



*Enabling better fertility outcomes with first-in-class solutions*

# Fertility

Product Catalogue

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# About Esco



## Welcome to Esco

Since the establishment of Esco in 1978, we never stopped developing, providing, and delivering innovative solutions. From one, we have progressed into four business units with a worldwide presence, namely Esco Scientific, Esco Healthcare, Esco Medical, and Esco Aster—remaining true to our tagline “World-class. Worldwide.”

Last 2020, we shifted from Esco Group of Companies to **Esco Lifesciences Group**, carrying a new tagline “**Improving lives through science**”. The transformation of the company name and brand signifies Esco’s vigor in keeping up, responsive, and adaptive with the fastchanging world while keeping focused on its mission to deliver enabling technologies and provide service all over the world — and improve lives through science.

## At Esco Medical, life has begun

Esco Medical is one of the divisions of the Esco Lifesciences Group, apart from Esco Scientific, Esco Healthcare and Esco Aster. Esco Medical provides innovative technological solutions for fertility clinics and laboratories.

The slightest deviation, usually considered as insignificant, often result in non-optimal conditions for embryo growth and lowered pregnancy success. In Esco, we understand that even the smallest details affect the *In Vitro* Fertilization process. Thus, Esco Medical’s primary focus is to provide fertility technologies and solutions to help the world’s leading IVF centers to improve, standardize and automate their processes in order to achieve better clinical outcomes and patient satisfaction.

Esco Medical is the leading manufacturer and innovator of high-quality equipment such as Time-Lapse Incubator, Multiroom Embryo Incubators, IVF Workstation, CO<sub>2</sub> Incubator, Anti-Vibration Table, and Gas Analyser. Most of our medical products are designed in Denmark and made in the EU.

*I promise...  
I'll raise you like flying a kite.  
Will hold you with both hands and slowly let go.  
The day you fly, I'll watch you chase the sky.*

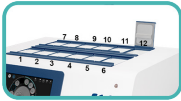




# MIRI<sup>®</sup> Time-Lapse Incubator



MIRI<sup>®</sup> TL is a Time-Lapse incubator that monitors embryo development. The MIRI<sup>®</sup> TL, optimized for clinical and IVF procedures, is designed to support existing work and quality assurance routines. This value-added treatment provides the most unique incubation environment with the market's most secure and safest procedures. It lessens disturbance and minimizes stressful factors that may be introduced when taking the dishes out of the incubator. This incubation system also ensures predictability in the daily handling and currently offers the market's lowest cost of ownership.



## Unique Incubation Environment

- Has independent multi-chamber system.
- Gas recirculation through VOC/HEPA filters and UV light.
- Built-in gas mixer. Premixed gas is not required.

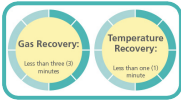
MIRI<sup>®</sup> TL6: 6 Individual chambers.

Gas recovery: less than three (3) minutes.

MIRI<sup>®</sup> TL12: 12 Individual chambers.

Temperature recovery: less than one (1) minute.

\*When the lid has not been open for more than 30 sec.



## Unprecedented Faster Recovery

- Excellent recovery time for both temperature and gas parameters.
- Opening one chamber will have no impact on the rest of the system.
- Heated upper lid and bottom plate for excellent temperature regulation and uniformity.



## 2 Temperature Mode Options:

- **Single:** Uniform setpoints for all 6/12 (six/twelve) chambers.
- **Multi:** Individual setpoints for each chamber.

## Sophisticated Annotation Tools

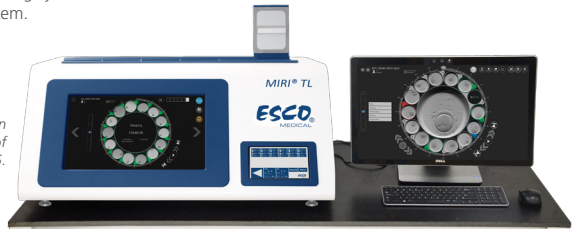
- Freedom to personalize instrument and parameter settings.
- Do a side-by-side comparison and compare actual timings to ideal.



## Quality checking is easy

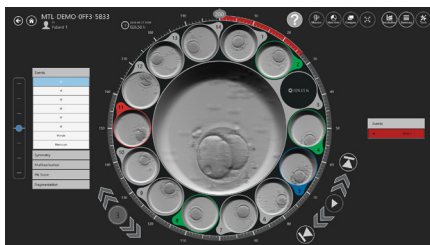
- Has 6/12 temperature sensors to ensure constant temperature stability.
- Independent PT1000 sensor and gas sample port for external validation of each chamber.
- Built-in pH measuring system.
- Data logging system.

*This equipment is a CE-marked device and is in conformity with the essential requirements of the medical devices EU regulation 2017/745.*



## Embryo Analysis and Evaluation System

The MIRI<sup>®</sup> TL Viewer Software is a simple yet sophisticated information-providing tool that can help embryologists process the data generated. You can review, annotate and compare the morphokinetic parameters of each embryo to select or deselect embryos for transfer and export data for retrospective analysis.



Navigation through the stacked timeline is easy and intuitive as the revolver shows the videos of the 14 wells of one single CultureCoin<sup>®</sup>. You can play the individual videos, annotate and compare each single embryo.

*Shown on the image is a magnified view of embryo #3*

## General Specifications

Specifications	TL6	TL12
Overall Dimensions (W x D x H)	805 x 590 x 375 mm (31.7 x 23.2 x 14.8" )	950 x 685 x 375 mm (37.4 x 27.0 x 14.8")
Chamber Dimensions	120 x 90 x 26 mm (4.7 x 3.5 x 1")	
Power Supply	115/230V, 50/60 Hz	
Power Consumption	330 W	650 W
Temperature Control Range	28.7 - 41.0 °C	
Gas Consumption (CO <sub>2</sub> ) *	< 2 L/h	
Gas Consumption (N <sub>2</sub> ) **	< 5 L/h	
CO <sub>2</sub> Control Range	2.9% - 9.9%	
O <sub>2</sub> Control Range	2.0% - 20.0%	
Input Gas Pressure	0.4 – 0.6 bar (5.80 – 8.70 PSI)	
Built-in Microscope	Zeiss 20x, objective has numerical aperture of 0.35, specialized for 640 nm illumination	
Embryo Illumination	0.064s per image, using 1W single red LED (635nm)	
Camera Resolution	1920 x 1200. Monochrome, 12-bit, IDS system	
Optics Tube Ratio	3.00 px/µm	
Imaging Focal Planes	5, 10 and 20min intervals in 3, 5 and 7 focal planes	
Number of pixels in stored image	670 x 670	860 x 860

\* Under normal condition (CO<sub>2</sub> set point reached at 6.0%, all lids closed).

\*\* Under normal condition (O<sub>2</sub> set point reached at 5.0%, all lids closed).

## Ordering Information

### MIRI® Time-Lapse Incubator

Item Code	Model Code	Description
Device		
2070091	MRI-TL-MN-6C-8	MIRI® Time-Lapse Incubator, Mini, 6 Chambers, 230 V, 50/60 Hz
2070092	MRI-TL-MN-6C-9	MIRI® Time-Lapse Incubator, Mini, 6 Chambers, 115 V, 50/60 Hz
2070100	MRI-TL-12C-8	MIRI® Time-Lapse Incubator, 12 Chambers, 230 V, 50/60 Hz
2070101	MRI-TL-12C-9	MIRI® Time-Lapse Incubator, 12 Chambers, 115 V, 50/60 Hz
Accessories		
1320011	MRA-1007	VOC/HEPA filter (recommended to be changed every 3 months)
1320088	MRI-CC	CultureCoin® for Time-Lapse of 14 embryos (25 pcs. per pack)
1320045	MRI-GA	MIRI® GA CO <sub>2</sub> /O <sub>2</sub> & Temperature Validation Unit, 115V/ 230V

### MIRI® TL Viewer and Server

Item Code	Model Code	Description
2070042	MRI-VIEWER	MIRI® Time-Lapse Viewer
1320095	MRI-SERVER	MIRI® Time-Lapse Server



## CultureCoin® for MIRI® TL

- Holds up to 14 embryos with individual numbered wells (1-14).
- For single and separated culture where each embryo are cultured in its own environment.
- Ergonomic design for easy handling and location of embryos.
- Separate well for pH measurements.
- Corona plasma treated surface for the effective prevention of bubble formation.
- Packed in 1 dish pouches and delivered in boxes of 25 pcs.

## General Specifications

Overall dimensions (Diameter x Height)	Ø 71 x 10 mm
CultureCoin® weight in total	13.8 grams
Material	Styrene Methyl Methacrylate (SMMA)
Incubation Temperature Range	28.7 - 40.0 °C
Incubation CO <sub>2</sub> Range	1.9 - 10.0%
Incubation O <sub>2</sub> Range	4.9 – 20.0%
Sterilization Method	Gamma Irradiation
Lifetime	2 years
Biocompatibility Tests	<ol style="list-style-type: none"> <li>1. Mouse Embryo Assay (MEA) test with thawed 1-cell mouse embryos. Acceptance criteria: at least 80% of embryos developed to the blastocyst stage.</li> <li>2. Limulus Amebocyte Lysate (LAL) test. Acceptance criteria: &lt; 20 EU/device.</li> </ol>

## Ordering Information

Item Code	Model Code	Description
1320088	MRI-CC	CultureCoin® for Time-Lapse of 14 embryos (25 pcs. per pack)

# Multiroom Incubator

## MIRI® Incubation System

### The Top-of-the-Line Features of the MIRI® Incubation System

- **Heated Lid**  
Prevents condensation. Enhances temperature regulation.
- **Direct Heat Transfer**  
Provides superior temperature stability.
- **Completely Independent Chambers**  
Any disruption (e.g., temperature drop after opening the lid) has zero impact on the rest of the system.
- **A Complete Incubation Environment**
  - Has a built-in gas mixer. Premixed gas is not required.
  - Built-in pH measuring system and data logging system.



## MIRI® Multiroom Incubator

The MIRI® is a revolution, in form and functionality, of benchtop incubators for *In Vitro* Fertilization (IVF). With 6 chambers, the MIRI® is a Multiroom Incubator that allows users to access their cultures in one chamber without affecting the neighbouring chambers. Thus, the harmful effects of fluctuations in temperature and gas caused by frequent incubator access are avoided. Built specifically to equip IVF laboratories and clinics to provide the best standard of care, it boasts a unique set of features that cannot be found elsewhere.

### Key Features

#### Fast Recovery

- <1 minute temperature recovery.
- <3 minutes gas recovery.

\*If the lid has not been opened for more than 30 sec.

#### Built-in pH meter

For accurate validation.

#### Solid Validation System

- Six (6) PT1000 sensors and Gas ports for validation outputs
- External Data Logging.
- Alarm relay contact.

#### Supreme Capacity

- Total capacity of up to 48 standard culture dishes.

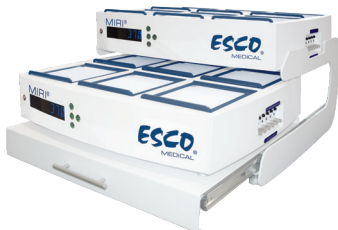
#### Excellent Gas System

- Separate CO<sub>2</sub> and O<sub>2</sub> regulation, expensive mixed gases not required!
- Air is continuously cleaned by VOC/HEPA filters, and UV light. (not applicable to MIRI® Humidity)



*This equipment is a CE-marked device and is in conformity with the essential requirements of the medical devices EU regulation 2017/745.*

### Stacking Frames



**MRA-DRAW** - MIRI® Stacking Frame for 2 devices with a drawer



**MRA-1014** - MIRI® Stacking Frame for 2 devices

# MIRI® II-12 Multiroom Incubator



The MIRI® II-12 is an incubator that provides unique features for every IVF laboratories and clinics. The chambers are specially designed to accommodate one patient ensuring personal space for each embryo. Having an excellent footprint, MIRI® II-12 is made to perfectly fit every IVF lab.

## Independent Chambers

Each chamber is specially designed for one patient. Hence, there is no disturbance to other chambers even when a lid is opened/closed.

## Excellent footprint

With its compact size, it can perfectly fit in every IVF Lab.

## Low gas consumption

The built-in gas mixer and efficient recirculation system allows you to save on gas consumption.

## Just a fitting solution...

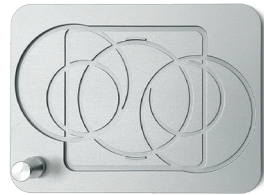
MIRI® II-12 comes with specific heating optimization plates matching the type of dishes used in the laboratories.

Each chamber contains a heating optimization plate to facilitate heat transfer directly to the culture dishes.

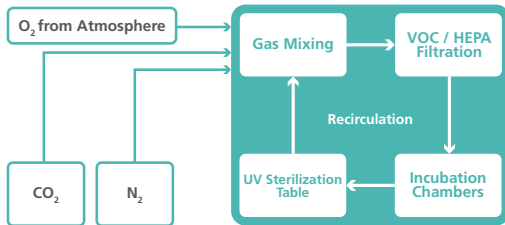
- There is a choice between various heating optimization plates.



*This equipment is a CE-marked device and is in conformity with the essential requirements of the medical devices EU regulation 2017/745.*



## Airflow Diagram



Total control of the gas phase environment is provided. The built-in gas mixer and the high-performance CO<sub>2</sub> and O<sub>2</sub> sensors allow accurate control of gas composition in the chambers.

## Stacking Frames



**MRA2-DRAW** - MIRI® II-12 Stacking Frame for 2 devices with a drawer



**MRA2-1014** - MIRI® II-12 Stacking Frame for 2 devices

# General Specifications



## MIRI® Multiroom IVF Incubators

Model	MIRI®	MIRI® Humidity
Overall Dimensions (W x D x H)	700 x 585 x 165 mm (27.6 x 23.0 x 6.5")	700 x 645 x 280 mm (27.6 x 25.4 x 11.0")
Chamber Dimensions	200 x 176 x 25 mm (7.9 x 6.9 x 1")	
Power Supply	115 / 230V, 50/60 Hz	
Power Consumption	300 W	
Temperature Control Range	24.9 – 40.0 °C	
*CO <sub>2</sub> Gas Consumption	<2 L/h	<4 L/h
**N <sub>2</sub> Gas Consumption	<12 L/h	
CO <sub>2</sub> Control Range	2.0 – 9.9%	
O <sub>2</sub> Control Range	5.0 – 20.0%	
Input Gas Pressure	0.4 – 0.6 bar (5.80 – 8.70 PSI)	
Net Weight	40 kg (88.2 lbs)	
Shipping Weight	45 kg (99.2 lbs) (Including the pallet's weight)	
Shipping Dimension	860 x 724 x 489 mm (32.4" X 28.5" x 19.3") (device on pallet)	

\* Under normal condition (CO<sub>2</sub> setpoint reached at 5.0%, all lids closed)

\*\* Under normal condition (O<sub>2</sub> setpoint reached at 5.0%, all lids closed)

## MIRI® II-12 Multiroom IVF Incubator

Overall Dimensions (W x D x H)	740 x 575 x 215 mm (29.1 x 22.6 x 8.5")
Compartment Dimensions	120 x 90 x 26 mm (4.7 x 3.5 x 1")
Power Supply	115 / 230V, 50/60 Hz
Power Consumption	500 W
Temperature Control Range	25.0 – 40.0 °C
*CO <sub>2</sub> Gas Consumption	<2 L/h
**N <sub>2</sub> Gas Consumption	<12 L/h
CO <sub>2</sub> Control Range	3.0 – 10.0%
O <sub>2</sub> Control Range	5.0 – 10.0%
Input Gas Pressure	0.4 – 0.6 bar (5.80 – 8.70 PSI)
Net Weight	47 kg
Shipping weight	57 kg (121.3 lbs) (Including the pallet's weight)
Shipping dimension	890 x 710 x 480 mm (35 x 28 x 18.9") (device on the pallet)

\* Under normal condition (CO<sub>2</sub> setpoint reached at 5.0%, all lids closed)

\*\* Under normal condition (O<sub>2</sub> setpoint reached at 5.0%, all lids closed)

## Ordering Information

Item Code	Model Code	Description
<b>MIRI® Multiroom Incubator</b>		
2070047	MRI-6A10-8	MIRI® Multiroom Incubator, 230V, 50/60Hz
2070048	MRI-6A10-9	MIRI® Multiroom Incubator, 115V, 50/60Hz
2070183	MRI-6A10-H-8	MIRI® Humidity Multiroom Incubator, 230V, 50/60Hz
2070184	MRI-6A10-H-9	MIRI® Humidity Multiroom Incubator, 115V, 50/60Hz
<b>MIRI® II-12 Multiroom Incubator</b>		
2070164	MRI2-12C-8	MIRI® II-12 Multiroom Incubator, 230V, 50/60Hz
2070165	MRI2-12C-9	MIRI® II-12 Multiroom Incubator, 115V, 50/60Hz
<b>Accessories</b>		
1320011	MRA-1007	VOC/HEPA filter (recommended to be changed every 3 months)
1320018	MRA-1014	MIRI® Stacking frame for 2 devices
1320226	MRA-DRAW	MIRI® Stacking frame with a drawer for 2 devices
1320498	MRA2-1014	MIRI® II-12 Stacking frame for 2 devices
1320499	MRA2-DRAW	MIRI® II-12 Stacking frame with a drawer for 2 devices
1320045	MRI-GA	MIRI® GA CO <sub>2</sub> / O <sub>2</sub> & Temperature Validation Unit, 115V / 230V (cannot be used with MIRI® Humidity Multiroom Incubator)

# Mini MIRI<sup>®</sup> Incubator



Built on the strong and reliable MIRI<sup>®</sup> Multiroom Incubator's platform, the Mini MIRI<sup>®</sup> is an incubator that provides a stable culture environment. It has two chambers that prevent cross-contamination while VOC/HEPA filtration cleans the incoming airstream. The compact design and direct heat regulation further translate to faster temperature and gas recovery.

## Comes in two models:



### Mini MIRI<sup>®</sup> Humidity

- The water bottle is located on the side of the device for easy refilling and control of the water level.
- Passive humidification system



### Mini MIRI<sup>®</sup> Dry

- Has a built-in gas mixer. Premixed gas is not required
- Comes with a UV module and VOC/HEPA filter.

This equipment is a CE-marked device and is in conformity with the essential requirements of the medical devices EU regulation 2017/745.

## General Specifications

Model	Mini MIRI <sup>®</sup> Dry	Mini MIRI <sup>®</sup> Humidity
Overall Dimensions (W x D x H)	525 x 420 x 230 mm (20.7 x 16.5 x 9.1")	
Chamber Dimensions	200 x 176 x 25 mm (7.9 x 6.9 x 1")	
Power Supply	115 / 230V, 50/60 Hz	
Power Consumption	160 W	
Temperature Control Range	24.9 – 40.0 °C	
*CO <sub>2</sub> Gas Consumption	<2 L/h	< 4 L/h
**N <sub>2</sub> Gas Consumption	<8 L/h	<12 L/h
Input Gas Pressure	0.4 – 0.6 bar (5.80 – 8.70 PSI)	
CO <sub>2</sub> Control Range	1.9 – 9.9%	
O <sub>2</sub> Control Range	3.9 – 19.9%	
Net weight	22 kg (48.5 lbs)	
Shipping weight	30 kg (66.1 lbs) (Including the pallet's weight)	
Shipping Dimensions	630 x 525 x 500 mm (24.8 x 20.7 x 19.7") (device on the pallet)	

\* Under normal condition (CO<sub>2</sub> setpoint reached at 6.0%, all lids closed)

\*\* Under normal condition (O<sub>2</sub> setpoint reached at 5.0%, all lids closed)

## Ordering Information

Item Code	Model Code	Description
<b>Device</b>		
2070143	MRI-MINI-D-8	Mini MIRI <sup>®</sup> Dry Multiroom Incubator, 230V, 50/60Hz
2070144	MRI-MINI-D-9	Mini MIRI <sup>®</sup> Dry Multiroom Incubator, 115V, 50/60Hz
2070155	MRI-MINI-H-8	Mini MIRI <sup>®</sup> Humidity Multiroom Incubator 230V, 50/60Hz
2070156	MRI-MINI-H-9	Mini MIRI <sup>®</sup> Humidity Multiroom Incubator, 115V, 50/60Hz
<b>Accessories</b>		
1320011	MRA-1007	VOC/HEPA filter (recommended to be changed every 3 months)
1320142	MRI-DATA	Datalogger Package with an Intel <sup>®</sup> NUC Box, monitor etc.
1320045	MRI-GA	MIRI <sup>®</sup> GA CO <sub>2</sub> / O <sub>2</sub> & Temperature Validation Unit, 115V / 230V (cannot be used with Mini MIRI <sup>®</sup> Humidity Multiroom Incubator)



# Heating optimization for MIRI® Family`s Multiroom IVF Incubators



## Extensive list of the heating optimization plates for MIRI®, MIRI® II-12, and Mini MIRI®

When placing an order for MIRI®, MIRI® II-12 or Mini MIRI®, all you have to do is select the appropriate heating optimization plate(s) that match the dishes used in your laboratory. There are no limitations to the choice you make, giving you the freedom and flexibility to choose as per your requirements. The MIRI®, MIRI® II-12 and Mini MIRI® can easily be incorporated into your existing work routine.

All heating optimization plates are optimized for the direct transfer of heat to the dishes and are totally removable for easy cleaning. This is to ensure optimal conditions for your embryos.



Nunc™



Falcon®



Vitrolife



LifeGlobal®  
GPS Dishes



BIRR



SparMED Oosafe®

## Ordering Information

Item Code	Model Code	Description
<b>For MIRI® and Mini MIRI®</b>		
1320003	MRA-FD	Heating optimization plate for Falcon® Dishes
1320004	MRA-ND	Heating optimization plate for Nunc™ Dishes
1320070	MRA-VD	Heating optimization plate for Vitrolife Dishes
1320099	MRA-NID	Heating optimization plate for Nipro™ Dishes
1320100	MRA-LD	Heating optimization plate for LifeGlobal® GPS Dishes
1320101	MRA-PD	Heating optimization plate without footprint for Plain Dishes
1320118	MRA-OD	Heating optimization plate for SparMED Oosafe®
1320507	MRA-BIRR	Heating optimization plate for BIRR Dishes
<b>For MIRI® II-12</b>		
1320429	MRA2-FD	Heating optimization plate for Falcon® Dishes
1320430	MRA2-ND	Heating optimization plate for Nunc™ Dishes
1320431	MRA2-VD	Heating optimization plate for Vitrolife Dishes
1320433	MRA2-LD	Heating optimization plate for LifeGlobal® GPS Dishes
1320436	MRA2-OD	Heating optimization plate for SparMED Oosafe®
1320434	MRA2-PD	Heating optimization plate without footprint for Plain Dish
1320505	MRA2-BIRR	Heating optimization plate for BIRR Dishes



# CelCulture® CO<sub>2</sub> Incubators



The CO<sub>2</sub> Incubator has a vital role in providing an optimal environment in embryo development during IVF and other ART procedures. Sleek, reliable and intuitive, the Esco CelCulture® CO<sub>2</sub> incubator is packed with outstanding features such as rapid parameter recovery, ISO Class 5 Cleanliness, ISOCIDE™ antimicrobial coating, optional Inner Door Kit that reduces contamination risk, and other accessories for specialized applications.



CelCulture® CO<sub>2</sub> Incubators are available in 3 sizes, 50 L, 170 L, and 240 L.

## CelCulture® CO<sub>2</sub> Incubators

CelCulture® is equipped with 90°C Moist Heat Decontamination System evaluated by HPA-UK. It utilizes ULPA filter to keep the chamber at ISO Class 5 cleanliness which ensures that all contaminants are filtered and clean air is recirculated.

### Key Features

- Wider temperature range, from (Ambient +5) temperature to 60°C.
- Complete contamination control methods to protect your precious samples.
- All gas inputs are filtered via 0.2µm in-line filter and ULPA filtration system.
- 90°C moist heat decontamination cycle, validated by HPA-UK.

## ISOCIDE™



### Voyager Software Kit

PC-based software for remote monitoring, data logging and programming.



### 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.



### Roller Base

With casters wheels for mobility of your incubators.

## Ordering Information

Item Code	Model Code	Description
<b>IR Sensor Model with Stainless Steel Chamber</b>		
2170257	CCL-050B-8-IVF	Celculture® Incubator, 50 L, IR sensor, CO <sub>2</sub> control, Moist Heat Decon, with Sealed Inner Door Kit for 50 L (2 Glass Doors with Latches), Factory Installed, 230 VAC, 50/60 Hz
2170272	CCL-170B-8-IVF	CelCulture® Incubator 170 L IR Sensor, CO <sub>2</sub> Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170 L (4 Glass Doors with Latches), Factory Installed, 230 VAC 50/60 Hz
2170278	CCL-240B-8-IVF	CelCulture® Incubator 240 L IR Sensor CO <sub>2</sub> Control, ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 240 L (4/6 Glass Doors with Latches), Factory Installed, 230 VAC 50/60 Hz
2170258	CCL-050B-9-IVF	Celculture® Incubator, 50 L, IR sensor, CO <sub>2</sub> control, Moist Heat Decon, with Sealed Inner Door Kit for 50 L (2 Glass Doors with Latches), Factory Installed, 115 VAC, 50/60 Hz
2170273	CCL-170B-9-IVF	CelCulture® Incubator 170 L IR Sensor, CO <sub>2</sub> Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170 L (4 Glass Doors with Latches), Factory Installed, 115 VAC 50/60 Hz
2170279	CCL-240B-9-IVF	CelCulture® Incubator 240 L, IR Sensor, CO <sub>2</sub> Control, ULPA, Moist Heat Decon with Sealed Inner Door Kit for 240 L (4/6 Glass Doors with Latches), Factory Installed, 115 VAC 50/60Hz
<b>Suppressed O<sub>2</sub> Model with Stainless Steel Chamber</b>		
2170260	CCL-050T-8-IVF	Celculture® Incubator, 50 L, IR sensor, CO <sub>2</sub> & O <sub>2</sub> control, Moist Heat Decon, with Sealed Inner Door Kit for 50 L (2 Glass Doors with Latches), Factory Installed, 230 VAC, 50/60 Hz
2170275	CCL-170T-8-IVF	CelCulture® Incubator 170 L IR Sensor, CO <sub>2</sub> & O <sub>2</sub> Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170 L (4 Glass Doors with Latches), Factory Installed, 230 AC 50/60 Hz
2170281	CCL-240T-8-IVF	Celculture® Incubator, 240 L, IR sensor, CO <sub>2</sub> & O <sub>2</sub> control, Moist Heat Decon, with Sealed Inner Door Kit for 240 L (4/6 Glass Doors with Latches), Factory Installed, 230 VAC 50/60 Hz
2170261	CCL-050T-9-IVF	Celculture® Incubator, 50 L, IR sensor, CO <sub>2</sub> & O <sub>2</sub> control, Moist Heat Decon, with Sealed Inner Door Kit for 50 L (2 Glass Doors with Latches), Factory Installed, 115 VAC, 50/60 Hz
2170276	CCL-170T-9-IVF	CelCulture® Incubator 170 L IR Sensor, CO <sub>2</sub> & O <sub>2</sub> Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170 L (4 Glass Doors with Latches), Factory Installed, 115 VAC 50/60 Hz
2170282	CCL-240T-9-IVF	Celculture® Incubator, 240 L, IR sensor, CO <sub>2</sub> & O <sub>2</sub> control, Moist Heat Decon, with Sealed Inner Door Kit for 240 L (4/6 Glass Doors with Latches), Factory Installed, 115 VAC 50/60 Hz

# Esco Multi-Zone ART Workstation



The Esco Multi-Zone ART Workstation is the most advanced workstation in its class. It is designed for use in applications that require a high level of control over environmental conditions. Applications can range from animal embryo culture in research to human embryo manipulation done in fertility laboratories.

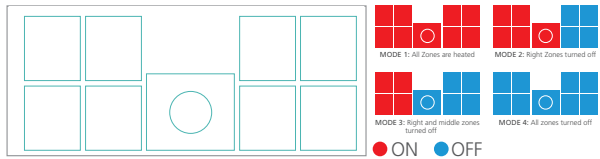
## Key Features



### Multi-Zone Heating System

1 setpoint, up to 12 independent zones per working area with their own heating elements and sensors allow excellent uniformity. The heating system will automatically prioritize power distribution to ensure effective temperature control with fast recovery. In models that feature MIRI® chambers, temperature regulation of the chambers will always be on regardless of mode.

- Accuracy:  $\pm 0.2\text{ }^{\circ}\text{C}$
- Uniformity:  $\pm 0.2\text{ }^{\circ}\text{C}$



\*The provided example of heating zone overlay is applicable for MAW-4D<sub>1</sub> model. For different heating zone layouts, please read pages 18 and 19. The heating modes are the same for all the models.



### Humidification System

The Multi-zone ART Workstation design does not allow active control of humidity levels in circulated gas. The humidification method used in the Multi-zone ART Workstation increases circulating gas' humidity, which will decrease evaporation risks in media of Petri dishes placed in the chambers. On models without MIRI® chambers semi-closed environment can be created with a plastic cover.



### Heated Glass Stage

The heated glass stage has its own independent heating zone further to enhance the temperature control and recovery in this zone.

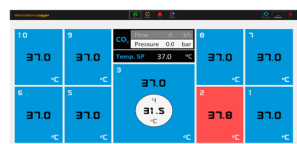
### Stainless-Steel Table-top

The main material used in the tabletop surface is stainless steel, which ensures its strength and rigidity.



### Microscope Integration Provision

The integrated stereoscope in the work chamber allows users to maintain culture dishes at steady temperature during observation and manipulation. Fewer movements will also reduce risk of accidents.



### Surveillance System\*\*

Provides the user with real-time information of zone performance and other work area parameters such as gas pressure and flow rate.

\*\*When any of the heating zones are OFF, the monitor shall not display real-time temperature as there are no controlled heating to give uniformity across the OFF zone.

# Esco Multi-Zone Workstation with MIRI® Chambers

The workstation is now even better with its integrated MIRI® chambers to further secure your embryos while inside the workstation. The MIRI® incubator is popular for its top-notch features such as stable culture environment and faster parameter recovery.



## Multi-Zone Heating System

The independent zones have its own heating elements and sensors.

## MIRI® Chambers

Your specimens are more secured than ever with the integrated MIRI® chambers, known for its stable and precise temperature output.



## Support Stand Options

More options to choose from to meet your requirements.



## Fit in the same MIRI® Inserts



Nunc™



Falcon®



Vitrolife



LifeGlobal®



BIRR



SparMED Oosafe®

## Accessories



### Support Stand:

- With leveling feet
- With Caster Wheels
- Telescopic stand with Caster Wheels



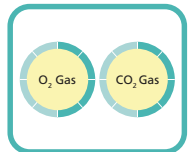
UV Kit\*



Carbon Filter



32mm Microscope pillar



Gas Mixer for MAW

\*Esco reserves the right to make periodic minor design changes without obligation to notify any person or entity of such change.

# Stereomicroscope



A Stereomicroscope is a type of optical microscope that allows the user to see a three-dimensional view of a specimen. This Esco MS-I Stereomicroscope is very useful in assessing oocyte and embryo morphology and viability. It has a built-in camera mount where you can place your camera set for a better viewing and documentation of images. Moreover, additional objective lenses (0,5x, 1,5x, 2x) can be screwed on the microscope head for additional magnification.



## Key Features

### PK-Mount and Camera Set

Allows to mount a digital camera which helps the user to take a better look at their specimen.

### Adjustable Interpupillary Distance

Enables the user to adjust the space between the eyepieces for a more pleasurable observation.

### Black and White Work Board

Enhances the specimen/sample viewing experience.



### Vertical Light Source

Adapted for the stereomicroscope, this type of light source enhances

everyday embryo and gamete inspections. is useful in an IVF laboratory as it is designed for inspection of gametes and embryos.

## The Esco Steremicroscope and Esco IVF Workstations

The Esco Multi-Zone ART Workstations (MAW) are IVF workstations with controlled temperature and humidity working environment. These workstations are intended for working with gametes and / or embryos at / or near body temperature in a multi-zone heated set-up during in vitro fertilization (IVF) / assisted reproductive technology (ART) treatments.

The Esco Multi-Zone ART Workstations are even better with its integrated MIRI® chambers to further secure the embryos while inside the workstation. The MIRI® incubator is popular for its top-notch features such as stable culture environment and faster parameter recovery. Also, these workstations have a provision for one's microscope of choice like the Esco Stereomicroscope.







# Esco Multi-Zone ART Workstations



Available in a variety of sizes and configurations to meet the needs of the laboratory

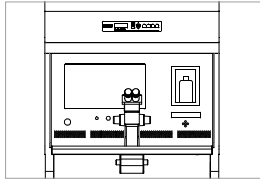
## MAW-3D8

Width: 3 Feet

Microscope: Single Basic Configuration

Accommodates 1 user

Ideal for small laboratories



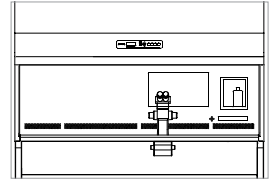
## MAW-6D\_MONO

Width: 6ft

Microscope: Single

Accommodates 1 user

For users that require additional workspace



(Front View)

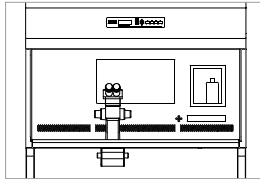
## MAW-4D\_

Width: 4ft

Microscope: Single Basic Configuration

Accommodates 1 user

Ideal for small Laboratories



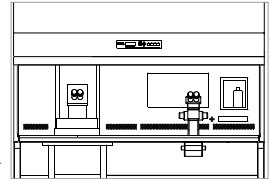
(Front View)

## MAW-6D\_MP

Width: 6ft

Microscope: Single 1 Stereomicroscope, with the ability to integrate 1 inverted microscope.

Multi-purpose - ideal for embryo inspection and micromanipulation.



(Front View)

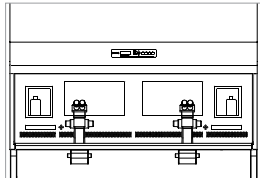
## MAW-6D\_-DUAL

Width: 6ft

Microscope: Dual

Accommodates 2 users

For those who want to use all available area of the workspace



(Front View)

Accommodates 2 users



### MAW-4D\_-MC

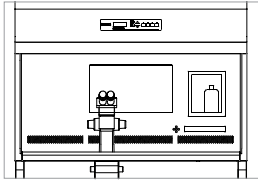
Width: 4ft

Microscope: Single

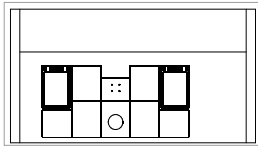
Accommodates 1 user

Ideal for small Laboratories

Basic Configuration with 2 MIRI® Chambers



(Front View)



(Worktop View)

### MAW-6D\_-DUAL-MC

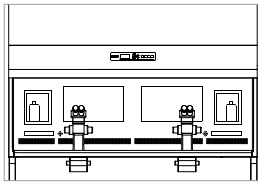
Width: 6ft

Microscope: Dual

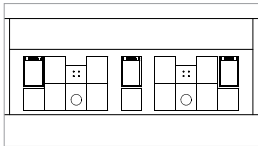
Accommodates 2 users

Basic Configuration with 3 MIRI® Chambers

For those who want to use all available area of the workspace



(Front View)



(Worktop View)

### MAW-6D\_-MONO-MC

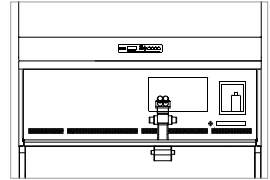
Width: 6ft

Microscope: Single

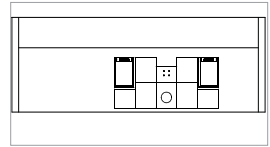
Accommodates 1 user

For users that require additional workspace

Basic Configuration with 2 MIRI® Chambers



(Front View)



(Worktop View)

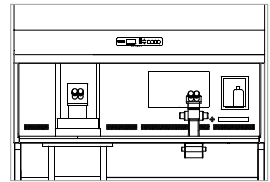
### MAW-6D\_-MP-MC

Width: 6ft

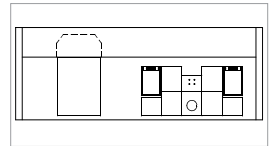
Microscope: Single Stereomicroscope, 1 Inverted microscope set-up

Accommodates 2 users Multi-purpose-ideal for embryo inspection and micromanipulation

Basic Configuration with 2 MIRI® Chambers



(Front View)



(Worktop View)



# General Specifications



## Esco Multi-Zone ART Workstations

Model	MAW-3D8	MAW-4D_	MAW-6D_-MONO	MAW-6D_-DUAL	MAW-6D_-MP
Nominal Size	0.9 meter (3')	1.2 meter (4')	1.8 meter (6')		
Internal Work area dimensions (W x D x H)*	950 x 500 x 710 mm (37.4" x 19.7" x 28.0")	1260 x 500 x 710 mm (49.6" x 19.7" x 28.0")	1870 x 500 x 710 mm (73.6" x 19.7" x 28.0")		1870 x 490 x 780 mm (73.6" x 19.3" x 30.7")
Laminar Air Velocity	Average of 0.21m/s or 41 fpm (± 20%)				
Filter Efficiency	>99.999% for particle size between 0.1 to 0.3 microns per IEST-RP-CC001.3 / H14 per EN 1822				
Pre-filter	Disposable and non-washable polyester fibers with 85% arrestance / EU3 rated				
Noise level (per NSF 49)**	47 dBA	47 dBA	52 dBA		
Set of (9+1) Heating Zones	(7+1) Heating Zone	1 set	1 set	2 sets	1 set
Surveillance System with data logger	1 set	1 set	1 set	2 sets	1 set
Humidification System***	1 set	1 set	1 set	2 sets	1 set
PT 1000 ports	5 ports	5 ports	5 ports	10 ports	5 ports
Microscope	Required, Not included (see microscope ordering information)				
	Position for 1 stereo microscope			Position for 2 stereo microscopes	Position for 1 stereo microscope and 1 inverted microscope
Transmitted Light Source	1 set	1 set	1 set	2 sets	1 set
Shipping weight	195 kg	250 kg	350 kg		

\* The actual MAW-6D\_-MP's work area dimension will be customized to fit the inverted microscope.

\*\* Noise reading in open field condition / anechoic chamber. Noise reading in normal room varies by room size, layout, and background noise, but may reach roughly 3-4 dBA above these values.

\*\*\*1 set of humidification system includes one (1) water bottle with tubing, one (1) sample carry tray and one (1) plastic cover.

## Esco Multi-Zone ART Workstation with MIRI® Chambers

Model	MAW-4D_-MC	MAW-6D_-MONO-MC	MAW6D_-DUAL-MC	MAW-6D_-MP-MC
Nominal Size	1.2 meter (4')	1.8 meter (6')	1.8 meter (6')	1.8 meter (6')
Internal Work area dimensions (W x D x H)*	1260 x 500 x 710 mm (49.6" x 19.7" x 28.0")	1870 x 500 x 710 mm (73.6" x 19.7" x 28.0")	1870 x 500 x 710 mm (73.6" x 19.7" x 28.0")	1870 x 490 x 780 mm (73.6" x 19.3" x 30.7")
External dimensions w/o support stand (W x D x H)	1340 x 640 x 1400 mm (52.8" x 25.2" x 55.1")	1950 x 640 x 1400 mm (76.8" x 25.2" x 55.1")	1950 x 640 x 1400 mm (76.8" x 25.2" x 55.1")	1950 x 647 x 1460 mm (76.8" x 25.4" x 57.5")
External Dimensions w/ "B" type support stand (W x D x H)	1340 x 640 x 2160 mm (52.8" x 25.2" x 85.0")	1340 x 640 x 2160 mm (52.8" x 25.2" x 85.0")	1950 x 640 x 2160 mm (76.8" x 25.2" x 85.0")	1950 x 647 x 2220 mm (76.8" x 25.4" x 87.4")
Cabinet Construction	Main Body	1.2 mm (0.05") 18 gauge electro-galvanized steel with white oven-baked epoxy-polyester powder-coated finish.		
	Work Zone	1.2 mm (0.05") 18 gauge stainless steel, grade 304		
	Side Walls	Tempered Glass (Optional: Polycarbonate sash for MAW with built-in UV light)		
	Sash			
Laminar Air Velocity	Average of 0.21m/s or 41 fpm (± 20%)			
Pre-Filter	Disposable, non-washable polyester fibre, 85% arrestance, EU3 rated			
ULPA Filter Efficiency	>99.999% for particle size between 0.1 to 0.3 microns per IEST-RP-CC001.3 / H14 per EN 1822			
Noise Level (as per IEST)	47 dBA	52 dBA		
Set of (7+1) Heating Zones	1	1	2	1
Number of MIRI® Chambers	2	2	3	2
Included Accessories	1 x water bottle for HS-1, including tubing 2 x sample carry tray	1 x water bottle for HS-1, including tubing 2 x sample carry tray	2 x water bottle for HS-1, including tubing 3 x sample carry tray	1 x water bottle for HS-1, including tubing 2 x sample carry tray
Microscope	Required, Not included (see microscope ordering information)			
	Position for 1 stereo microscope	Position for 1 stereo microscope	Position for 2 stereo microscopes	Position for 1 microscope and 1 inverted microscope
Support stand	Required, Not included (see support stand ordering information)			
Gas sample ports	1 IN / 1 OUT			



## Stereomicroscope

Overall Dimensions (W x D x H)	250 x 250 x 240 mm ( 9.8" x 9.8" x 9.4")
Net Weight	4.5kg
Type of Light Source	Makes use of a light source integrated into a laminar table Note that an external LED ring could be used, mounted on a microscope (voltage is 110 – 220 V)
Camera Compatibility	Microscope can come with or without camera. Most important camera needs to be C-mount- ed. The recommended camera is IDS model UI-3880LE-C-HQ.

What we offer: IDS ( from Germany) Camera USB 3.1 Gen 1, uEye, LE, 1/1.8" Sony IMX178 CMOS Color Sensor, 3088x2076 Pixels, Rolling Shutter, USB Type-C Connector, CSI/C-Mount, HQ-IR Filter, Dimension 47 mm x 46 mm.

## Ordering Information

Item Code	Model Code	Description
<b>Esco Multi-Zone ART Workstation Basic Configuration and Multi-Purpose</b>		
2070177	MAW-3D8	Esco Multi-Zone ART Workstation, 3ft 3ft (0.91m), 230V 50/60Hz
2070017	MAW-4D8	Esco Multi-Zone ART Workstation, 4ft (1.2m), 230V 50/60Hz
2070025	MAW-4D9	Esco Multi-Zone ART Workstation, 4ft (1.2m), 115V 50/60Hz
2070018	MAW-6D8-MONO	Esco Multi-Zone ART Workstation, 6ft (1.8m), 230V 50/60Hz
2070026	MAW-6D9-MONO	Esco Multi-Zone ART Workstation, 6ft (1.8m), 115V 50/60Hz
2070050	MAW-6D8-DUAL	Esco Multi-Zone ART Workstation, Double Heated Zone, 6ft (1.8m), 230V 50/60Hz
2070039	MAW-6D9-DUAL	Esco Multi-Zone ART Workstation, Double Heated Zone, 6ft (1.8m), 115V 50/60Hz
2070036	MAW-6D8-MP	Esco Multi-Zone ART Workstation, Multi-Purpose, 6ft (1.8m), 230V 50/60Hz
2070038	MAW-6D9-MP	Esco Multi-Zone ART Workstation, Multi-Purpose, 6ft (1.8m), 115V 50/60Hz
<b>Esco ART Workstation with MIRI® Chambers</b>		
2070068	MAW-4D8-MC	Esco Multi-Zone ART Workstation, MIRI® Chambers, 4ft (1.2m), 230V 50/60Hz
2070070	MAW-4D9-MC	Esco Multi-Zone ART Workstation, MIRI® Chambers, 4ft (1.2m), 115V 50/60Hz
2070069	MAW-6D8-MONO-MC	Esco Multi-Zone ART Workstation, MIRI® Chambers, 6ft (1.8m), 230V 50/60Hz
2070071	MAW-6D9-MONO-MC	Esco Multi-Zone ART Workstation, MIRI® Chambers, 6ft (1.8m), 115V 50/60Hz
2070075	MAW-6D8-DUAL-MC	Esco Multi-Zone ART Workstation, Double Heated Zone, MIRI® Chambers, 6ft (1.8m), 230V 50/60Hz
2070074	MAW-6D9-DUAL-MC	Esco Multi-Zone ART Workstation, Double Heated Zone, MIRI® Chambers, 6ft (1.8m), 115V 50/60Hz
2070072	MAW-6D8-MP-MC	Esco Multi-Zone ART Workstation, Multi-Purpose, MIRI® Chambers, 6ft (1.8m), 230V 50/60Hz
2070073	MAW-6D9-MP-MC	Esco Multi-Zone ART Workstation, Multi-Purpose, MIRI® Chambers, 6ft (1.8m), 115V 50/60Hz
<b>ART Workstation with MIRI® Chambers and Trigas Mixer</b>		
2070187	MAW-4D8-MC-G	Esco Multi-Zone ART Workstation, MIRI® Chambers, Gas Mixer, 4ft (1.2m), 230V 50/60Hz
2070188	MAW-4D9-MC-G	Esco Multi-Zone ART Workstation, MIRI® Chambers, Gas Mixer, 4ft (1.2m), 115V 50/60Hz
2070189	MAW-6D8-MONO-MC-G	Esco Multi-Zone ART Workstation, MIRI® Chambers, Gas Mixer, 6ft (1.8m), 230V 50/60Hz
2070190	MAW-6D9-MONO-MC-G	Esco Multi-Zone ART Workstation, MIRI® Chambers, Gas Mixer, 6ft (1.8m), 115V 50/60Hz
2070191	MAW-6D8-DUAL-MC-G	Esco Multi-Zone ART Workstation, Double Heated Zone, MIRI® Chambers, Gas Mixer, 6ft (1.8m), 230V 50/60Hz
2070192	MAW-6D9-DUAL-MC-G	Esco Multi-Zone ART Workstation, Double Heated Zone, MIRI® Chambers, Gas Mixer, 6ft (1.8m), 115V 50/60Hz
2070193	MAW-6D8-MP-MC-G	Esco Multi-Zone ART Workstation, Multi-Purpose, MIRI® Chambers, Gas Mixer, 6ft (1.8m), 230V 50/60Hz
2070194	MAW-6D9-MP-MC-G	Esco Multi-Zone ART Workstation, Multi-Purpose, MIRI® Chambers, Gas Mixer, 6ft (1.8m), 115V 50/60Hz
<b>Stereomicroscope</b>		
1320375	MS – I	Stereomicroscope

# MIRI<sup>®</sup> Laminar Flow Cabinet



The MIRI<sup>®</sup> Laminar Flow Cabinet has been designed with the capability to maintain a controlled work surface for laboratory applications requiring a clean and sterile workspace, which is achieved through the use of vertical laminar airflow pattern. Clean filtered air travels from the top of the cabinet downwards onto the working surface. Laminar flow cabinets are ideal to be used for our customers who requires a clean and sterile workspace to provide good protection towards the sample.

## Key Features

- ULPA Filter (ISO Class 3 Work Zone)
- ISOCIDE™ Antimicrobial Powder Coating
- Built-in Monitor (optional)
- Integrated Microscope Pole
- Outstanding Sample Protection
- Energy Efficient
- Available Sizes: 3, 4, 5 and 6 ft



## General Specifications

Model		MLF-3D_	MLF-4D_	MLF-5D_	MLF-6D_
Work Area Dimension (W x D x H)		965 x 635 x 710 mm (39.0" x 25.0" x 28.0")	1250 x 635 x 710 mm (49.2" x 25.0" x 28.0")	1570 x 635 x 710 mm (61.8" x 25.0" x 28.0")	1875 x 635 x 710 mm (73.8" x 25.0" x 28.0")
External Dimensions without Support Stand (W x D x H)		1035 x 760 x 1270 mm (40.7" x 29.9" x 50.0")	1340 x 760 x 1270 mm (52.8" x 29.9" x 50.0")	1640 x 760 x 1270 mm (64.6" x 29.9" x 50.0")	1965 x 760 x 1270 mm (77.4" x 29.9" x 50.0")
External Dimension with "STL" Type Support Stand (W x D x H)		1035 x 760 x 1980 mm (40.7" x 29.9" x 78.0")	1340 x 760 x 1980 mm (52.8" x 29.9" x 78.0")	1640 x 760 x 1980 mm (64.6" x 29.9" x 78.0")	1965 x 760 x 1980 mm (77.4" x 29.9" x 78.0")
Cabinet Construction	Main Body	1.2 mm (0.05") 18-gauge electro-galvanized steel with white oven baked epoxy-polyester powder coated finish			
	Work Zone	1.2 mm (0.05") 18-gauge stainless steel, grade 304, with 4B finish			
	Side Walls	UV-absorbing tempered glass 5mm (0.2"), colourless and transparent			
	Sash				
Power Supply	MLF-_D8	220-240V, 50/60Hz			
	MLF-_D9	110-130V, 50/60Hz			
Motor Type		ECM Motor			
Pre-Filter		Disposable and non-washable 100% polyester fiber with 85% arrestance, EU-3 rated			
Filter Efficiency		HEPA/ULPA filtration with 99.9995% efficiency			
ISO Classification		ISO Class 3			
Noise Level Reading*		≤48 dB(A)*			
Control System		Esco Sentinel™ Gold Microprocessor Controller			
Microscope Pole Provision		Position for 1 microscope			
Transmitted Light Source		1 set			
Advanced Option		Touchscreen Monitor**			

\*Noise reading in open field condition/ anechoic chamber. Noise reading in normal room varies by room size, layout, and background noise, but may reach roughly 3-4 dBA above these values.

\*\* Monitoring screen system comes as accessory, you are required to specify in your quotation

Item Code	Model Code	Description
<b>Cabinet with Lightsource</b>		
2070217	MLF-3D8 w/LS	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 220-240V, 50/60Hz
2070220	MLF-3D9 w/LS	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 110-130V, 50-60Hz
2070218	MLF-4D8 w/LS	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 220-240V, 50/60Hz
2070221	MLF-4D9 w/LS	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 110-130V, 50-60Hz
2070182	MLF-5D8 w/LS	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 220-240V, 50/60Hz
2070222	MLF-5D9 w/LS	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 110-130V, 50-60Hz
2070219	MLF-6D8 w/LS	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 220-240V, 50/60Hz
2070236	MLF-6D9 w/LS	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 110-130V, 50-60Hz
2070238	MLF-3D8-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 220-240V, 50/60Hz with screen monitor integration
2070242	MLF-3D9-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 110-130V, 50-60Hz with screen monitor integration
2070239	MLF-4D8-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 220-240V, 50/60Hz with screen monitor integration
2070243	MLF-4D9-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 110-130V, 50-60Hz with screen monitor integration
2070240	MLF-5D8-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 220-240V, 50/60Hz with screen monitor integration
2070244	MLF-5D9-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 110-130V, 50-60Hz with screen monitor integration
2070241	MLF-6D8-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 220-240V, 50/60Hz with screen monitor integration
2070245	MLF-6D9-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 110-130V, 50-60Hz with screen monitor integration
<b>Cabinet without Lightsource</b>		
2070255	MLF-3D8	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 220-240V, 50/60Hz
2070259	MLF-3D9	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 110-130V, 50-60Hz
2070256	MLF-4D8	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 220-240V, 50/60Hz
2070260	MLF-4D9	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 110-130V, 50-60Hz
2070257	MLF-5D8	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 220-240V, 50/60Hz
2070261	MLF-5D9	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 110-130V, 50-60Hz
2070258	MLF-6D8	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 220-240V, 50/60Hz
2070262	MLF-6D9	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 110-130V, 50-60Hz
2070247	MLF-3D8-MON	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 220-240V, 50/60Hz with screen monitor integration
2070251	MLF-3D9-MON	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 110-130V, 50-60Hz with screen monitor integration
2070248	MLF-4D8-MON	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 220-240V, 50/60Hz with screen monitor integration
2070252	MLF-4D9-MON	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 110-130V, 50-60Hz with screen monitor integration
2070249	MLF-5D8-MON	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 220-240V, 50/60Hz with screen monitor integration
2070253	MLF-5D9-MON	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 110-130V, 50-60Hz with screen monitor integration
2070250	MLF-6D8-MON	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 220-240V, 50/60Hz with screen monitor integration
2070254	MLF-6D9-MON	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 110-130V, 50-60Hz with screen monitor integration

# MIRI<sup>®</sup> Anti-Vibration Table



The MIRI<sup>®</sup> AVT (Anti-Vibration Table) features an anti-vibration mechanism for passive dampening of the microscope. This is mainly used for micromanipulation procedures like Intra-Cytoplasmic Sperm Injection (ICSI) procedures. Exclusively designed in Denmark and made in E.U., the stainless steel table and sturdy frame add mass to the anti-vibration table. MIRI<sup>®</sup> AVT is constructed to be easy-to-use and almost maintenance-free.

## Key Features

- Anti-vibration mechanism for passive dampening.
- Sturdy frame.
- Stainless-steel table-top.
- MIRI<sup>®</sup> AVT is able to eliminate vibrations in the range of 5.5-50 Hz.

## General Specifications

Technical Specifications	MIRI <sup>®</sup> AVT
Overall Dimensions (W x D x H)	1200 x 800 x 785 mm (47.2 x 31.5 x 31")
Net weight	117 kg (258 lbs)
Material	Powder-painted mild steel/Stainless steel
Float Size (W x D)	540 x 340 mm (21.3 x 13.4")
Recommended load weight	15 – 75 kg
Damping coefficient (6 Hz)	~ 0.1
Amplitude (6 Hz)	< 1 µm
Vibration Criteria	VC-C*
Frequency Range of Isolation	1 Hz – 100 Hz
Vertical Natural Frequency	1.5 Hz – 3 Hz
Horizontal Natural Frequency	1 Hz – 2 Hz
Damping Ratio	0.1 – 0.3

\*VC-C: More sensitive equipment (6.25 µm/s). A good standard for lithography and inspection equipment down to 1 micron detail size.

## Ordering Information

Item Code	Model Code	Description
1320484	MIRI <sup>®</sup> AVT	Anti-Vibration Table MIRI <sup>®</sup> AVT

# Versati™ Tabletop Centrifuge



## Versati™ Tabletop Centrifuge Overview

Versati™ Tabletop centrifuge stands out among the same-level products with its versatility, running features, and easy handling. It can be used with high-capacity and low-to-high-speed general-purpose centrifuge applications. It is suitable for sperm preparation for human and animal IVF.



### Key Features

- Compact Design.
- Incredible Flexibility.
- Overspeed Protection.

### Model: TCV-1500

- Maintenance-free brushless motor.
- Superior safety (Automatic rotor recognition).
- Audible and visible alarms.
- Capacity of up to 1500 ml.

## Accessories



### Fixed-angle Rotor

- Mainly for hospital use in centrifugation of urine and blood.
- Rotor and adapters are autoclavable (maximum of 121°C, 20 minutes).
- Can be used for Sperm Preparation for Human and Animal IVF.

## Ordering Information

Item Code	Model Code	Description
2220005	TCV-1500-8	Tabletop Centrifuge Ventilated 230 VAC, 50/60 Hz
2220006	TCV-1500-9	Tabletop Centrifuge Ventilated 120 VAC, 50/60 Hz

## Guide to Models

### TCV - 1500 - 8

Model	Code	Centrifuge Capacity	Code	Electrical Supply	Code
Tabletop Centrifuge Ventilated	TCV	Maximum Sample Capacity (ml)	1500	230 VAC 50/60 Hz	8
				120 VAC 50/60 Hz	9
Tabletop Centrifuge Refrigerated	TCR			230 VAC 50/60 Hz	8
				120 VAC 50/60 Hz	9

### TCV / TCR High Speed Tabletop Centrifuge for up to 16,000 rpm

Ideal for multi-purpose centrifugation at high-speed.

Model Code	Item Code	Description
TCV-1500-8	2220005	Tabletop Centrifuge Ventilated 230 VAC, 50/60 Hz
TCV-1500-9	2220006	Tabletop Centrifuge Ventilated 120 VAC, 50/60 Hz

Contact Esco or your local Sales Representative for ordering information

# Quality Assurance and Validation Units



## MIRI® GA Gas and Temperature Validation Unit

MIRI® GA is a tabletop device intended to make external incubator validation easier and safer. It is capable of monitoring the temperature (PT1000 connector) & gas concentration, flow and pressure. It can validate up to 6 chambers simultaneously 24 hours a day. It also has an adjustable flow rate which gives it the ability to properly sample small volume incubation chambers. Moreover, MIRI® GA comes with a full Data Logger software which is helpful in monitoring each parameter. The MIRI® GA can connect to any brand of incubator and is a perfect accessory to MIRI® TL, MIRI® Multiroom Incubator, and Mini MIRI® Dry Incubators.

### Key Features

- Constantly validate up to 6 x CO<sub>2</sub> / O<sub>2</sub> incubators.
- CO<sub>2</sub> / O<sub>2</sub> incubators controllable flow rate Monitor up to 6 x PT1000 sensors
- 6 ports for sequential gas samples.
- Gas feedback returns sampled gas to incubator or exhaust.

## General Specifications

Input ports	6 x PT1000 ports for temperature monitoring 6 x gas sampling ports
Output ports	1 x gas feedback port, 1 x USB port
Shipping dimensions and weight	460 x 450 x 250 mm (18.1" x 17.7" x 9.8"), 10 kg (22 lbs)

## Ordering Information\*

Item Code	Model Code	Description
1320045	MRI-GA	MIRI® GA CO <sub>2</sub> / O <sub>2</sub> & Temp validation Unit, 115/230V, 50/60Hz

\*Includes data logger software, 1pc PT1000 cable, 1pc Gas connection tube, 1pc Gas feedback tube

## Accessories

Item Code	Model Code	Description
1320063	MRA-1101	1pc PT1000 cable
1320064	MRA-1102	Set of 6pcs PT1000 cables
1320065	MRA-1103	1pc Gas connection tube
1320066	MRA-1104	Set of 6pcs Gas connection tubes

# Traceability Tool



## The ultimate traceability tool for fertility clinics

MIRI® Evidence is redefining the way traceability in laboratory procedures is managed and stored in fertility clinics, eliminating errors, preventing system mix-ups, saving time, and helping clinics to comply with regulations. This IVF traceability tool provides a single, secure platform that ensures all patients are scheduled on time and documented properly - saving time and improving outcomes across the board.

The MIRI® Evidence workflow proposes tools to improve scheduling and documentation procedures, refining both clinical and administrative processes in a fertility clinic. Tasks or procedures are spontaneously arranged and scheduled as soon as the patient starts her treatment. Any changes to the treatment initiate an update of the scheduled task. The built-in validation engine warrants that all data is registered. If data is missing, a task is automatically created for the person or group of persons responsible for maintaining such information.

## Benefits of Using the MIRI® Evidence



### • Tracking

The MIRI® Evidence system uses 2D imager scanners with no laser from a marketleading supplier, specifically designed for the healthcare industry. The reader can be used to scan wristbands, capture images, and photograph ID cards and passports.



### • Workflow

The MIRI® Evidence workflow offers tools to enhance scheduling and documentation procedures, improving both clinical and administrative workflows in a fertility clinic. Once a patient's workflow has been started, the system automatically allocates the tasks. The combination of events determines the type of treatment.



### • Compliance

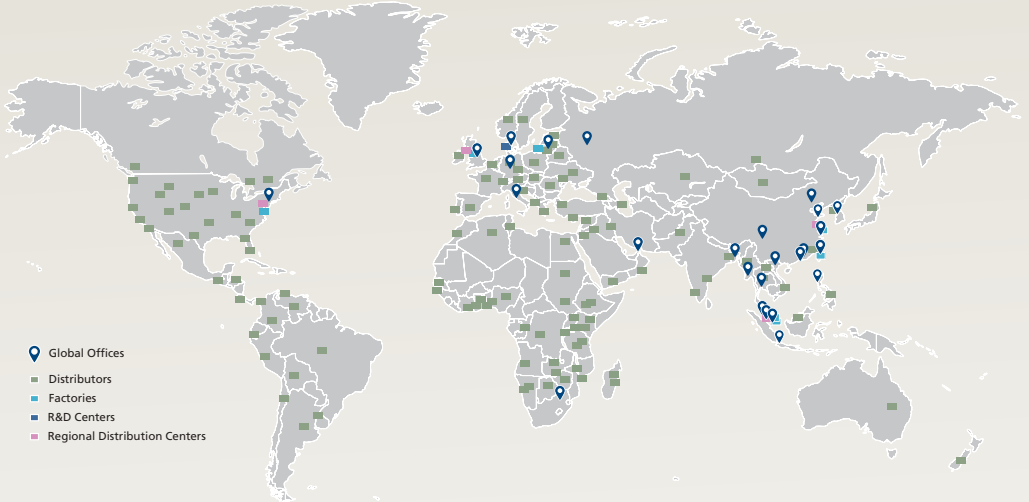
MIRI® Evidence Tracking has been made to comply with the EDQM guidelines and EU regulations. The workflow and tracking system assists the fertility clinic in documenting all procedures in the laboratory and office, thus excluding double-witnessing and saving time.



### • Mix-up prevention

Oocytes, embryos, and semen samples are tracked and validated in and out of the containers eliminating the need for human double-witnessing. The validation guarantees that the correct sample is being processed and prevents patient samples from being mixed up.

# ESCO LIFESCIENCES GROUP



- Global Offices
- Distributors
- Factories
- R&D Centers
- Regional Distribution Centers



## Esco Medical Products

- MIRI® Multiroom Incubator
- MIRI® Humidity Multiroom Incubator
- MIRI® Il-12 Multiroom Incubator
- Mini MIRI® Dry Incubator
- Mini MIRI® Humidity Incubator
- MIRI® TL6 Time-Lapse Incubator
- MIRI® TL12 Time-Lapse Incubator
- Multi-Zone ART Workstation
- MIRI® Laminar Flow Cabinet
- MIRI® Evidence RFID Traceability System
- CelCulture® CO<sub>2</sub> Incubator
- MIRI® GA (Gas and Temperature Validation Unit)
- MIRI® AVT
- CultureCoin®

*Infertility is a problem that has a significant social, psychological, and economic impact on 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 Lifesciences Group. We provide innovative technological solutions for fertility clinics and laboratories. We aim to become the leading manufacturer of high-quality equipment such as long-term embryo incubators, ART workstations, anti-vibration tables, and time-lapse incubators.*

*Our 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. Our primary focus is to increase pregnancy success rates and patient satisfaction.*



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Designed in Denmark



Made in the E.U.

