![ESCO MEDICAL - Life has begun]

ESCO *Life has begun*
M E D I C A L ®

![ESCO CelCulture CO₂ INCUBATOR]

ESCO
CelCulture CO₂ INCUBATOR

CelCulture® for IVF
Cradle for Optimal Embryo Incubation

GLOBALLY TRUSTED IN EMBRYO CARE

Design Excellence - Superior Quality

Sleek, reliable and intuitive

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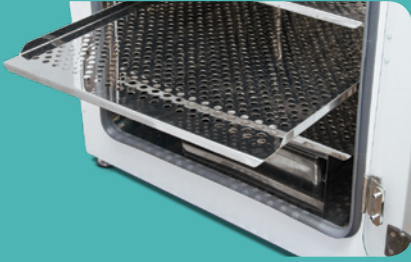
CelCulture®

CO$_2$ Incubators

The CO$_2$ Incubator has a vital role in providing an optimal environment in embryo development during IVF and other ART procedures.

Sleek, reliable and intuitive, Esco CelCulture® CO$_2$ incubators are packed with outstanding features such as rapid parameter recovery, ISO Class 5 Cleanliness, ISOCIDE™ antimicrobial coating, standard Inner Door Kit that reduces contamination risk, and other accessories for specialized applications.

*Not applicable for 50 L model
(including the top, back and bottom plenum)

CelCulture® — Stainless steel interior supported by a globally accepted technology

Shelving
- Perforated shelving to improve uniformity
- Anti-tip
- Stainless steel
- Built-in grip
- Dismantles without tools for easy cleaning

Duct Work
- Directs air flow for rapid recovery and excellent uniformity
- Easily removed for cleaning

Water Pan
- Precisely heated by base heater to provide high humidity
- Gentle airflow over water surface accelerates humidity recovery

FEATURES:

Smartsense ™ Microcontroller Interface
Intuitive, fully-equipped control and monitoring system

Quality Esco Construction
- Electrogalvanized 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 a healthier, safer and cleaner lab environment.

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.

Sample Port
Allows direct measurement of chamber atmosphere such as temperature and CO_2 concentration

Blower*
Gentle airflow in chamber improves recovery and uniformity.

Inner Door Kit
- Divides the incubator into different chambers
- Minimizes recovery times and contamination risk

Celculture® CO_2 Incubators for IVF

Achieve optimal embryo growth

CelCulture® CO_2 Incubators now has a specific line of incubators for applications in IVF. These are packed with outstanding features to ensure stable environment for optimal embryo growth and faster parameter recovery every time the door is opened.

Faster Temperature and CO_2/O_2 Recovery Time

CelCulture® CO_2 Incubators for IVF are equipped with a sophisticated firmware and robust hardware components to facilitate faster recovery time for temperature, CO_2, and O_2. Faster recovery times render less stress to culture to ensure the integrity and full development of the embryos.

Fully redesigned sensor location to facilitate for a faster recovery of temperature inside the chamber. Infrared sensor monitors and controls CO_2 inside the chamber, while O_2 sensor maintains the suitable oxygen concentration for optimal incubation and growth of embryos.

Maintaining Low Levels of Oxygen for Optimal Embryo Growth

The Suppressed O_2 Model of the CelCulture® is built to mimic the natural environment of developing embryos by maintaining the low levels of oxygen. The Zirconia O_2 sensor ensures accurate control and monitoring of hypoxic conditions inside the chamber.
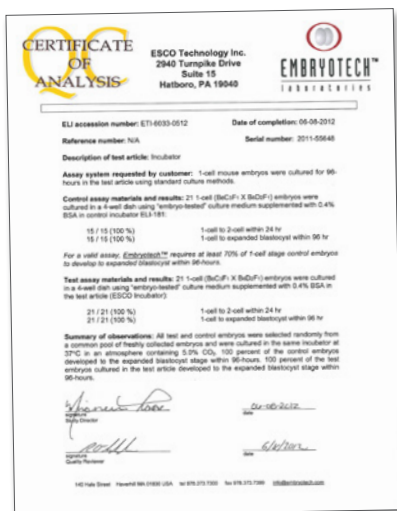
Inner Door Kit Feature

A standard feature that helps to hasten the recovery of parameters and prevent cross-contamination. The 50 L chamber is divided into two sections while the 170 L has 4 sections. The 240 L model can either have 4 or 6 sections. Each section has a dedicated door panel.

Access Ports in Key Positions

Access ports to provide an easy route for calibration and validation of the chamber parameters
- two access ports for 50 L (one at the inner glass door and one at the rear of the incubator)
- three access ports for 170 L and 240 L (one at the inner glass door and two at the rear of the incubator)

M ouse
E mbryo
A ssay
✓ Tested

Maximum Protection Against Contaminants

- 90°C moist heat decontamination cycle
- Gas filters
- ISOCIDE™ antimicrobial coating

For IVF applications, Esco CelCulture® CO_2 incubators are certified embryo-safe.

Rigorously tested with the Mouse Embryo Assay (MEA), the CelCulture® remarkably has 100% embryo survival. The Mouse Embryo Assay (MEA) is the de facto standard test done to demonstrate that a procedure or an article of equipment is safe to use for manipulating human embryos (e.g., in vitro fertilization or IVF).

General Specifications

CelCulture®

Specifications	CCL-050_-_-IVF	CCL-170_-_-IVF	CCL-240_-_-IVF
Temperature			
Temperature Control Method	Direct heat & air jacket using Microcontroller PI		
Temperature Range, °C	Ambient +7 to 60		
Temperature Fluctuation	± 0.2 °C		
Temperature Uniformity	<± 0.5 °C		
Temperature Accuracy	< ±0.1 °C		
CO_2			
CO_2 Control System	Microcontroller PI		
CO_2 Range, % CO_2	0 - 20		
CO_2 Sensor	Infrared (IR) Sensor		
O_2 SPECS (For Suppressed O_2 Model)			
O_2 Control System	Microcontroller PI		
O_2 Range, % O_2	1 - 20.7		
O_2 Sensor	Zirconia O_2 sensor		
Humidity			
Humidification Method	Humidity Pan (Natural Humidification)		
Humidity Range, % RH	Standard Unit: Up to 95% Suppressed O_2 model: Up to 91%		
Physical Construction			
Number of Shelves	50L: 2 shelves	170L: 4 shelves	240L: 4 shelves
External Dimensions (W x D x H)	500 x 500 x 655 mm (19.7'' x 19.7'' x 25.8'')	660 x 660 x 900 mm (26.0'' x 26.0'' x 35.4'')	750 x 770 x 900 mm (29.5'' x 30.3'' x 35.4'')
Gross Internal Dimensions (W x D x H)	345 x 375 x 388 mm (13.6'' x 14.8'' x 15.3'')	505 x 535 x 633 mm (19.9'' x 21.1'' x 24.9'')	595 x 640 x 633 mm (23.4'' x 25.2'' x 24.9'')
Shipping Weight	70 kg (154.3 lbs)	120 kg (264.6 lbs)	155 kg (341.7 lbs)
Interior Volume	50 L (1.8 ft³)	170 L (6 ft³)	240 L (8.5 ft³)
Contamination Control			
Contamination Control Methods	1) Main body is electrogalvanized steel with ISOCIDE™ antimicrobial coating; 2) 90°C Moist Heat Decontamination Cycle (HPA Validated); 3) 0.2 micron inlet filter for gas inputs; 4) ULPA filter*		

Not available for 50 L

Ordering Information

MODEL	ITEM CODE	DESCRIPTION
IR Sensor Model with Stainless Steel Chamber		
CCL-050B-8-IVF	2170257	Celculture® Incubator, 50L, IR sensor, CO2 control, Moist Heat Decon, with Sealed Inner Door Kit for 50L (2 Glass Doors With Latches), Factory Installed, 230VAC, 50/60 Hz
CCL-170B-8-IVF	2170272	CelCulture® Incubator 170L IR Sensor, CO2 Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170L (4 Glass Doors With Latches), Factory Installed, 230VAC 50/60Hz
CCL-240B-8-IVF	2170278	CelCulture® Incubator 240L IR Sensor CO2 Control, ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 240L (4/6 Glass Doors With Latches), Factory Installed, 230VAC 50/60Hz
CCL-050B-9-IVF	2170258	Celculture® Incubator, 50L, IR sensor, CO2 control, Moist Heat Decon, with Sealed Inner Door Kit for 50L (2 Glass Doors With Latches), Factory Installed, 115VAC, 50/60 Hz
CCL-170B-9-IVF	2170273	CelCulture® Incubator 170L IR Sensor, CO2 Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170L (4 Glass Doors With Latches), Factory Installed, 115VAC 50/60Hz
CCL-240B-9-IVF	2170279	CelCulture® Incubator 240 L, IR Sensor, CO_2 Control, ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 240L (4/6 Glass Doors With Latches), 115 VAC, 50/60 Hz
Supressed O_2 Model with Stainless Steel Chamber		
CCL-050T-8-IVF	2170260	Celculture® Incubator, 50L, IR sensor, CO2 & O2 control, Moist Heat Decon, with Sealed Inner Door Kit for 50L (2 Glass Doors With Latches), Factory Installed, 230VAC, 50/60 Hz
CCL-170T-8-IVF	2170275	CelCulture® Incubator 170L IR Sensor, CO2 & O2 Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170L (4 Glass Doors With Latches), Factory Installed, 230VAC 50/60Hz
CCL-240T-8-IVF	2170281	Celculture® Incubator, 240L, IR sensor, CO2 & O2 control ULPA, with Sealed Inner Door Kit for 240L (4/6 Glass Doors With Latches), Factory Installed, 230VAC 50/60Hz
CCL-050T-9-IVF	2170261	Celculture® Incubator, 50L, IR sensor, CO2 & O2 control, Moist Heat Decon, with Sealed Inner Door Kit for 50L (2 Glass Doors With Latches), Factory Installed, 115VAC, 50/60 Hz
CCL-170T-9-IVF	2170276	CelCulture® Incubator 170L IR Sensor, CO2 & O2 Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170L (4 Glass Doors With Latches), Factory Installed, 115VAC 50/60Hz
CCL-240T-9-IVF	2170282	Celculture® Incubator, 240L, IR sensor, CO2 & o2 control ULPA, with Sealed Inner Door Kit for 240L (4/6 Glass Doors With Latches), Factory Installed, 115VAC 50/60Hz

Options & Accessories

Electronic Gas Analyzer

The electronic analyzer allows the measurement of CO_2 concentration, O_2 concentration, relative humidity and temperature (temperature probe already included).
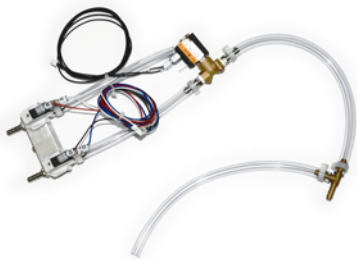
SAFE Sens Kit
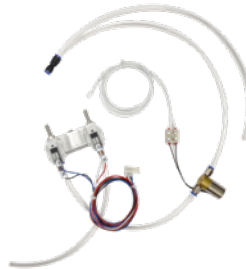
For continuous pH monitoring.

Humidity Display

For monitoring of the Relative Humidity inside the chamber. Works from $-70°C$ to $180°C$

CO_2 Back up

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.

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.

Roller Base

With casters for mobility of your incubators.

Floor Stand with Adjustable Feet

Nominal range of 180 mm to 250 mm (7.1'' to 9.8'')
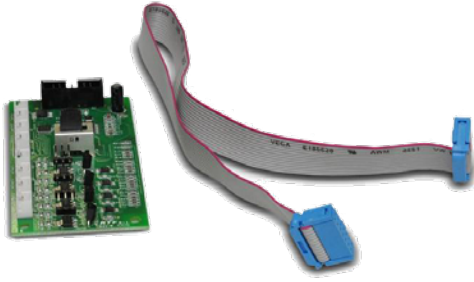
Floor Stand with Casters

Support stand raises the incubator to a height of 700 mm (27.6'') above the floor

2-Stage gas regulator for CO_2/ N_2

Used to reduce the pressure from the tank to the incubator.

Options & Accessories

Analog Output
Used for connecting the incubator to an output analog signals representing the temperature, CO_2 and O_2 gas concentration and relative humidity.

Additional Stainless Steel Shelf (for SS Chamber)
Maximize your incubator space by adding more shelves. Can add 1 extra shelf for 50 L model, 3 more shelves for 170 L and 240 L models.

Chart Recorder
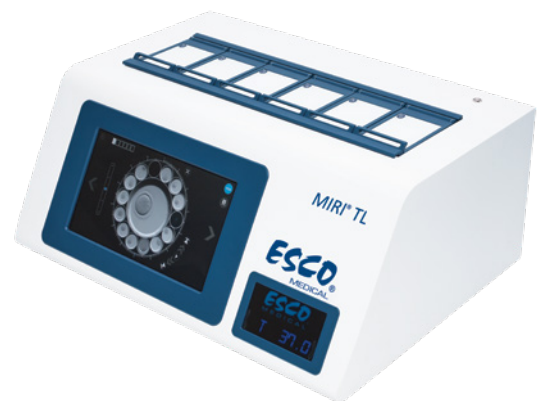Easy-to-read graph of data vs. time

Voyager Software Kit
PC-based software for remote monitoring, datalogging and programming.

Other Esco Embryo Incubators

MIRI® Multi-room Benchtop Incubator
The overall design provides embryo culture in a minimum-stress environment. The 6-chamber format prevents cross-contamination while HEPA+VOC filtration and UV light clean the airflow of the incubator. The chambers are also independent of each other; hence, any disruption such as temperature drop when opening the lid will have no impact on the rest of the system.

MIRI® TL Incubator
Time-Lapse Imaging has given birth to a new concept in the IVF laboratory, termed morphokinetics. It allows embryologists to see significant morphological events that might not be seen through conventional scoring. With MIRI® TL, you can watch the embryos grow and develop throughout the entire culture process. There's no need to take your dishes out for scoring.
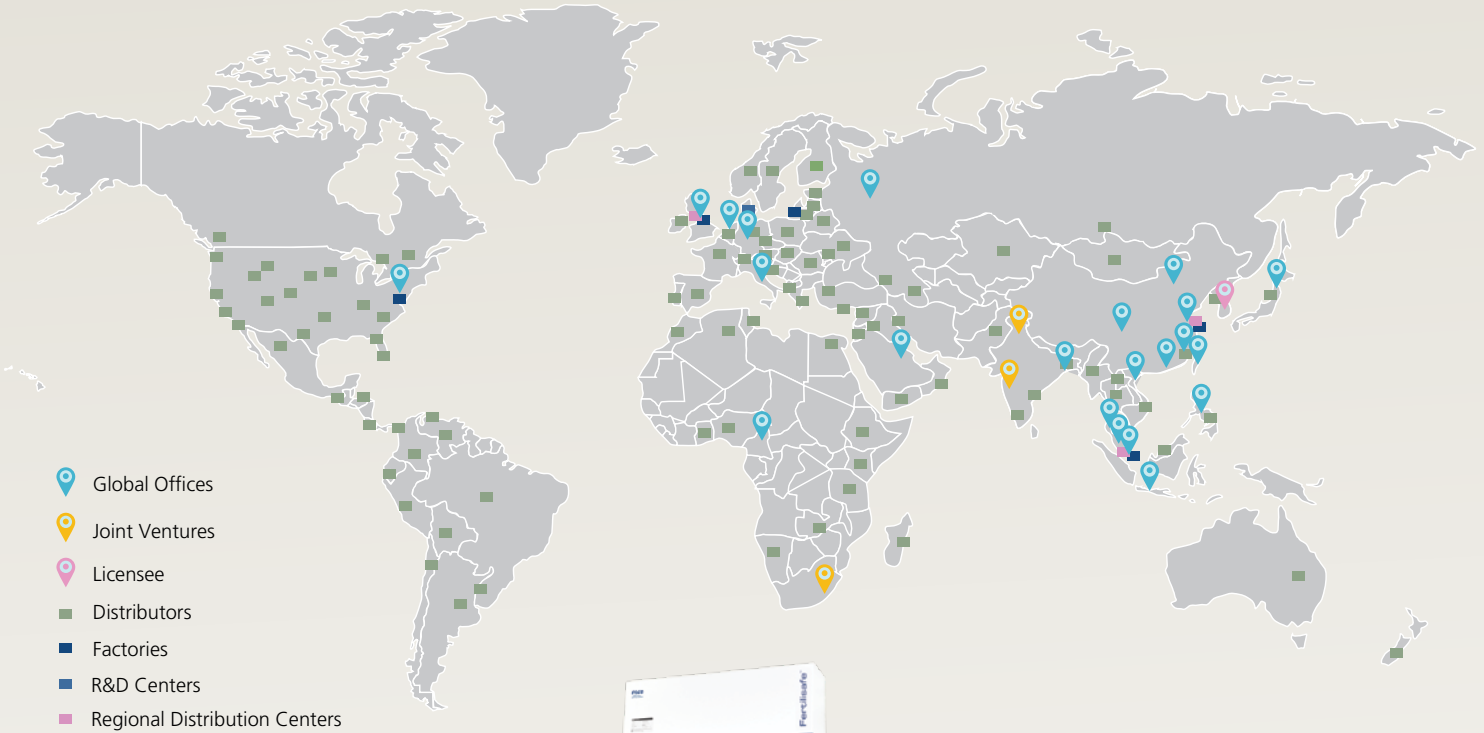
Accessories & Ordering Information

ACCESSORIES	ITEM CODE	DESCRIPTION
COA-1001	5170470	Humidity Display, Factory-installed
COA-1001-F	5170471	Humidity Display, Field-installed Kit
COA-1002	5170472	CO_2 Backup (Tank Switcher), Factory-installed
COA-1002-F	5170473	CO_2 Backup (Tank Switcher), Field-installed
COA-1004	5170474	Reversed Door Swing, Factory-installed
COA-1005	5170475	Analog Outputs, Factory-installed
COA-1005-F	5170476	Analog Outputs, Field-installed
COA-1007	5170490	N_2 Back-up (Tank Switcher), Factory-installed
COA-1007-F	5170491	N_2 Back-up (Tank Switcher), Field-installed
COA-2018-F	5170419	Roller Base (50 L)
COA-2001-F	5170478	Roller Base (170 L)
COA-2019-F	5170420	Roller Base (240 L)
COA-2020-F	5170421	Floor Stand 200 mm (8.0'') with Adjustable Feet (50 L)
COA-2002-F	5170479	Floor Stand 200 mm (8.0") with Adjustable Feet (170 L)
COA-2021-F	5170422	Floor Stand 200 mm (8.0'') with Adjustable Feet (240 L)
COA-2022-F	5170423	Floor Stand 700 mm (27.6") with Casters (50 L)
COA-2003-F	5170480	Floor Stand 700 mm (27.6") with Casters (170 L)
COA-2023-F	5170424	Floor Stand 700 mm (27.6'') with Casters (240 L)
COA-2004-F	5170489	2-units Floor Stand Stacking Kit (For 170L)
COA-2005-F	5170481	2-Stage Gas Regulator for CO_2 / N_2 Choose one of the connectors below: 1080588 - CGA 320 Connector (US standard) 1080589 - BP-BS34-#8-NT4 Connector (British standard) 1080590 - G5/8-RH Connector (China standard)

ACCESSORIES	ITEM CODE	DESCRIPTION
COA-2024-F	5170425	Extra Shelf (50 L, stainless steel)
COA-2007-F	5170327	Extra Shelf (170 L, stainless steel)
COA-2025-F	5170426	Extra Shelf (240 L, stainless steel)
COA-2008-F	5170483	Stacking Kit (one set included with every unit purchased)
COA-2010-F	5170329	Electronic CO_2 Analyzer; For CO_2 / Temp Measurement (with Temperature Probe)
COA-2016-F	5170397	Electronic CO_2 + O_2 Analyzer; For CO_2 / O_2 / Temperature Measurement
COA-2017-F	5170398	Electronic CO_2 + O_2 + RH Analyzer, For CO_2 / O_2 / RH / Temperature Measurement
COA-2011-F	2170020	IQ / OQ Documentation
COA-2012-F	2170021	6" Chart Recorder, Temp, 115/230 VAC, 50/60 Hz
COA-2013-F	2170022	8" Chart Recorder, Temp / Temp, 115/230 VAC, 50/60 Hz
COA-2014-F	2170023	6" Chart Recorder, Temp/RH, 115/230 VAC, 50/60 Hz
COA-2015-F	5170487	Inner Door Shelving Kit for 170 L (4 sets with total 12 mini-shelves for one incubator)
Voyager®	5250001	Voyager® Software Kit
MRI-GA	1320045	MIRI® GA CO_2 / O_2 / Temp Validation Unit, 115 -230 VAC, 50/60 Hz
TBA	1250109	Safesens TrackStation for CO2 incubator (to be sold with 1250110). Can connect up to 8 incubators.
TBA	1250110	Safesens TrackPod for CO2 incubator (to be sold with 1250109)
TBA	1081277	SafeSens SV2 Sensor, Pack of 10 pieces (shelf-life 12 months)
TBA	1081278	SafeSens QC2 Alignment Tool

GLOBAL NETWORK

- **Global Offices**
- **Joint Ventures**
- **Licensee**
- **Distributors**
- **Factories**
- **R&D Centers**
- **Regional Distribution Centers**

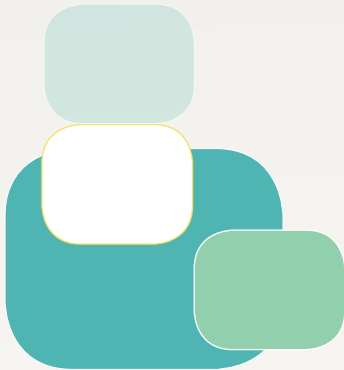**Esco Medical Products:**
Anti-Vibration Table (AVT)
CelCulture CO_2 Incubator
Culture and Fertilization Dishes
Fertilisafe® IVF Workstation
MIRI® Benchtop Multi-room Incubators
Mini MIRI® Humidified Benchtop Incubator
MIRI® TL6 Time Lapse Embryo Incubator
MIRI® GA (Gas and Temperature Validation Unit)
MIRI® GA Mini (Gas Analyzer)
Semi Closed Environment (IVF/ICSI)

Infertility is viewed as a problem that has social, psychological, and economic impact on the afflicted individuals and couples. It is a global concern that knows no race or creed. It has been estimated that 1 in 6 couples struggle with infertility at least once in their lifetime.

Esco Medical is one of the divisions of the Esco Group of Companies, apart from Life Sciences and Healthcare. Esco is now providing innovative technological solutions for fertility clinics and laboratories. Esco Medical is positioned to become a leading manufacturer and innovator of high-quality equipment such as long-term embryo incubators, ART workstations, anti vibration table, time- lapse incubator and etc.

Esco Medical products are designed with the Silent Embryo Hypothesis as a guiding principle. The Silent Embryo Hypothesis states that the less disturbed an embryo can remain, the better its developmental potential will be. Most of our products are designed in Denmark and made in the EU. The primary focus of this division is to increase pregnancy success rates and patient satisfaction.

ESCO MEDICAL
Life has begun

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