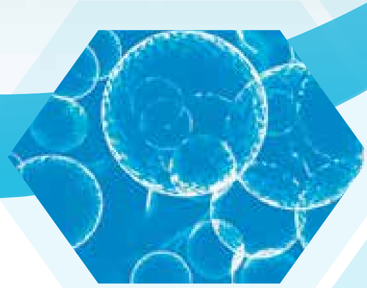
Roller Bottles
850 cm²

Spinner Flask
500 ml
x16

Petri Dish
180 cm²
x400

Plates
6320 cm²
x8

Flask
150 cm²
x500



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