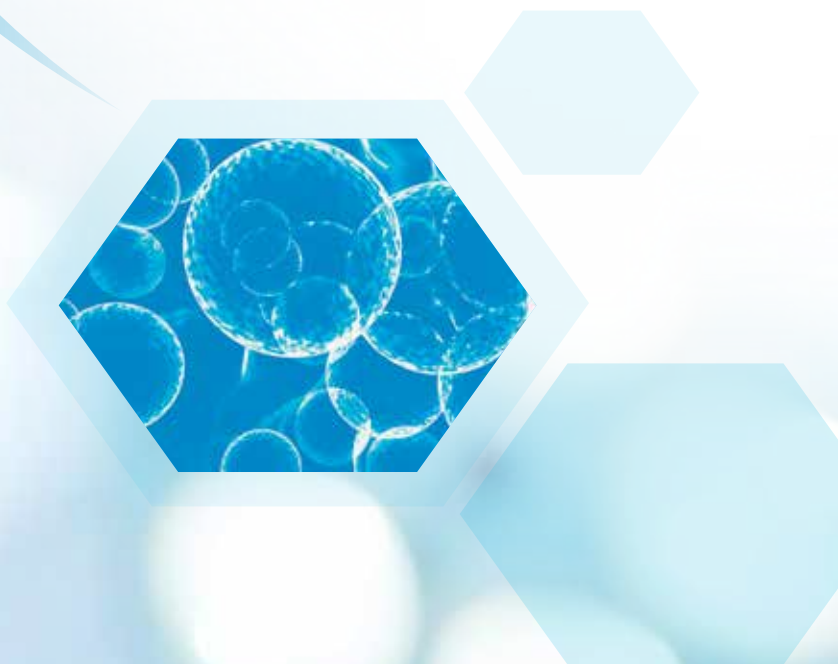




CelCradleTM

Cradle for High Cell Density



CelCradle™ X

Closed Automated Single Use cGMP/GMP (ISO 13485) Bioreactor

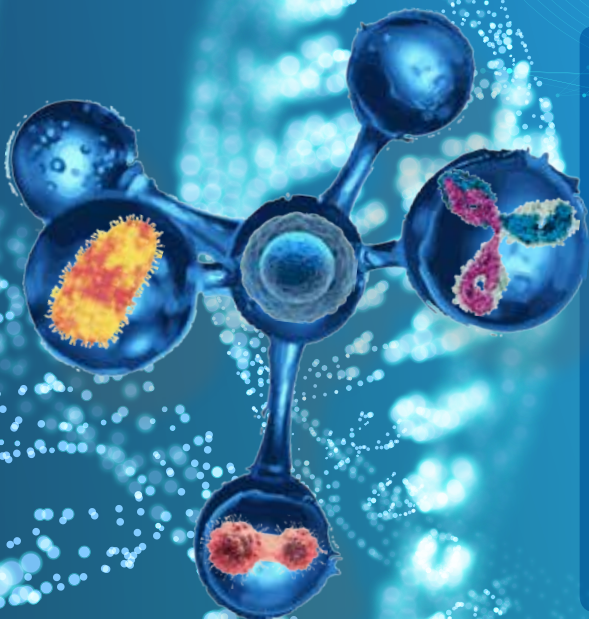
CelCradle™ X (CCX) is a closed automated, single-use bioreactor manufactured in a cGMP/GMP (ISO 13485) facility. It is equipped with either single-use or multiple-use sensors for automated cell culture monitoring and harvesting system for faster production.

CCX follows the same Tide Motion principle through the compression and decompression of the bellows of the CCX bottle. This allows alternate exposure of the client's own packed-bed, BioNOC™ II carriers, or BioMesh™ to aeration and nutrition. The gentle vertical oscillation creates a dynamic interface between air and culture medium, providing cell with an environment that is of extremely low shear stress, high aeration and nutrition levels, zero foaming, and no O₂ limitation.



Features:

- Complete standalone bioreactor running on Siemens HMI/PLC with single-use bottles, pH, and DO sensors
- Can be used as a standalone bioreactor or integrated with an Esco Laminar Airflow Cabinet, Biosafety Cabinet or Cell Processing Isolator
- Equipped with H₂O₂ biodecontamination system
- Produced in ISO 9001/14001/13485 factory
- Automated seeding and control of pH/DO and glucose (optional)
- Single use automated harvesting system for autologous cell therapy, process development, and seed train for TideXcell™
- Able to use autoclavable pH/DO sensors for process development and switch in situ for single use pH/DO



Commercial GMP (cGMP) Solutions

- ☐ Vaccine Production
- ☐ Intracellular, Secreted Viral Vector or Virus Process Development
- ☐ Monoclonal Antibodies or Recombinant Proteins for therapeutics/ in vitro/in vivo diagnostics
- ☐ Proteome Research
- ☐ Drug Discovery
- ☐ PK/PD Testing
- ☐ Conditioned media production for cosmeceuticals
- ☐ Virus MVB production
- ☐ Adherent cell master cell bank (MCB) or working cell bank (WCB) generation

Enabling research/clinical solutions:

- Adherent cell seed train for TideXcell™
- Stem cell or exosome-autologous therapy (bone regeneration using bioscaffolds)
- Autologous Adherent Cell Therapy (e.g. hair loss, face recontouring, etc.)
- Technology transfer from multi-stack or hyperstack bioreactors for small scale production of vaccines/virus/viral vectors
- Monoclonal antibodies or proteins
- Biochemistry/Stemistry



Beta Unit Options:



Minus 8°C from ambient to 40°C

- Aquaculture vaccines (as low as 16°C)
- Low temperature 25-28°C with 2.5% CO₂



Mini fridge for final secreted product collection



Improved RH up to 95%



Hollow fiber for protein concentration and clarification



Aseptic sampling



Orbital shaker for insect or other cell seed train

Model	Bioprocessing Mode	Bioprocessing Mode / Bottles		Mixing Bottle	Packed Bed Volume	Carrier Type
CelCradle™ X	SA-SUGH (Semi-Automated Single Use Glass Hybrid) Single use Single Bottle with Single Pump, Glass Mixer, autoclavable pH/DO sensors	BR	500-AP Single use. Batch with Re-circulation 2L (0.5L cannot be used)	Single use 2L bottle, single use pH, & DO sensor	Empty	client's own or pack lower volume BioNOC™ II/ BioMesh™
	SA-SUB (Semi-Automated Single Use CC Bottle with peristaltic pump) Semi-automated, after cells are cultured to confluence, will need to be disconnected and placed into separate CelCradle harvesting system with in-line, purification, filtration and filling	PFH	500-AP single use. Perfusion with Feed/Harvest of Biologic 0.5L Mixer (2L cannot be used), 2L Feed / Harvest Bag	Single use 0.5L, single use pH, & DO sensor	0.1 liter	BioNOC™ II or BioMesh™
	FA-SUB (Fully Automated Single Use From Cryovial to Filled Product)			Glass 2L, autoclavable pH & DO Sensor	0.2 liter <i>*not available for beta testing</i>	BioNOC™ II or BioMesh™
				Glass 0.5L, autoclavable pH & DO Sensor	0.3 liter <i>*not available for beta testing</i>	BioNOC™ II or BioMesh™

The Cradle for Your Cells

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

The CelCradle™ operates through the Tide Motion principle wherein cells, attached 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 O₂ limitation. This efficient nutrient and oxygen transfer allows the CelCradle™ system to produce high cell density yield.

Applications

The CelCradle™ can be used in many different applications, as exhibited by journal articles (see literature support). These include the following applications:

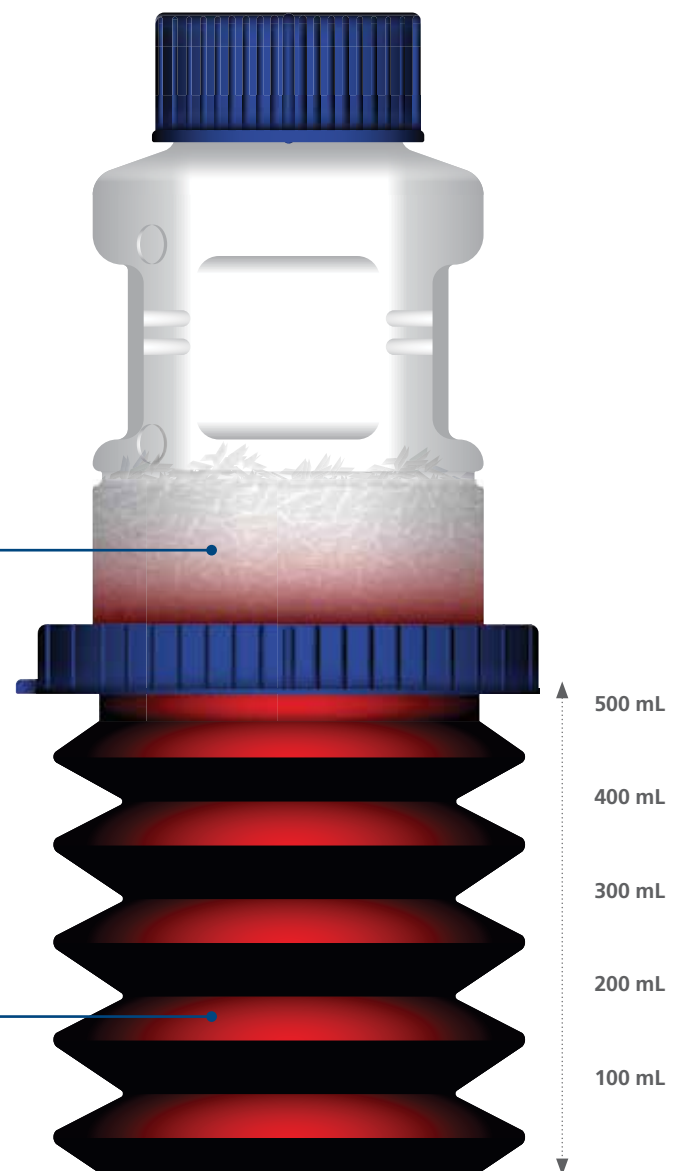
- Culture of anchorage-dependent or adherent cells
- Conversion from roller bottles to single-use, closed system
- Overcome limitations of microcarrier-stirred tank bioreactor technology
- Autologous and allogeneic cell therapy
- Human and animal vaccines

5.5 grams of BioNOC™ II

- Serves as the packed bed where cells adhere to and stabilize within the culture vessel
 - Enhanced biocompatibility
 - Long-lasting hydrophilicity (negatively charged surface for coating)
 - High porosity
 - Low lint content
 - Excellent mechanical strength

Media reservoir

- 500 mL culture medium containing compartment



Dimension: 480 x 300 x 140 mm

Weight: 2 kg

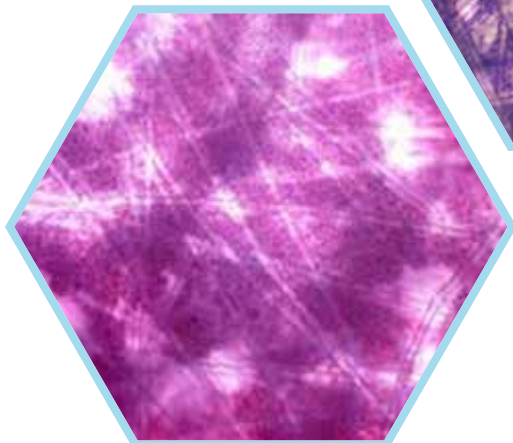
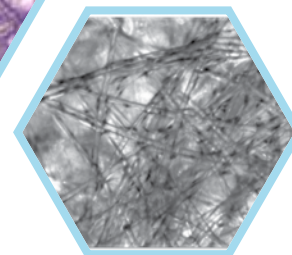
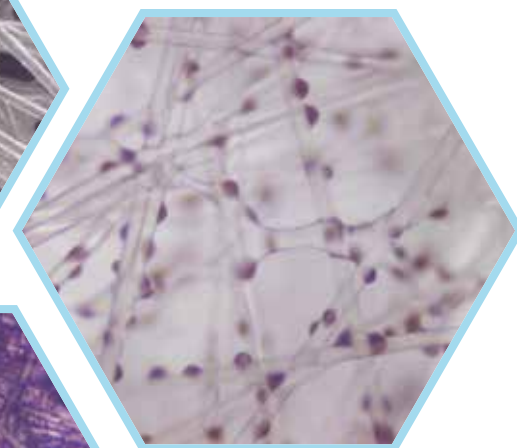
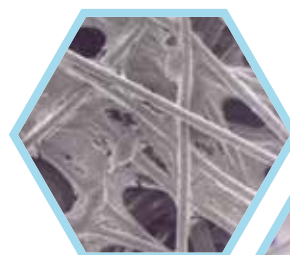


Key Features

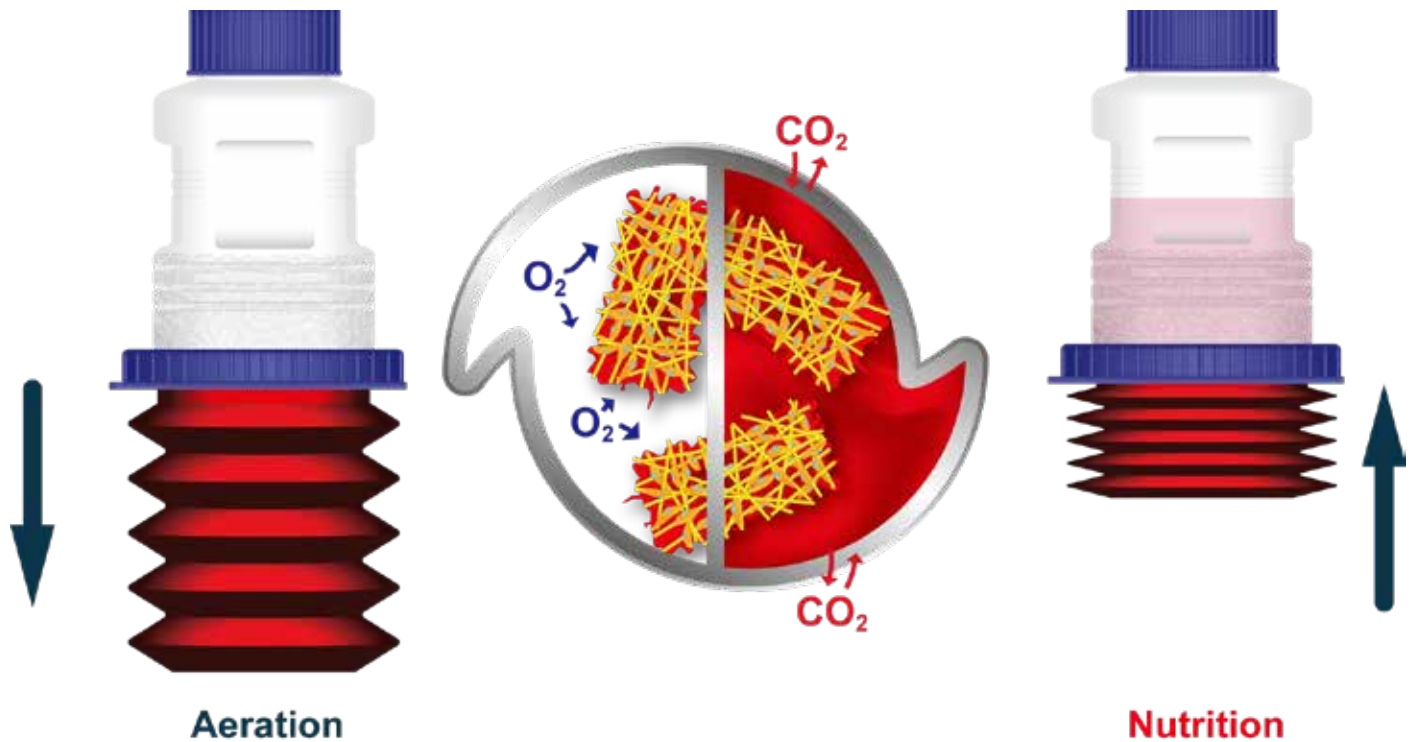
- Single-use, pre-sterilized, and ready-to-use bottles
- Compact and small footprint (standard system fits inside a 170 L or 6 ft³ CO₂ incubator)
- Compatible with most serum-free culture medium
- Harvest whole cells or cell components
- Linear scale-up by direct multiplication of bottles or the use of TideXCell™
- Reduced labor, costs, and space requirements
- Large surface area for cell attachment and growth
- Available in batch, fed-batch, and recirculation

Established Cell Lines

- | | |
|------------|------------|
| ✓ VERO | ✓ MSC |
| ✓ MDCK | ✓ CHO |
| ✓ MDBK | ✓ XC-18 |
| ✓ Sf9 | ✓ ST |
| ✓ HEK-293 | ✓ CEF |
| ✓ HEK-293T | ✓ GL 37 |
| ✓ BHK 21 | ✓ Marc 145 |



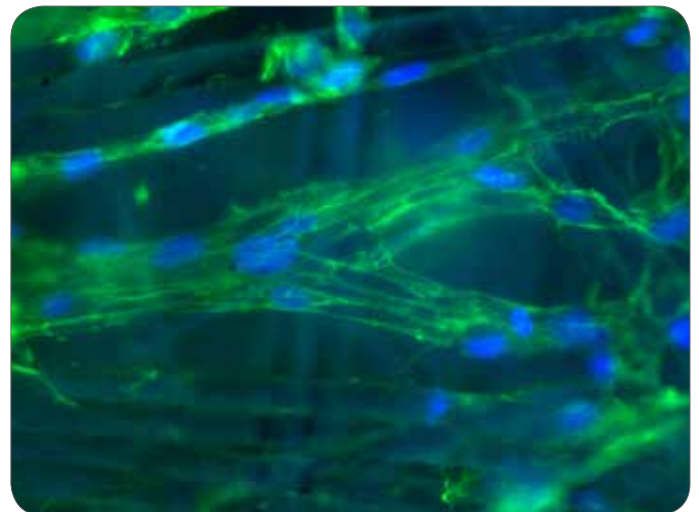
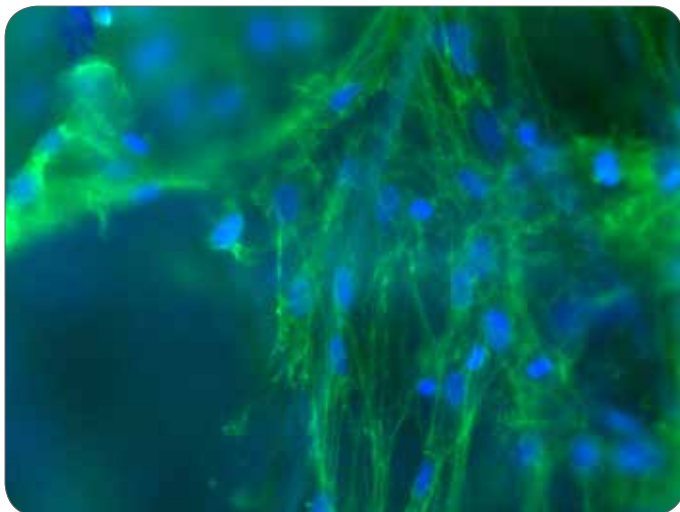
The Tide Motion Principle



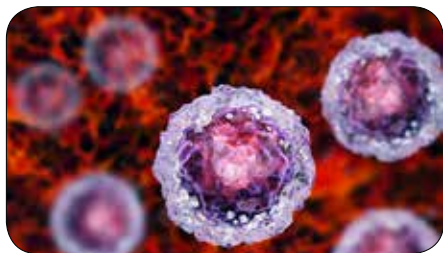
Anchorage-dependent cell culture

- One CelCradle™ bottle consists of 5.5 grams of BioNOC™ II providing up to 2,400 cm²/g of surface area for cell attachment and growth. The carriers are proven to have enhanced biocompatibility, long-lasting hydrophilicity, low lint content, and excellent mechanical strength.

Note: surface area may vary depending on the cell line to be cultured.



Fibronectin antibody stained cells attached to the BioNOC™ II carriers



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, time and space consuming. 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 cell density culture, production of high viral 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.

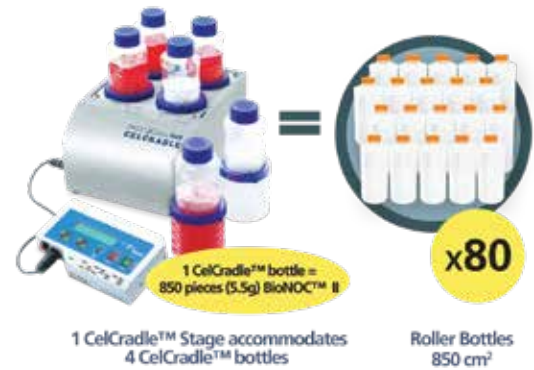
- [1] Asaoka, Y., Tanaka, T., Tsumoto, K., Tomita, M., & Ide, T. (n.d.). Efficient expression of recombinant soluble human FcγRI in mammalian cells and its characterization. *Protein Expression and Purification*, 155-161.
- [2] Brown, A., Singer, D., Mcsharry, J., Barnard, R., Hazuda, D., & Drusano, 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.

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 easy to operate, has a simple scale-up method, observable cell growth and cytopathic effect (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
- More efficient use of culture medium
- Higher cell density and viral titer



CelCradle™ System Complete

CelCradle™ System is simple to operate and virtually no learning curve. CelCradle™ 500 and 500A bottles are placed in the CelCradle™ unit stage for batch and semi-batch operation where process components are easily traceable.



Filtered Cap

0.22 µm ventilation filter provided in the cap

CelCradle™ Stage

Stainless Steel 316 L Carcass that can hold up to 4 CelCradle™ bottles.

Controller

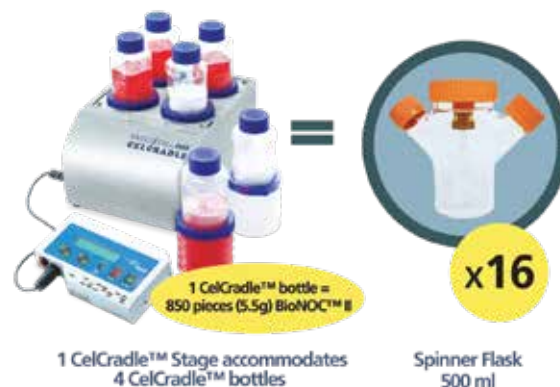
Magnetized back for convenient positioning on the side or on the front of a CO₂ Incubator.

Place inside
a 170 L or 6 ft³
CO₂ incubator

Overcome limitations of microcarrier-stirred tank bioreactor technology

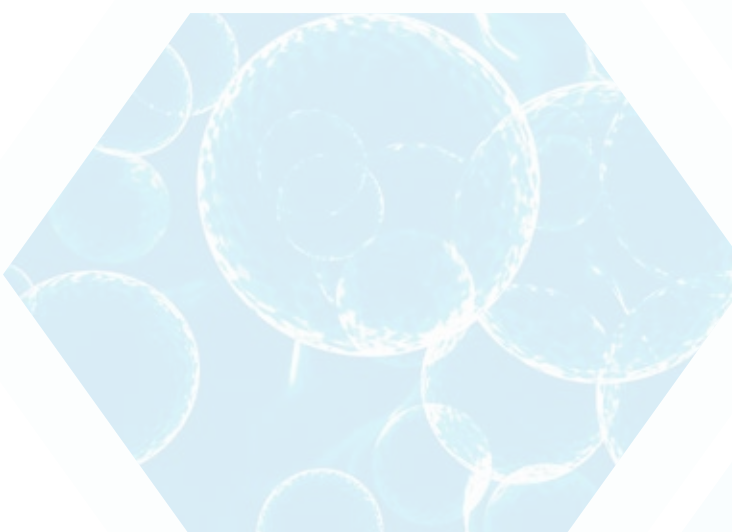
Another technology used for the culture of adherent cells is the use of microcarriers, specially-treated micro-beads where cells attach to and grow on. The microcarriers are suspended in culture medium in stirred tank bioreactors where the medium is continuously agitated and parameters are automatically 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 are able to overcome. The CelCradle™ system also has improved features compared to the microcarrier system in terms of the following:

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



BioNOC™ II (packed bed)

Cells remain entrapped in the carriers simplifying media replacement and product harvesting



Compressible Bellows

Compresses for nutrition and decompresses for aeration

CelCradle™ Continuous System Complete

Same CelCradle™ unit stage but utilizes CelCradle™ 500P and 500AP bottles for recirculation/continuous processes.

Each CelCradle™ System accommodates 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 CO₂ incubator

Fits in a 240 L or 8 ft³ CO₂ incubator

CelCradle™ Stage

Stainless Steel 316 L Carcass that can hold up to 4 CelCradle™ bottles.

Dimension (WxLxH)	264 x 359 x 170 mm (10.4 x 14 x 6.7 inches)
Weight	7.0 kg (15.4 lb)
Power	100~230 VOLTS AC, 50/60 Hz (Input); 12 VOLTZ DC (Output_)
Up-Down Rate:	0.25 to 2.0 mm/sec. Step of 1.0 sec or 1.0 min.
Delay Time:	0 to 99 min 59 sec Step of 1.0 sec or 1.0 min.
Driver Motor:	DC stepping-motor
Environment	20~42 °C, 0~90% relative humidity (in a CO ₂ incubator)
Mechanical Protection:	Hi-Low Optical Sensor
Transmission:	Gear set (ratio 1:1.2) and belt
Materials:	SS 316 L
Recommended CO ₂ incubator dimension	CCL-170L model: 505 x 535 x 633 mm (19.9" x 21.1" x 24.9" and CCL-240L model: 595 x 640 x 633 mm (23.4" x 25.2" x 24.9")

Place inside
a 240 L or 8 ft³
CO₂ incubator



CelFeeder

Enables four-pump operation with individual programming setting.

Media Reservoir

Fresh culture medium bottle in either
1 L or 2 L volume

**Tubing Complete Set
(Connection Set)**

Connects the media reservoir bottle to
the CelCradle™ bottle

**Disposable Tubing Set and Pump Head**

Replacement tubings and pump head for tubing
complete set (connection set)

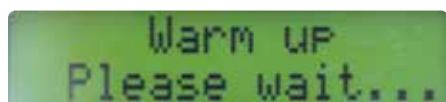
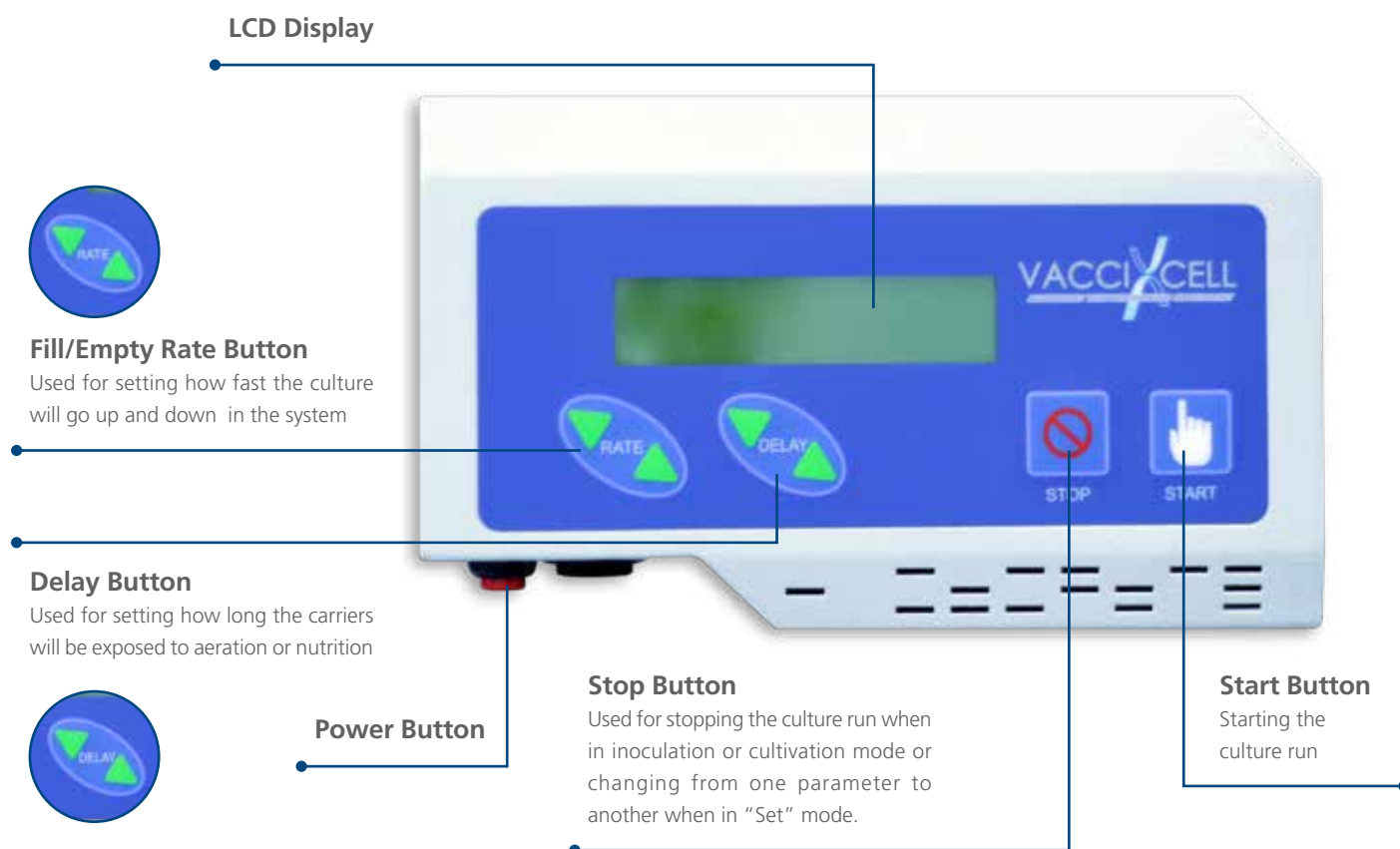
Culture Medium Sampling Port

Needle closed sampling for cell culture growth
monitoring

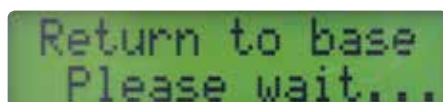
Pump Head

Calibration-free autoclavable pump head for up to
three times to support consistent feeding rate.

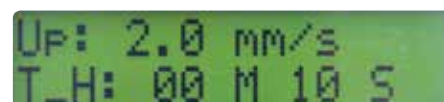
The Main Controller



Message displayed on screen once controller is turned on



Message that will be displayed when stage is rendered on top before opening



Display message after system has warmed up

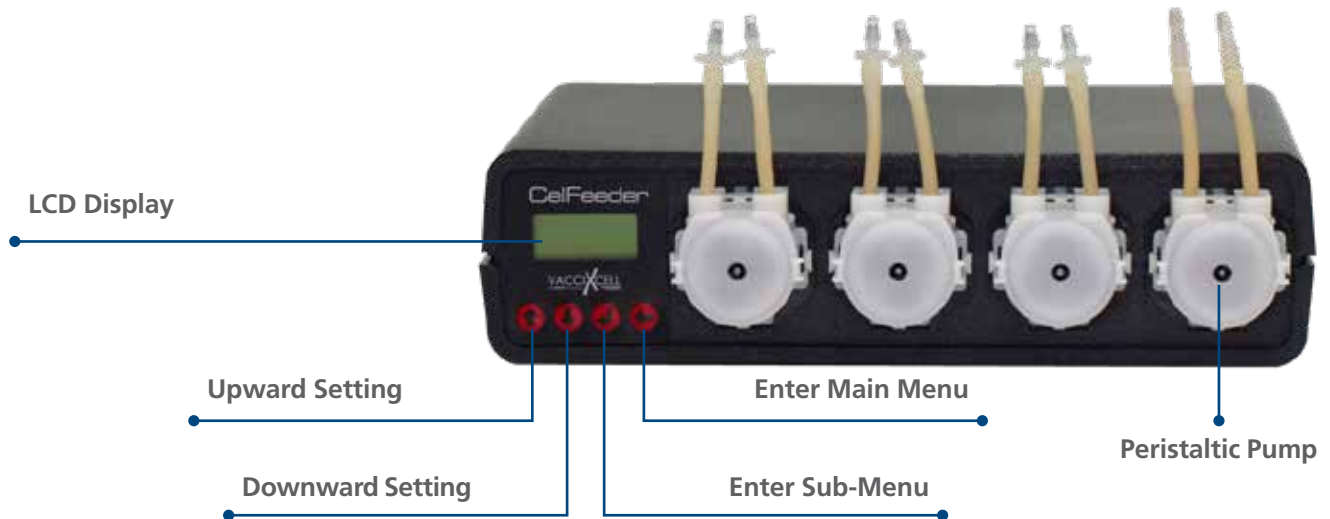


Dimension (LxWxD)	137 x 226 x 40 mm (5.4 x 8.9 x 1.6 inches)
Weight	1.16 kg (2.6 lb)
Power	100~230 VOLTS AC 50/60 Hz (Input) ; 12 VOLTS DC (Output_)
Environment	Room temperature (outside CO2 incubator)
Materials	Magnetic back plate, to hold the controller to the side of the incubator.

The CelFeeder

CelFeeder is a microprocessor-controlled pumping unit of the CelCradle™ Continuous Complete or other cell culture systems.

The CelFeeder is designed to simplify user's operation such that daily feeding volume and frequency of the feeding are the only two parameters required. It simplifies setup work by avoiding calibration and calculation as usually needed in conventional peristaltic pumps.



- Controls four (4) peristaltic pumps individually
- Controls four (4) recirculation process of CelCradle™ 500P/AP bottles at a time
- Daily feeding rate ranges from 1 – 1999 mL/day
- Feeding frequency of 1-24 times
- Pump calibration made possible to improve accuracy

Dimension	230 (W) x 131 (D) x 61 (H) mm, (5.2 x 9.1 x 2.4 inches)
Weight	0.645 kg (1.42 lb)
Power	85~240 Volts AC, 50/60 Hz (Input); ~180 mA
Environment	Ambient to 45°C, ~95% Relative Humidity



Single-Use and Ready-to-Use CelCradle™ Bottles

CelCradle™ bottles are sterilized through gamma irradiation and comes pre-packed with 5.5 grams of carriers as standard. Different models of bottles cover a specific application in cell culture.

CelCradle™ 500



Suitable for general purpose, batch/semi-batch culture

CelCradle™ 500P



Suitable for general purpose, continuous culture

CelCradle™ 500A



Suitable for cell harvest, transient transfection, slow adhering cells; batch/semi-batch culture

CelCradle™ 500AP



Suitable for cell harvest, transient transfection, slow adhering cells; continuous culture

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

> Carrier Sampling

500/500P Bottles



500A/500AP Bottles



> Cell Monitoring



GlucCell™

A portable, easy-to-use glucose monitoring system for cell culture. Get results in just 15 seconds. Measurement ranges from 30-500 mg/dL



Crystal Violet Dye

A simple tool for the quantification of cells based on the number of nuclei dyed. The CVD kit contains reagents that disrupt the cells, thereby releasing the nuclei, which are subsequently dyed.

Inoculation Phase pH Control

OPTION 1

If using a pre-mixed media with fixed amount of sodium bicarbonate (NaHCO_3), readjusting before culture may be difficult. Alternatively, users can opt to:

For Upright Seeding

Seed at a lower CO_2 concentration



For Inverted Seeding

Adjust pH with hydrochloric acid (HCl) to pH 6.8 as a starting point



OPTION 2

Use 500AP bottle and connect one tubing with air filter and the other leaving tightly closed.



attached to a 0.22 μm syringe filter

close cap

OPTION 3

Compress the bellows before closing the bottles with a non-vented cap (white cap). This method lessens excessive air in the CelCradle™ bottle which may affect the pH value of the culture medium. This can be attributed to the decrease of CO₂ concentration in the liquid rendering it basic.



Ordering Information

Item Code	Product Name	Dimension	Weight	Package
2230006	CelCradle™ System Complete	590 x 380 x 420 mm	14 kg	1 x CelCradle™ Stage 1 x GlucCell™ Glucose Monitoring System
2230007	CelCradle™ Continuous System Complete	590 x 380 x 420 mm	15 kg	1 x CelCradle™ Stage 1 x CelFeeder Pump 2 x Tubing Complete Set
2230005	CelCradle™ Stage	360 x 265 x 170 mm	9.88 kg	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
1400067	CelFeeder Pump	290 x 210 x 80 mm	1 kg	1 x CelFeeder Pump
1400011	Tubing Complete Set	370 x 150 x 75 mm	0.5 kg	1x Disposable Tubing Accessory 1x Pump Head
1400012	Disposable Tubing Set & Pump Head	370 x 150 x 75 mm	0.5 kg	1x Tubing Set 1x Pump Head
1400013	Disposable Tubing Accessory	370 x 150 x 75 mm	0.5 kg	5x Disposable Tubing Accessory
1400009	GlucCell™ Glucose Monitoring System	96 x 60 x 18.5 mm	0.5 kg	1 x GlucCell™ Glucose meter 2 bottles of Glucose Test Strip (1bt = 25 test strips)
1400010	GlucCell™ Glucose Test Strip	80 x 70 x 35 mm	0.05 kg	2 x Glucose Test Strip bts (2 x 25 pcs)
1400014	Crystal Violet Dye Nucleus Count Kit	50 x 50 x 105 mm	0.5 kg	1 x CVD Bottle (100 ml/bt)
1400015	Filtered Cap	370 x 150 x 75 mm	0.5 kg	Cap for CelCradle™ Bottle
1400016	Non-Vented Cap	370 x 150 x 75 mm	0.5 kg	Cap for CelCradle™ Bottle
1400017	Forceps	250 x 15 x 10 mm	0.1 kg	Used for sampling of BioNOC™ II carriers
1400021	CelCradle™ 500A/500AP Strainer	370 x 150 x 75 mm	0.5 kg	Single-use Strainer (Pack of 10)

CelCradle™ and Esco CO₂ Incubator

The Perfect Combination for High Density Adherent Culture

The CelCradle™ system can be incorporated into an existing CO₂ incubator or can be purchased with an Esco CO₂ incubator. Esco offers a wide range of CO₂ incubators that suit clients' different requirements, provide superior performance and cell protection.

CelCulture® CO₂ Incubator

Sleek, reliable, and intuitive, Esco CelCulture® CO₂ 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
- 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 11 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
- O₂ Sensor (for suppressed O₂ Model)
 - Long life
 - Stable output signal
 - No influence from CO₂
- CO₂ Sensor
 - CelCradle™ and CO₂ Incubator Combination
 - Single-beam, dual-wavelength IR sensor is drift-free



- Auto-zeroing
- SmartSense™ Microcontroller Interface
 - Intuitive, fully equipped control and monitoring system

CelCulture® CO₂ 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 (Without Decon Pump)
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)

CelCulture® CO₂ Incubators Suppressed O₂ 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 Control, Moist Heat Decon (Without Decon Pump)
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, 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, ULPA, Moist Heat Decon
2170071	CCL-240T-8-NF	2170080	CCL-240T-9-NF	CelCulture® Incubator, 240 L, IR sensor, CO ₂ & O ₂ Control, Moist Heat Decon (No ULPA Filter)

CelCulture® CO₂ Incubator with Stainless Steel Exterior Cabinet

The Esco CelCulture® CO₂ 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



Ordering Information

IR SENSOR MODEL WITH STAINLESS STEEL EXTERIOR CABINET		
Models	Item Code	Description
CCL-050B-8-SS	2170128	CelCulture® Incubator 50 L, IR Sensor, CO ₂ Control, Moist Heat Decon, SS Cabinet, 230 VAC, 50/60 Hz (Without Decon Pump)
CCL-170B-8-SS	2170065	CelCulture® Incubator 170 L, IR Sensor, CO ₂ Control, ULPA, Moist Heat Decon, SS Cabinet, 230 VAC, 50/60 Hz
CCL-240B-8-SS	2170137	CelCulture® Incubator 240 L, IR Sensor, CO ₂ Control, ULPA, Moist Heat Decon, SS Cabinet, 230 VAC, 50/60 Hz

SUPPRESSED O ₂ MODEL WITH STAINLESS STEEL EXTERIOR CABINET		
Models	Item Code	Description
CCL-050T-8-SS	2170171	CelCulture® Incubator 50 L, IR Sensor, CO ₂ & O ₂ Control, Moist Heat Decon, SS Cabinet, 230 VAC, 50/60 Hz (Without Decon Pump)
CCL-170T-8-SS	2170129	CelCulture® Incubator 170 L, IR Sensor, CO ₂ & O ₂ Control, ULPA, Moist Heat Decon, SS Cabinet, 230 VAC, 50/60 Hz
CCL-240T-8-SS	2170138	CelCulture® Incubator 240 L, IR Sensor, CO ₂ & O ₂ Control, ULPA, Moist Heat Decon, SS Cabinet, 230 VAC, 50/60 Hz

CelCulture® CO₂ Incubator with Cooling System

Esco CelCulture® CO₂ 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 8°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 µm inlet filter
- Available in 170 L and 240 L sizes



GUIDE TO MODELS, CelCulture® CO₂ 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
2170116	CCL-240B-8-P	2170266	CCL-240B-9-P	CelCulture® Incubator 240 L, IR Sensor, CO ₂ Control, Moist Heat Decon, Peltier System

Suppressed O₂ 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
2170267	CCL-240T-8-P	2170268	CCL-240T-9-P	CelCulture® Incubator 240 L, IR Sensor, CO ₂ & 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 flask, roller bottles etc.



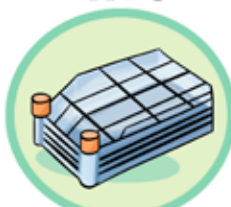
1 CelCradle™ Stage accommodates
4 CelCradle™ bottles



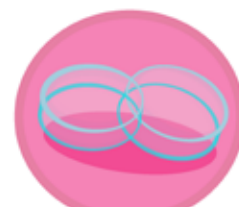
Roller Bottles
850 cm²



Spinner Flask
500 ml
x16



Plates
6320 cm²
x8



Petri Dish
180 cm²
x400



Flask
150 cm²
x500

ESCO GLOBAL OFFICES

North America

USA

Esco Technologies, Inc.

Life Sciences/Medical

903 Sheehy Drive, Suite F, Horsham,
PA 19044, USA
Toll-Free USA and Canada:
1-877-479-3726
Tel: 215-441-9661
Fax: 484-698-7757
Email: eti.admin@escoglobal.com
Website: <http://escolifesciences.us>

Healthcare Division/Factory

2512 Metroprolitan Dr, Suite 120-B
Feasterville-Treose, PA 19053-6738
Tel: +1 215-322-2155
Email: eti.pharma@escoglobal.com
Website: www.escopharma.com

Europe

DENMARK

Esco Medical ApS

Kringelld 10, DK-8250 Egaa, Denmark
Tel: +45 5397 3067
Email: medical@escoglobal.com

UK

Esco GB Ltd

Unit 2 R-Evolution @ Gateway 36,
Kestrel Way, Barnsley S70 5SZ
Tel: +44 (0) 1226 360 799 (Pharma)
+44 (0) 1226 361529 (Lab)
Email: egb.info@escoglobal.com
Websites: www.escopharma.com
www.escolifesciences.co.uk

GERMANY

Esco Lifesciences GmbH

Straßheimer Straße 17
61169 Friedberg, Germany
Tel: +49 6031 6873447
Email: mail@escoglobal.com
Website www.escoglobal.de

ITALY

Esco Technologies S.r.l.

Operative and Legal office:
Via Poggio Moiano, 23,
00199, Rome, Italy
Tel: +39 06 69271849
Email: ilenia.nardolillo@escoglobal.com
Website: escolifesciences.it

RUSSIA

Esco Russia

Building 4, 8, Novovladinskii proezd
Moscow, Russian Federation 127106
Email: esco.russia@escoglobal.com
Website: escolifesciences.ru

LITHUANIA

Esco Medical Technologies UAB

Draugystes 19
51230 Kaunas, Lithuania
Website: escomedicalgroup.com
Email: medical@escoglobal.com
support-medical@escoglobal.com

Asia Pacific

BANGLADESH

Esco Lifesciences (Bangladesh) Pvt. Ltd.

H # 662 (6th Floor), Apt. # A-6, R # 9
Mirpur DOHS, Mirpur, Dhaka-1216, Bangladesh
Tel: +8801907-700777
Mobile: +88 01911 629400
Email: ebd.customerservice1@escoglobal.com

CHINA

Esco Shanghai Trading Co. Ltd.

Email: mail@escolifesciences.cn
Website: www.escolifesciences.cn

Beijing

Rm.502, Tower A, Times Fortune, Sanyuanqiao
Chaoyang District, Beijing
Tel: +86 (10) 5867 7868
Fax: +86 (10) 5867 9244

Shanghai

Room1211, Jiahe International Building,
No.1, Lane 66, Huayuan Road,
Hongkou District, Shanghai
Tel: +86 (21) 6095 1955

Guangzhou

Room 901, West Block, No. 21, Huali Road
Tianhe District, Guangzhou, China 510623
Tel: +86 (20) 3837 3621

Chengdu

Rm. 1-406, Building No. 2, Shangding International
Building,
No.27 4th Block, South Renmin Road, Chengdu City,
Sichuan Province
Tel: +86 (28) 8553 6219

Qingdao

Room 23C, Fucui Building, No.135 of Yan'an Road,
Shinan District, Qingdao City,
Shandong Province
Tel: +86 (532) 8163 9321

HONGKONG

Esco Technologies (Hong Kong) Limited

Unit 904, Laurels Industrial Centre,
No.32 Tai Yau Street, San Po Kong,
Kowloon, Hong Kong
Tel : +852 3628 3986
Fax : +852 3186 2821
Email: mail@escolifesciences.hk
Website: http://escolifesciences.hk

INDONESIA

PT Esco Utama

Taman Tekno BSD Blok H6 no 10,
Serpong, Tangerang 15314
Tel: +6221 29 666 565 / 301
Fax: +6221 29 666 302
Email: eucs2@escoglobal.com
Website: http://escolifesciences.co.id

MALAYSIA

Esco Micro (M) Sdn. Bhd.

Technical Support Hotline:
1 300 88 ESCO (3726)

Selangor

No. 15, Jalan Sungai Buloh 27/101A,
Persiaran Klang, HICOM 27 Industrial Park,
40400 Shah Alam, Selangor, Malaysia
Tel: +603 5103 8480
Fax: +603 5614 3385
Email: malaysia@escoglobal.com
Website: http://my.escoglobal.com

Melaka

No. 13-1, Jalan Melaka Raya 32,
Taman Melaka Raya 1,
75000 Melaka, Malaysia
Tel: +606 284 0007
Fax: +606 283 0288
Website: http://my.escoglobal.com

MYANMAR

Esco Lifesciences Co.,Ltd

717(B), Bayintnaung Road,
Insein Township, Yangon, Myanmar
Tel: +959 423 488 984
+959 963 520 535
Email: ingyin.haymarn@escoglobal.com
csts4@escoglobal.com

PHILIPPINES

Esco Philippines, Inc.

Manila

Unit 710E, 7th floor, East Tower- Four Ecom
Bldg, Block 22 Seaside Cor Diokno Ave. MOA
Complex, Pasay City 1300
Direct Line: +63 (02) 828 1527
Trunkline: +63 (02) 478 0384
Email: philippines@escoglobal.com
Website: http://escoglobal.com.ph

Cebu

Blk 3 Lot 13 Mutual Homes Subd.
Pajac, Lapu-Lapu City, Cebu 6015
Tel : +63 (32) 232 5826

Davao

Unit 104 & 105, G/F Metro Lifestyle Building
F. Torres St. Cor. E Jacinto Ext., Davao City 8000
Tel : +63 (82) 333 4132

SINGAPORE

Esco Micro Pte Ltd

21 Changi South Street 1
Singapore 486777
Tel: +65 65420833
Fax: +65 65426920
Email: mail@escoglobal.com
Website: www.escoglobal.com

SOUTH KOREA

Esco Korea Micro Pte Ltd

#206, Byucksan Digital Valley 8-Cha, 70,
Gyeongin-ro 71-gil, Yeongdeungpo-gu, Seoul,
Republic of Korea
Tel: +82-2-830-0482
Fax: +82-2-830-0491
Email: info@escoglobal.co.kr
Website: http://www.escoglobal.co.kr

TAIWAN

Esco Lifesciences Taiwan

No. 112, Sec. 2, Qingfeng Rd., Zongli Dist.,
Taoyuan City 320, Taiwan
Tel: +886 34533220
Fax: +886 34532770
Email: mail@escolifesciences.tw
Website: http://escolifesciences.tw

THAILAND

Esco Lifesciences (Thailand) Co.,Ltd.

8/3 Soi Rimthangduan 2, Sukhumvit Road, Bangchak,
Phrakonong , Bangkok 10260
Tel: 062 813 3331
Fax: 02 117 3746
Email: csts.th.sales1@escoglobal.com
Website: http://escolifesciences.co.th/

VIETNAM

Esco Vietnam Company Ltd.,

Email: vietnam@escoglobal.com
Website: vn.escoglobal.com

Hanoi

7th Floor, No. 8, Alley 15,
Trung Kinh Street,
Trung Hoa Ward, Cau Giay District,
Hanoi, Vietnam
Tel: +84 24 6269 1460
+84 24 6269 1461

Ho Chi Minh

No. 14 - Lot G3, Street No. 53,
Tan Quy Dong Settlements,
Tan Phong Ward, District 7, HCMC,
Vietnam
Tel: +84 28 3776 0363

Middle East

DUBAI

Esco Lifesciences Trading LLC

Dubai
Esco Lifesciences Trading LLC
1529 Tamani Arts Offices, Al Asayel St.,
Business Bay, Dubai UAE
P.O Box: 182099
Tel: (04) 770 6674
Email: alvin.heah@escoglobal.com
christopher.leonor@escoglobal.com

Africa

SOUTH AFRICA

Esco Technologies Pty Ltd

Unit 2 Landmark Park,
17 Landmarks Avenue,
Kosmosdal Extension 11,
Centurion 0157 South Africa
Tel : +27 (0) 11 314 3184
Mobile: +27 (0) 82 853 9655
Email : sonja.strydom@escoglobal.com
Website: http://za.escoglobal.com

CAMEROON

Esco Lifesciences Africa SARL

Immeuble Lepom situé
avant la station TOTAL de Logpom -
BP 2692 - Douala- Cameroon
Tel: +237 233474970
+ 237 675203867
Email : mail@escoglobal.com
website: www.escoglobal.com



21 Changi South Street 1 • Singapore 486777
Tel +65 6542 0833 • Fax +65 6542 6920 • mail@vaccixcell.com
www.vaccixcell.com

CDMO Services:
Esco Aster Pte Ltd
#03-20 71 Ayer Rajah Crescent . Singapore 139951
Tel +65 6251 9361 • mail@escoaster.com
www.escoaster.com