



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

# Fertility

Product Catalogue

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# About Esco



## Welcome to Esco

Esco Group is a Singapore-based life science company with a diversified portfolio and sales in over 100 countries. As a leading manufacturer of laboratory and biopharma equipment, as well as IVF medical devices, Esco offers tailored solutions that fit the needs of laboratories.

Esco contributes to meet the challenges of the 21st century by continuously innovating our products to support cutting-edge research, helping bio-pharmaceutical companies make their drugs safer and more cost effective, enabling lower cost manufacturing of vaccines, and directly through innovative medical devices and diagnostics.

Esco operates under ISO9001, ISO14001 and ISO 13485 standards to ensure that products and services are safe, reliable and of good quality. Production facility is also audited regularly by independent agencies such as UL, NSF, and others.

## At Esco Medical, Life has begun

Esco Medical is one of the divisions of the Esco Group of companies, apart from Life Sciences and Healthcare. 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.

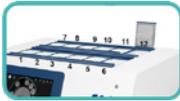
**I promise...  
I'll raise you like flying a kite.  
Will hold you with both hands and slowly let go.  
The day you fly, I'll watch you chase the sky.**



# 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 HEPA/VOC filters and UV light.
- Built-in gas mixer. Premixed gas is not required.

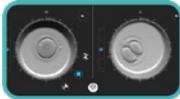
MIRI<sup>®</sup> TL6: 6 Individual chambers  
MIRI<sup>®</sup> TL12: 12 Individual chambers

Gas recovery: less than three (3) minutes  
Temperature recovery: less than one (1) minute



## 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 set points for all 6 (six) chambers.
- **Multi:** Individual set points 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 an easy breeze!

- Has 12 temperature sensors to ensure constant temperature stability.
- Independent PT1000 sensor and gas sample port for external validation.
- 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 Directive 93/42/EEC as amended by Directive 2007/47/EC.*



## CultureCoin<sup>®</sup> for MIRI<sup>®</sup> 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.
- Oxygen plasma treated for high wet-ability (hydroscopic).
- Packed in 1 dish pouches and delivered in boxes of 25 pcs.

## Ordering Information

Item code: 1320088

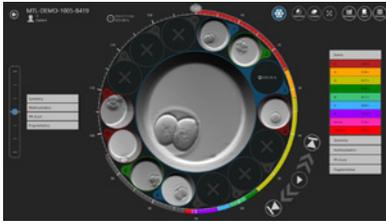
Model Code: MRI-CC

Description: CultureCoin<sup>®</sup> for Time-Lapse of 14 embryos (25 pcs. per pack)



## Embryo Analysis and Evaluation System

The MIRI® 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®. You can play the individual videos, annotate and compare each single embryo.

*Shown on the image is a magnified view of embryo #7*

### Assisted Annotation

The MIRI® “Assist” tool automatically detects early embryo cleavage events.

## General Specifications

| Specifications                       | TL6  | TL12                                     |
|--------------------------------------|--|--|
| Overall Dimensions (W x D x H)       | 805 x 585 x 385 mm (31.7 x 23.0 x 14.8”)   | 950 x 685 x 375 mm (37.4 x 27.0 x 14.8”) |
| Temperature Control Range            | 25 - 40 °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        | 1.9 - 10%  |  |
| O <sub>2</sub> Control Range         | 5 - 20%  |  |
| Input Gas Pressure                   | 0.6 bar (8.7 psi)  |  |
| Built-in Microscope                  | Zeiss 20x, objective has numerical aperture of 0.35, specialized for 635 nm illumination |  |
| Embryo Illumination                  | 0.064s per image, using 1W single red LED (635nm)  |  |
| Camera Resolution                    | 1280 x 1024. Monochrome, 8-bit, IDS system   |  |
| Optics Tube Ratio                    | 2.22 px/µm   |  |
| Imaging Focal Planes                 | 5 min. image interval in 3 to 7 focal planes   |  |

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

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

## Ordering Information

| ITEM CODE          | MODEL CODE        | DESCRIPTION  |
|--------------------|-------------------|--|
| <b>Unit</b>        |                   |  |
| 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                      |
| 2070098            | MRI-TL-MN-6C-SS-8 | MIRI® Time-Lapse Incubator, Mini, 6 chambers with SAFE Sens, 230 V, 60/60 Hz       |
| 2070099            | MRI-TL-MN-6C-SS-9 | MIRI® Time-Lapse Incubator, Mini, 6 chambers with SAFE Sens, 115 V, 60/60 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                           |
| 2070114            | MRI-TL-12C-SS-8   | MIRI® Time-Lapse Incubator, 12 Chambers, 230V 50/60Hz, with SAFE Sens              |
| 2070115            | MRI-TL-12C-SS-9   | MIRI® Time-Lapse Incubator, 12 Chambers, 110V 50/60Hz, with SAFE Sens              |
| <b>Accessories</b> |                   |  |
| 1320011            | MRA-1007          | HEPA + VOC filter (to be replaced 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 |

# 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**  
Less than one minute temperature recovery.
- **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 CO<sub>2</sub> 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.

#### Built-in pH meter

For accurate validation.

#### Solid Validation System

- Six (6) PT1000 sensors and Gas ports for validation outputs
- SAFE Sens Integration for pH monitoring (optional).
- External Data Logging.
- Alarm relay contact
- Total capacity of up to 48 standard culture dishes.
- Separate CO<sub>2</sub> and O<sub>2</sub> regulation, expensive mixed gases not required!
- Air is continuously cleaned by HEPA/ VOC filters, and UV light.



*This equipment is a CE-marked device and is in conformity with the essential requirements of the Medical Devices Directive 93/42/EEC as amended by Directive 2007/147/EC.*

### Stacking Frames



MIRI® Stacking Frame with drawer



MRA-1014 - Stacking frame for 2 units

# MIRI<sup>®</sup> II Multiroom Incubator



The MIRI<sup>®</sup> II 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<sup>®</sup> II 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 more.



## Just a fitting solution...

MIRI<sup>®</sup> II comes with specific inserts matching the type of dishes used in the laboratories.

## Heating optimization plates

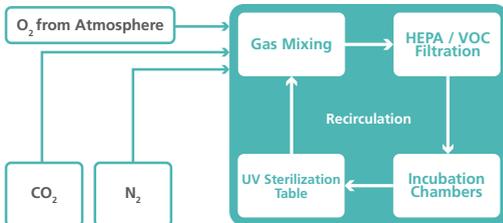
Each chamber contains a heating optimization plate to facilitate heat transfer directly to the culture dishes.

- Has inserts to fit various dish sizes



*The dishes fit into the inserts so that the heat is directly transferred to the media.*

## Airflow Diagram



Provides total control of the gas phase environment. 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.

# General Specifications



## MIRI® Multiroom Incubator

|                                       |  |
|---------------------------------------|--|
| Overall Dimensions (W x D x H)        | 700 x 580 x 160 mm ( 27.6" x 22.9" x 6.3") |
| Power Supply                          | 115 / 230V, 50/60 Hz                       |
| Power Consumption                     | 280 W                                      |
| Temperature Control Range             | 25 - 40°C                                  |
| *Gas Consumption (CO <sub>2</sub> )   | < 2 L/h                                    |
| **Gas Consumption (N <sub>2</sub> )   | < 10 L/h                                   |
| CO <sub>2</sub> Control Range         | 1.9 - 10%                                  |
| O <sub>2</sub> Control Range          | 5 - 20%                                    |
| Input Gas Pressure (CO <sub>2</sub> ) | 0.6 bar (8.7 psi)                          |
| Input Gas Pressure (N <sub>2</sub> )  | 0.6 bar (8.7 psi)                          |
| Net Weight                            | 35 kg (77.2 lbs)                           |
| Shipping Weight                       | 40 kg (88.2 lbs)                           |
| Shipping Dimension                    | 840 x 735 x 300 mm (33.1" X 29" x 11.9")   |

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

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

## MIRI® II Multiroom Incubator: MIRI® II 12 Chambers

|                                       |                                       |
|---------------------------------------|---------------------------------------|
| Overall Dimensions (W x D x H)        | 739 x 560 x 194 mm (29.1 x 22 x 7.6") |
| Power Supply                          | 115V 50/60 Hz or 230V 50/60 Hz        |
| Power Consumption                     | 530 W                                 |
| Temperature Control Range             | 25 - 40° C                            |
| *Gas Consumption (CO <sub>2</sub> )   | <2 L/h                                |
| **Gas Consumption (N <sub>2</sub> )   | <6 L/h                                |
| CO <sub>2</sub> Control Range         | 1.9 - 10 %                            |
| O <sub>2</sub> Control Range          | 5 - 20%                               |
| Input Gas Pressure (CO <sub>2</sub> ) | 0.6 bar (8.70 psi)                    |
| Input Gas Pressure (N <sub>2</sub> )  | 0.6 bar (8.70 psi)                    |
| Net Weight                            | 45 kg                                 |
| Shipping Weight                       | 60 kg                                 |
| Shipping Dimension                    | 880 x 700 x 355 mm                    |

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

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

## Ordering Information

| ITEM CODE                           | MODEL CODE    | DESCRIPTION  |
|-------------------------------------|---------------|--|
| <b>MIRI® Multiroom Incubator</b>    |               |  |
| 2070047                             | MRI-6A10-8    | MIRI® Incubator, 230V, 50/60Hz   |
| 2070048                             | MRI-6A10-9    | MIRI® Incubator, 115V, 50/60Hz   |
| 2070086                             | MRI-6A10-SS-8 | MIRI® Incubator, with SAFE Sens for pH measurement, 230V, 50/60Hz                    |
| 2070087                             | MRI-6A10-SS-9 | MIRI® Incubator, with SAFE Sens for pH measurement, 115V, 50/60Hz                    |
| 1320045                             | MRI-GA        | MIRI® GA CO <sub>2</sub> / O <sub>2</sub> & Temperature Validation Unit, 115V / 230V |
| <b>MIRI® II Multiroom Incubator</b> |               |  |
| 2070164                             | MRI2-12C-8    | MIRI® II Incubator with 12 chambers, 230V, 50/60Hz                                   |
| 2070165                             | MRI2-12C-9    | MIRI® II Incubator with 12 chambers, 115V, 50/60Hz                                   |
| 2070166                             | MRI2-12C-SS-8 | MIRI® II Incubator with 12 chambers, with SAFE Sens, 230V, 50/60Hz                   |
| 2070167                             | MRI2-12C-SS-9 | MIRI® II Incubator with 12 chambers, with SAFE Sens, 115V, 50/60Hz                   |

# Mini MIRI<sup>®</sup> Incubator



Built on the strong and reliable MIRI<sup>®</sup> Multiroom, the Mini MIRI<sup>®</sup> is an incubator that provides a stable culture environment. It has two chambers that prevent cross-contamination while HEPA/VOC 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> Humidified

- Built-in humidity sensor for accurate and continuous readings.
- The water bottle is located on the side of the unit for refilling and easy control of water level.



### Mini MIRI<sup>®</sup> Dry

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

## General Specifications

| Model                          | Mini MIRI <sup>®</sup> Humidified       | Mini MIRI <sup>®</sup> Dry |
|--------------------------------|---|----------------------------|
| Overall Dimensions (W x D x H) | 525 x 420 x 220 mm (20.7 x 16.5 x 8.7") |                            |
| Power Supply                   | 115 VAC or 230 VAC, 50/60 Hz            |                            |
| Temperature Control Range      | 25 - 40° C                              |                            |
| Premixed Gas Consumption       | <2 L/h                                  | N/A                        |
| Gas Pressure                   | 0.4 to 0.6 bar                          |                            |

## Ordering Information

| ITEM CODE | MODEL CODE      | DESCRIPTION  |
|-----------|-----------------|--|
| 2070155   | MRI-MINI-H-8    | Mini MIRI <sup>®</sup> Humidified, 230V, 50/60Hz                                   |
| 2070156   | MRI-MINI-H-9    | Mini MIRI <sup>®</sup> Humidified, 115V, 50/60Hz                                   |
| 2070157   | MRI-MINI-H-SS-8 | Mini MIRI <sup>®</sup> Humidified with SAFE Sens for pH monitoring, 230V, 50/60 Hz |
| 2070158   | MRI-MINI-H-SS-9 | Mini MIRI <sup>®</sup> Humidified with SAFE Sens for pH monitoring, 115V, 50/60 Hz |
| 2070143   | MRI-MINI-D-8    | Mini MIRI <sup>®</sup> Dry, without Humidification, 230V, 50/60Hz                  |
| 2070144   | MRI-MINI-D-9    | Mini MIRI <sup>®</sup> Dry, without Humidification, 115V, 50/60Hz                  |
| 2070145   | MRI-MINI-SS-D-8 | Mini MIRI <sup>®</sup> Dry with SAFE Sens for pH monitoring, 230V, 50/60 Hz        |
| 2070146   | MRI-MINI-SS-D-9 | Mini MIRI <sup>®</sup> Dry with SAFE Sens for pH monitoring, 115V, 50/60 Hz        |

# Inserts for MIRI® and Mini MIRI®



## Extensive list of Inserts for MIRI® and Mini MIRI®

When ordering a MIRI® or a Mini MIRI®, you just have to pick the right insert/s that fit the dishes used in your laboratory. You have the freedom and flexibility to choose -- no limitations. The MIRI® and Mini MIRI® can easily fit-in to your existing work routine.

All inserts 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.



Falcon®



Nunc™



Vitrolife



LifeGlobal® GPS Dishes



SparMED Oosafe®



Nipro™

## Ordering Information

| ITEM CODE | MODEL CODE | DESCRIPTION                               |
|-----------|------------|---|
| 1320003   | TBA        | Insert for Falcon® Dishes                 |
| 1320004   | TBA        | Insert for Nunc™ Dishes                   |
| 1320070   | TBA        | Insert for Vitrolife Dishes               |
| 1320099   | TBA        | Insert for Nipro™ Dishes                  |
| 1320100   | TBA        | Insert for LifeGlobal® GPS Dishes         |
| 1320101   | TBA        | Insert Without Footprint for Plain Dishes |
| 1320118   | TBA        | Insert for SparMED Oosafe®                |

# 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 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+3) temperature to 60°C above ambient.
- Complete contamination control methods to protect your precious samples.
- All gas inputs are filtered via 0.2micron 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 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, 50L, IR sensor, CO <sub>2</sub> control, Moist Heat Decon, with Sealed Inner Door Kit for 50L (2 Glass Doors With Latches), Factory Installed, 230VAC, 50/60 Hz                     |
| 2170272  | CCL-170B-8-IVF | CelCulture® Incubator 170L IR Sensor, CO <sub>2</sub> Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170L (4 Glass Doors With Latches), Factory Installed, 230VAC 50/60Hz                  |
| 2170258  | CCL-050B-9-IVF | CelCulture® Incubator, 50L, IR sensor, CO <sub>2</sub> control, Moist Heat Decon, with Sealed Inner Door Kit for 50L (2 Glass Doors With Latches), Factory Installed, 115VAC, 50/60 Hz                     |
| 2170273  | CCL-170B-9-IVF | CelCulture® Incubator 170L IR Sensor, CO <sub>2</sub> Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170L (4 Glass Doors With Latches), Factory Installed, 115VAC 50/60Hz                  |
| <b>Suppressed O<sub>2</sub> Model with Stainless Steel Chamber</b> |                |  |
| 2170260  | CCL-050T-8-IVF | CelCulture® Incubator, 50L, IR sensor, CO <sub>2</sub> & O <sub>2</sub> control, Moist Heat Decon, with Sealed Inner Door Kit for 50L (2 Glass Doors With Latches), Factory Installed, 230VAC, 50/60 Hz    |
| 2170275  | CCL-170T-8-IVF | CelCulture® Incubator 170L IR Sensor, CO <sub>2</sub> & O <sub>2</sub> Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170L (4 Glass Doors With Latches), Factory Installed, 230VAC 50/60Hz |
| 2170261  | CCL-050T-9-IVF | CelCulture® Incubator, 50L, IR sensor, CO <sub>2</sub> & O <sub>2</sub> control, Moist Heat Decon, with Sealed Inner Door Kit for 50L (2 Glass Doors With Latches), Factory Installed, 115VAC, 50/60 Hz    |
| 2170276  | CCL-170T-9-IVF | CelCulture® Incubator 170L IR Sensor, CO <sub>2</sub> & O <sub>2</sub> Control ULPA, Moist Heat Decon, with Sealed Inner Door Kit for 170L (4 Glass Doors With Latches), Factory Installed, 115VAC 50/60Hz |

# 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 set point, 10 independent zones with their own heating elements and sensors allow excellent uniformity.

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

### Low Noise, Low Vibration

Esco has a state-of-the-art design and features resulting in very low noise and vibration level that makes the workstation suitable for sensitive microscopic work.

### Superior Air Cleanliness

Esco workstations provide ISO Class 3 air cleanliness within the workzone as per ISO 14644.1.



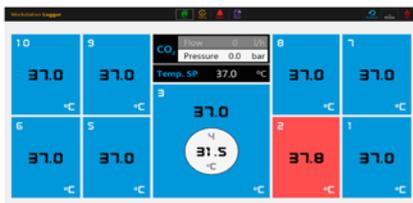
### Microscope Integration Provision

Having an integrated stereomicroscope in the work chamber makes it possible to keep the culture dishes at the right temperature at all times while observation and manipulation are carried out.



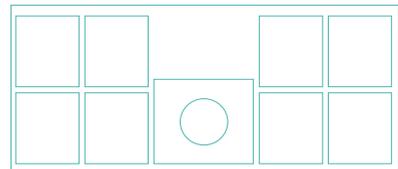
### Humidification System

Gas outlet is located on the table surface. The plastic cover encloses the humidified gas effectively and creates a small incubator environment.



### Surveillance System

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



### Four Temperature Modes

#### Temperature Modes

- Mode 1: All zones are heated
- Mode 2: Right zones turned off
- Mode 3: Right and middle zones turned off
- Mode 4: All zones turned off

# 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®  
GPS Dishes



Nipro™



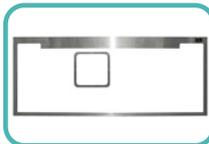
SparMED Oosafe®

## Accessories

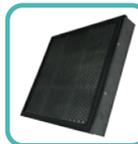


Support Stand:

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



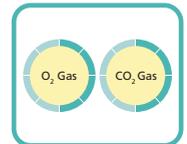
UV Kit



Carbon Filter



32 mm microscope pillar



Gas Mixer for MAW

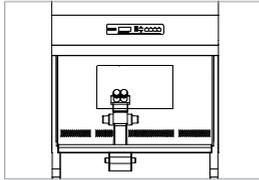
# Esco Multi-Zone ART Workstation



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

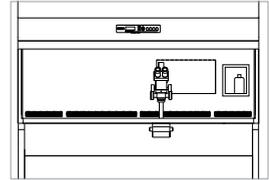
## MAW-3D8

Width: 3 Feet  
Microscope: Single  
Basic Configuration  
1 user  
For small laboratories



## MAW-6D\_ MONO

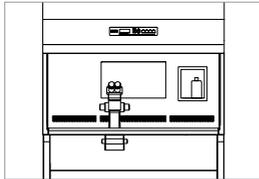
Width: 6ft  
Microscope: Single  
1 user  
More space for other work.



(Front View)

## MAW-4D\_

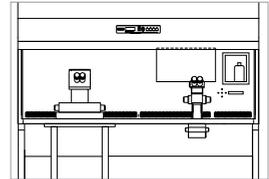
Width: 4ft  
Microscope: Single  
Basic Configuration  
1 user  
For small Laboratories



(Front View)

## MAW-6D\_-MP

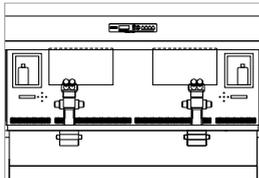
Width: 6ft  
Microscope: Single  
Stereomicroscope,  
1 Inverted microscope set-up



(Front View)

## MAW-6D\_-DUAL

Width: 6ft  
Microscope: Dual  
2 users  
For efficient use of space

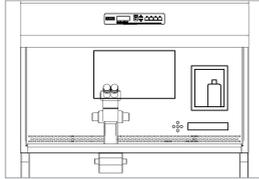


(Front View)

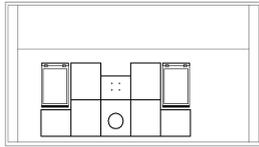


### MAW-4D\_-MC

Width: 4ft  
Microscope: Single  
1 user  
For small Laboratories



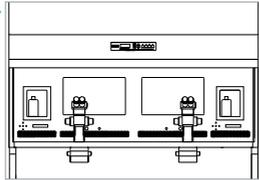
(Front View)



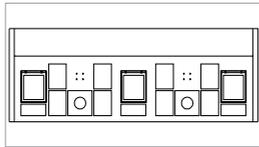
(Worktop View)

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

Width: 6ft  
MIRI® Chambers: 3  
Microscope: Dual  
2 users



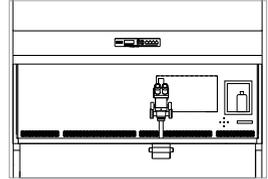
(Front View)



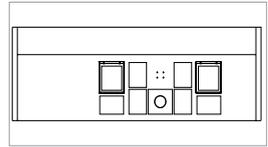
(Worktop View)

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

Width: 6ft  
Microscope: Single  
MIRI® Chambers: 2



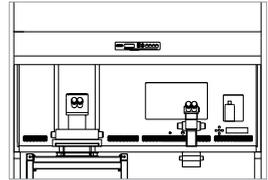
(Front View)



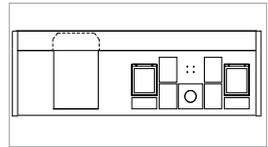
(Worktop View)

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

Width: 6ft  
Microscope: Single  
Stereomicroscope,  
1 Inverted  
microscope set-up  
MIRI Chambers: 2



(Front View)



(Worktop View)



# Esco Multi-Zone ART Workstation Class II



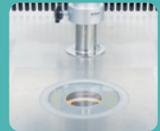
The Esco Multi-Zone ART Workstation Class II is packed with features that help ensure optimal results during IVF procedures. It is especially designed in handling gametes and embryos from patients with communicable diseases while providing sample, user and environmental protection.

## Touch screen monitor

A fully functional Windows PC that provides real-time information of the culture behaviour, zone performance and other work area parameters such as gas pressure and flow rate.

## Heated Glass Stage

Providing dedicated power supply to ensure temperature control and recovery in this zone.



## Multi-Zone Heating System



## Microscope Integration

Provision to integrate most popular stereo and inverted microscopes.



## Fit in the same MIRI® Inserts



Nunc™



Falcon®



Vitrolife



LifeGlobal®  
GPS Dishes



Nipro™



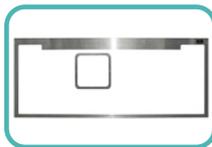
SparMED Oosafe®

## Accessories

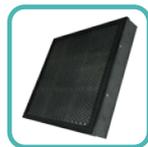


Support Stand:

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



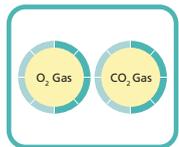
UV Kit



Carbon Filter



32 mm microscope pillar



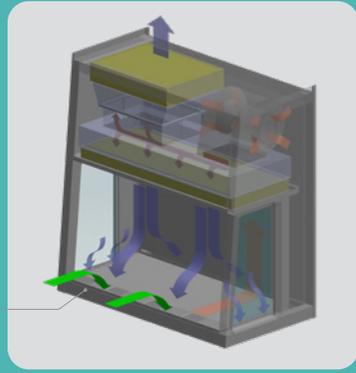
Gas Mixer for MAW

# Class II Protection

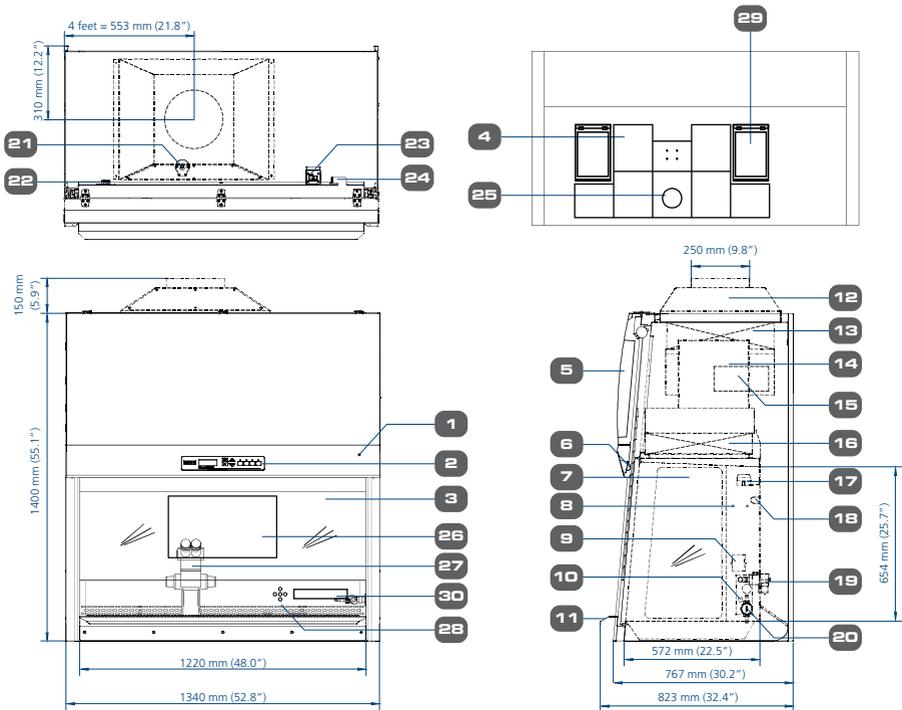
Biological safety cabinet Class II which provides protection for the embryos, gametes, embryologists, and environment.

- ULPA-filtered air
- Unfiltered / potentially contaminated air
- Room air / Inflow air

Dynamic Air Barrier: where inflow and forward-directed downflow air converge



## Esco Class II Multi-Zone ART Workstation Engineering Drawing



- |  |   |  |
|--|---|--|
| <ol style="list-style-type: none"> <li>1. Key Switch</li> <li>2. Esco Sentinel™ Gold Microprocessor Control System</li> <li>3. Laminated Glass Motorized Sliding Sash Window</li> <li>4. Multi-Zone Heated Table Top (9+1 Zones)</li> <li>5. Electrical Panel</li> <li>6. Energy Efficient LED Lamps</li> <li>7. Hole-free, Easy to Clean Side Tempered Glass</li> <li>8. IV Bar Retrofit Kit Provision</li> </ol> | <ol style="list-style-type: none"> <li>9. Standard Electrical Outlet Retrofit Kit Provision</li> <li>10. Service Fixture Retrofit Kit Provision</li> <li>11. Stainless Steel Arm Rest</li> <li>12. Exhaust Collar (Optional)</li> <li>13. Exhaust H14 Filter (Optional U15)</li> <li>14. DC ECM Downflow Blower</li> <li>15. DC ECM Exhaust Blower</li> <li>16. Downflow H14 Filter (U15 is Optional)</li> <li>17. Downflow Sensor</li> <li>18. UV Lamp Provision</li> <li>19. Optional Solenoid Valve</li> </ol> | <ol style="list-style-type: none"> <li>20. Optional Steris VHP / Bioquell HPV Port</li> <li>21. Exhaust Sensor</li> <li>22. Voltage Free Relay Contact</li> <li>23. RS 232 Serial Interface Port (Optional RS 485 Communication Port)</li> <li>24. Power Inlet</li> <li>25. Integrated Heated Glass Stage</li> <li>26. Touchscreen Monitor (AIO PC)</li> <li>27. Provision for Microscope</li> <li>28. Control Panel for Heated Table Top</li> <li>29. MIR® Chambers</li> <li>30. LED Display</li> </ol> |
|--|---|--|

# Esco Multi-zone Workstation



## General Specifications: Esco Workstations

| Model   | MAW-3D8   | MAW-4D_                                  | MAW-6D_                                  | MAW-6D_-DUAL                             | MAW-6D_-MP  |
|---|---|--|--|--|---|
| Nominal Size                                  | 0.9 meter (3')  | 1.2 meter (4")                           | 1.8 meter (6")                           | 1.8 meter (6")                           | 1.8 meter (6")                                      |
| Work area dimension* (Width x Depth x Height) | 955 x 500 x 710 mm (37.6" x 19.7" x 28.0")  | 1260 x 500 x 710mm (49.6" x 19.7" x 28") | 1870 x 500 x 710mm (73.6" x 19.7" x 28") | 1870 x 500 x 710mm (73.6" x 19.7" x 28") | 1870 x 500 x 710mm (73.6" x 19.7" x 28")            |
| 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)**                    | <48 dBA   | 47 dBA                                   | 52 dBA                                   | 52 dBA                                   | 52 dBA  |
| Set of (9+1) heating zone                     | 1 set   | 1 set                                    | 1 set                                    | 2 sets                                   | 1 set   |
| Surveillance system                           | 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                                    | Position for 1 microscope   | Position for 1 microscope                | Position for 1 microscope                | Position for 2 microscopes               | Position for 1 microscope and 1 inverted microscope |
| Transmitted light source                      | 1 set   | 1 set                                    | 1 set                                    | 2 sets                                   | 1 set   |
| Shipping weight                               | 195 kg  | 140 kg (308.6 lbs)                       | 182 kg (401.2 lbs)                       | 182 kg (401.2 lbs)                       | 182 kg (401.2 lbs)                                  |

\* 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.

## General Specifications: Esco Multi-Zone ART Workstation (MAW) 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 (83.6 x 19.7 x 28.0")                            | 1870 x 490 x 780 mm (73.6 x 19.3 x 30.7")                            |
| External dimensions without support stand (W x D x H)       | 1340 x 640 x 1300 mm (52.8 x 25.2 x 51.2")  | 1950 x 640 x 1300 mm (76.8 x 25.2 x 51.2")                             | 1950 640 x 1300 mm (76.8 x 25.2 x 51.2")                             | 1950 x 647 x 1360 mm (76.8 x 25.4 x 53.5")                           |
| External Dimensions with "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 |  |  |
|   | Work Zone   | 1.2 mm (0.05") 18 gauge stainless steel, grade 304                     |  |  |
|   | Side Walls  | Tempered Laminated Glass   |  |  |
|   | Sash  | (Optional: Polycarbonate sash for MAW with built-in UV light)          |  |  |
| Laminar air velocity  | Average of 0.21m/s or 41 fpm (± 20%)  |  |  |  |
| ULPA 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, non-washable polyester fibre, 85% arrestance, EU3 rated                         |  |  |  |
| 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<br>1 x sample carry tray                        | 1 x water bottle for HS-1, including tubing<br>1 x sample carry tray   | 2 x water bottle for HS-1, including tubing<br>2 x sample carry tray | 1 x water bottle for HS-1, including tubing<br>1 x sample carry tray |
| Microscope  | Required,<br>Not included (see microscope ordering information)                             |  |  |  |
|   | Position for 1 microscope   | Position for 1 microscope  | Position for 2 microscopes   | Position for 1 microscope and 1 inverted microscope                  |
| Support stand   | Required, Not included<br>(see support stand ordering information)                          |  |  |  |

## General Specifications: Esco Class II Multi-Zone ART Workstation with MIRI® Chambers

|   |            |  |
|---|------------|--|
| Internal Work Area, Dimensions (W x D x H)                  |            | 1220 x 580 x 654 mm (48.0 x 22.8 x 25.7")  |
| External dimensions without support stand (W x D x H)       |            | 1340 x 823 x 1400 mm (52.8 x 32.4 x 55.1")   |
| External Dimensions with "B" type support stand (W x D x H) |            | 1340 x 640 x 2160 mm (52.8 x 25.2 x 85.0")   |
| Cabinet Construction  | Main Body  | 1.2 mm (0.05") 18 gauge electro-galvanized steel with white oven-baked epoxy-polyester Isocide™ antimicrobial powder-coated finish |
|   | Work Zone  | 1.5 mm (0.06") 16 gauge stainless steel, type 304, with 4B finish  |
|   | Side Walls | Tempered Laminated Safety Glass  |
|   | Sash       |  |
| Average Airflow Velocity                                    | Inflow     | 0.48 m/s (95 fpm)  |
|   | Downflow   | 0.35 m/s (69 fpm)  |
| Pre-Filter  |            | Disposable, non-washable polyester fibre, 85% arrestance, EU3 rated Optional, not included   |
| ULPA Filter efficiency                                      |            | >99.999% for particle size between 0.1 to 0.3 microns per IEST-RP-CC001.3 / H14 per EN 1822  |
| Set of (9+1) heating zones                                  |            | 1  |
| Number of MIRI® Chambers                                    |            | 2  |
| Microscope  |            | Position for 1 microscope  |
| Support stand   |            | Required, Not included (see support stand ordering information)  |
| Nominal Power Consumption (W)                               |            | 175  |
| Sound Emission per EN 12469*                                |            | 49.6 dBA   |
| Net Weight**  |            | 191 Kg (421 lbs)   |
| Shipping Weight**   |            | 220 Kg (485)   |
| Shipping Dimensions, Maximum (W x D x H)**                  |            | 1100 x 880 x 1760 mm (43.3" x 34.6" x 69.3")   |

\*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.

\*\*Cabinet only, excludes optional stand.

## Ordering Information

| ITEM CODE   | MODEL CODE          | DESCRIPTION   |
|---|---------------------|---|
| <b>Esco 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), 110V 50/60Hz                                     |
| 2070018   | MAW-6D8-MONO        | Esco Multi-Zone ART Workstation, 6ft (1.8m), 220V 50/60Hz                                     |
| 2070026   | MAW-6D9-MONO        | Esco Multi-Zone ART Workstation, 6ft (1.8m), 110V 50/60Hz                                     |
| 2070050   | MAW-6D8-DUAL        | Esco Multi-Zone ART Workstation, Double Heated Zone, 6ft (1.8m), 220V 50/60Hz                 |
| 2070039   | MAW-6D9-DUAL        | Esco Multi-Zone ART Workstation, Double Heated Zone, 6ft (1.8m), 110V 50/60Hz                 |
| 2070036   | MAW-6D8-MP          | Esco Multi-Zone ART Workstation, Multi-Purpose, 6ft (1.8m), 220V 50/60Hz                      |
| 2070038   | MAW-6D9-MP          | Esco Multi-Zone ART Workstation, Multi-Purpose, 6ft (1.8m), 110V 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), 110V 50/60Hz                     |
| 2070069   | MAW-6D8-MONO-MC     | Esco Multi-Zone ART Workstation, Miri® Chambers, 6ft (1.8m), 220V 50/60Hz                     |
| 2070071   | MAW-6D9-MONO-MC     | Esco Multi-Zone ART Workstation, Miri® Chambers, 6ft (1.8m), 110V 50/60Hz                     |
| 2070075   | MAW-6D8-DUAL-MC     | Esco Multi-Zone ART Workstation, Double Heated Zone, MIRI® Chambers, 6ft (1.8m), 220V 50/60Hz |
| 2070074   | MAW-6D9-DUAL-MC     | Esco Multi-Zone ART Workstation, Double Heated Zone, MIRI® Chambers, 6ft (1.8m), 110V 50/60Hz |
| 2070072   | MAW-6D8-MP-MC       | Esco Multi-Zone ART Workstation, Multi-Purpose, MIRI® Chambers, 6ft (1.8m), 220V 50/60Hz      |
| 2070073   | MAW-6D9-MP-MC       | Esco Multi-Zone ART Workstation, Multi-Purpose, MIRI® Chambers, 6ft (1.8m), 110V 50/60Hz      |
| <b>Standard unit with MIRI® Chambers</b>                          |                     |   |
| 2070141   | MAW-4D8-MC-Class II | Esco Class II Multi-Zone ART Workstation, MIRI® Chambers, 4ft (1.2m), 230V 50/60Hz            |

# Semi-Closed Environment



## Maximum performance and Quality Control of your procedures

Semi-Closed Environment (SCE) takes the controlled environment from your incubators to previous procedures in the laboratory workflow. We believe that maximum control of the environment throughout the entire ART procedure is beneficial and will lead to better outcome.

With the SCE product line, you can now perform microscopy and IVF with a stable, controlled and monitored CO<sub>2</sub> and temperature, inside the working area.

### Key Benefits of both systems:

- 3 incubator compartments with access from the front (inside the working area) and from the back (outside the working area).
- Pre-installed stereomicroscope or micromanipulator (based on your requirements).
- Heated zones on the work area.
- CO<sub>2</sub> controlled environment separately monitored in the working area and the 3 incubator compartments.
- VOC filtering of the air in the incubators and the large working area.
- Data Logger software with full insight of temperature and gas conditions.

## General Specifications

|                                     |  |
|-------------------------------------|--|
| Overall Dimensions (W x D x H)      | 780 x 700 x 590 mm (30.7 x 27.6 23.2")                     |
| Power Supply                        | 115 - 230 VAC, 50/60 Hz                                    |
| Power Consumption                   | 250 Watts  |
| Heating Elements                    | 220 Watts  |
| Temperature Control Range           | 25 – 40°C  |
| *Gas Consumption (CO <sub>2</sub> ) | <2 L/h (for compartments)<br><10 L/h ( for working area )  |
| Control Range (CO <sub>2</sub> )    | 2 – 9.9 %  |
| Input Gas (CO <sub>2</sub> )        | 0.6 bar (8.7 psi)  |
| Worktop Material                    | Stainless Steel Tabletop                                   |
| Built-in Microscope                 | MS-1 or Nikon SMZ800N<br>(Available only these two scopes) |
| Net Weight                          | 70 kg  |
| Shipping Weight                     | 80 kg  |
| Shipping Dimensions (W x D x H)     | 850 x 726 x 1000 mm (33.5 x 28.6 x 39.4")                  |

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

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

## Ordering Information

| ITEM CODE | MODEL CODE                      | DESCRIPTION   |
|-----------|---------------------------------|---|
| 2070093   | SCE-Stereo with MS-1 Microscope | Semi-Closed Environment, with MS-1 Esco Microscope, 230V 50/60Hz    |
| 2070094   | SCE-Stereo with MS-1 Microscope | Semi-Closed Environment, with MS-1 Esco Microscope, 115V 50/60Hz    |
| 2070095   | SCE-Stereo with Nikon SMZ800    | Semi-Closed Environment, with Nikon SMZ800 Microscope, 230V 50/60Hz |
| 2070096   | SCE-Stereo with Nikon SMZ800    | Semi-Closed Environment, with Nikon SMZ800 Microscope, 115V 50/60Hz |

# Anti-Vibration Table



The Anti-Vibration Table (AVT) features an anti-vibration mechanism for passive dampening of the microscope. This is mainly used for *In Vitro* Fertilization (IVF) or 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. AVT-1 is constructed to be easy-to-use and almost maintenance-free.

## Key Features

- Anti-vibration mechanism for passive dampening
- Sturdy frame
- Stainless steel table with elegant glass design
- Range (HZ) vibration could be eliminated while using this AVT: 5.5-50Hz

## General Specifications

|                         |  |
|-------------------------|--|
| Overall Dimensions      | 1200 x 800 x 800 mm (47.2 x 31.5 x 31.5")            |
| Net weight              | 114 kg (251.3 lbs)                                   |
| Material                | Powder-painted mild steel, Stainless steel and glass |
| Float Dimension (W x D) | 540 x 340 mm (21.3 x 13.4")                          |

## Ordering Information

| ITEM CODE | MODEL CODE | DESCRIPTION          |
|-----------|------------|----------------------|
| 1320054   | AVT-1      | Anti-Vibration Table |



# Versati™ Tabletop Centrifuge Refrigerated



Versati™ Tabletop centrifuge refrigerated model TCR stand out among the same level products with their versatility, running features and easy handling. It can be use with high-capacity and low-to-high speed general-purpose centrifuge applications. It is suitable for sperm purification process during animal IVF because of its adjustable temperature range (-200°C to +400°C).

## Key Features

- Compact Design
- Incredible Flexibility
- High Temperature Ramp Rate
- Fast Pre-cooling
- Overspeed Protection
- Over Temperature Protection

## Overview of Models

### Versati™ Micro Centrifuge



#### Model: MCV-88

- Maintenance-free brushless motor
- Superior safety
- Audible and visible alarms
- Up to 88 ml capacity



#### Model: MCR-88

- Maintenance-free brushless motor
- Superior safety
- Temperature Range: -20°C to 40°C
- Up to 88 ml capacity

### Versati™ Tabletop Centrifuge



#### Model: TCV-1500

- Maintenance-free brushless motor
- Superior safety (Automatic rotor recognition)
- Audible and visible alarms
- Up to 1500 ml capacity



#### Model: TCR-1500

- Maintenance-free brushless motor
- Superior safety (Automatic rotor recognition)
- Temperature Range: -20°C to 40°C
- Up to 1500 ml capacity

# Options and Accessories



## General Accessories for Versati™ Micro Centrifuge



### Aerosol-tight Fixed-angle Rotor

This TÜV Nord Certified Bioseal Rotor is used for 1.5/2.0 ml tubes. Adapters are used to run 0.5 ml and 2.0 ml / 0.4 ml PCR tubes.



### Fixed-angle Rotor

Aluminum rotor used for 5 ml conical tubes. Adapters are also used in this rotor to run 1-1.8 ml Cryo tubes and 1.5 ml / 2.0 ml PCR tubes.



### Microhematocrit Rotor

Rotor ideal for medical field in the determination of hematocrit value through its circular reader accessory. This rotor can only be used in MCV model.



### Fixed-angle Rotor for PCR Strips

Rotor made of polypropylene used for 4 x 8 (0.2 ml) PCR strips.

*Note: There are a total of 6 rotor options for MCR, 7 rotor options for MCV, and 5 available adapters for both models.*

## General Accessories for Versati™ Tabletop Centrifuge



### Swing-bucket Rotor

Aluminum swing-bucket rotor with circular flat-bottom buckets made of polypropylene can hold up to 4 x 250 ml tubes. It has flexible adapters ideal for medical and biotechnology laboratories.



### Microtiter Plate Rotor

This microtiter plate rotor has a maximum capacity of up to 6 plates. This can also accommodate deep well plate, culture plate, microtest/ terasaki plate, microsonic system, and PCR well plate.



### Fixed-angle Rotor

The maximum capacity of this fixed-angle rotor is 6 x 250 ml. It can also run tubes ranging from 1.5/2.0 ml to 50 ml using suitable adapters.



### Aerosol-tight Fixed-angle Rotor

This TÜV Nord Certified Bioseal Rotor used for 1.5/2.0 ml tubes is also available in tabletop centrifuge models. Adapters are used to run 0.5 ml and 2.0 ml / 0.4 ml PCR tubes.

*Note: There are a total of 12 rotor options for TCV/ TCR and 47 available adapters for both models.*

# Ordering Information



## Guide to Models

### MCV - 88 - 8

| Model                         | Code | Centrifuge Capacity          | Code | Electrical Supply | Code |
|-------------------------------|------|------------------------------|------|-------------------|------|
| Micro Centrifuge Ventilated   | MCV  | Maximum Sample Capacity (ml) | 88   | 230 VAC 50/60 Hz  | 8    |
|                               |      |                              |      | 120 VAC 50/60 Hz  | 9    |
| Micro Centrifuge Refrigerated | MCR  |                              |      | 230 VAC 50/60 Hz  | 8    |
|                               |      |                              |      | 120 VAC 50/60 Hz  | 9    |

### MCV / MCR High Speed Micro Centrifuge for up to 15,000 rpm

Designed to accelerate your routine sample preparation processes.

| Model Code   | Item Code | Description                                     |
|--------------|-----------|---|
| MCV - 88 - 8 | 2220001   | Micro Centrifuge Ventilated 230 VAC, 50/60 Hz   |
| MCV - 88 - 9 | 2220002   | Micro Centrifuge Ventilated 120 VAC, 50/60 Hz   |
| MCR - 88 - 8 | 2220003   | Micro Centrifuge Refrigerated 230 VAC, 50/60 Hz |
| MCR - 88 - 9 | 2220004   | Micro Centrifuge Refrigerated 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   |
| TCR-1500-8 | 2220007   | Tabletop Centrifuge Refrigerated 230 VAC, 50/60 Hz |
| TCR-1500-9 | 2220008   | Tabletop Centrifuge Refrigerated 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 and MIRI® Multiroom 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<br>6 x gas sampling ports |
| Output ports                   | 1 x gas feedback port, 1 x USB port                                   |
| Shipping dimensions and weight | 440mm x 430mm x 240mm<br>(17.3" x 16.9" x 9.4"), 15kg (33.1lbs)       |

## Ordering Information\*

| ITEM CODE | MODEL CODE | DESCRIPTION  |
|-----------|------------|--|
| 1320045   | TBA        | MIRI® GA CO <sub>2</sub> / O <sub>2</sub> / Temp validation Unit,<br>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 |

# SAFE Sens



## Continuous pH Monitoring

*Worry-free pH monitoring of your Esco incubators*

SAFE Sens (Sterile, Automated Fluoroscopic Evaluation) offers fast, effective, and non-invasive continuous pH monitoring product for in vitro fertilization (IVF) procedures.

The SAFE Sens technology employs an optical fluorescent measurement technology, used in combination with disposable sensors, which accurately and reliably monitors the pH of small volumes of fluids such as the media used in IVF.

Order SAFE Sens with your new MIRI® and Mini MIRI®\*

### Key Features



#### Continuous pH measurement

- Reading and recording every 30 minutes (default setting - adjustable).
- Single use sensor probe for up to seven (7) days of pH readings.



#### Easy-to-implement

- Easy-to-align (no buffers, no hassles).
- Easy-to-use and maintain.



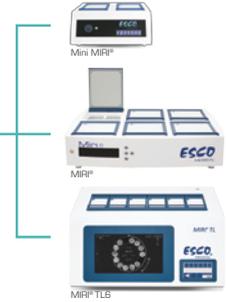
#### Data Logging System

- Data Logging and user alarms.
- Each TrakStation® can be connected to multiple incubators.



#### Compact and Efficient

No more unnecessary openings of your incubator for spot pH measurement.



\*Factory-installed. No option yet to install on-site for previously ordered MIRI®.  
\*\*SAFE Sens is a trademark brand of Blood Cell Storage, Inc. (BCSI)

## Ordering Guide for SAFE Sens

Step1: Choose the correct electrical rating for each equipment.

| ITEM CODE         | MODEL CODE        | DESCRIPTION  |
|-------------------|-------------------|--|
| <b>MIRI® TL6</b>  |                   |  |
| 2070098           | MRI-TL-MN-6C-SS-8 | MIRI® Time-Lapse Incubator, Mini, 6 chambers with SAFE Sens, 230 V, 60/60 Hz |
| 2070099           | MRI-TL-MN-6C-SS-9 | MIRI® Time-Lapse Incubator, Mini, 6 chambers with SAFE Sens, 115 V, 60/60 Hz |
| <b>MIRI® TL12</b> |                   |  |
| 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                     |
| <b>MIRI®</b>      |                   |  |
| 2070086           | MRI-6A10-SS-8     | MIRI® Incubator, with SAFE Sens for pH measurement, 230V, 50/60Hz            |
| 2070087           | MRI-6A10-SS-9     | MIRI® Incubator, with SAFE Sens for pH measurement, 115V, 50/60Hz            |
| <b>Mini MIRI®</b> |                   |  |
| 2070078           | MRI-MINI-SS-8     | Mini MIRI® Incubator, with SAFE Sens for pH measurement, 230V, 50/60Hz       |
| 2070079           | MRI-MINI-SS-9     | Mini MIRI® Incubator, with SAFE Sens for pH measurement, 115V, 50/60Hz       |

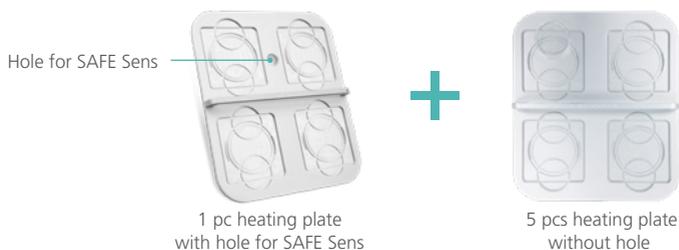
## Step 2: Order the SAFE Sens Accessories.\*

| ITEM CODE | MODEL CODE | DESCRIPTION   |
|-----------|------------|---|
| 1081277   | TBA        | SAFE Sens SV2 Sensor, Pack of 10 pieces (shelf-life 12 months)              |
| 1081278   | TBA        | SAFE Sens QC2 Alignment Tool  |
| 1320191   | TBA        | SAFE Sens TrakStation, a tablet with SAFE Sens Software, for pH monitoring. |

- \*Notes:** (1) One QC2 alignment tool can be used on all incubators. If incubators are located in separate rooms, you may have to order more than one QC2 tool.  
 (2) QC2 Alignment tool and SV2 sensors have an expiration date of one (1) year.  
 (3) The MIRI® with SAFE Sens automatically comes with free one (1) pack of SV2 sensors, which is to be used for Site Standardization. Please determine how many additional packs you need for routine pH testing. Put into consideration that the sv2 sensor has one year expiration date. See page 5 for stock-keeping matrix  
 (4) One TrakStation can connect up to eight (8) incubators by using a USB 3.0 Hub. Determine how many PC tablets you need.  
 (5) The Esco data logger should be installed separately on another Windows PC/ tablet. Please see page 5 for the minimum requirements.

## Step 3: Choose Heat Optimization Plate. Only one chamber has the SAFE Sens installed so order only one (1) plate that has a hole for the SAFE Sens. See guide below.

No Heat Optimization Plate needed for MIRI® TL



*Note: Heat plates should only be ordered for MIRI® and Mini MIRI®.*

| ITEM CODE                          | MODEL CODE | DESCRIPTION                               |
|------------------------------------|------------|---|
| <b>Heating Plates with No Hole</b> |            |   |
| 1320003                            | TBA        | Insert for Falcon® Dishes                 |
| 1320004                            | TBA        | Insert for Nunc™ Dishes                   |
| 1320070                            | TBA        | Insert for Vitrolife Dishes               |
| 1320099                            | TBA        | Insert for Nipro™ Dishes                  |
| 1320100                            | TBA        | Insert for LifeGlobal® GPS Dishes         |
| 1320101                            | TBA        | Insert Without Footprint for Plain Dishes |
| 1320118                            | TBA        | Insert for SparMED Oosafe®                |

| ITEM CODE                                     | MODEL CODE | DESCRIPTION  |
|---|------------|--|
| <b>Heating Plates with Hole for SAFE Sens</b> |            |  |
| 1320220                                       | TBA        | Insert for Nunc™ Dishes, with hole for SAFE Sens                   |
| 1320221                                       | TBA        | Insert for Vitrolife Dishes, with hole for SAFE Sens               |
| 1320222                                       | TBA        | Insert for Nipro™ Dishes, with hole for SAFE Sens                  |
| 1320223                                       | TBA        | Insert for LifeGlobal® GPS Dishes, with hole for SAFE Sens         |
| 1320224                                       | TBA        | Insert Without Footprint for Plain Dishes, with hole for SAFE Sens |
| 1320225                                       | TBA        | Insert for SparMED Oosafe®, with hole for SAFE Sens                |
| 1320219                                       | TBA        | Insert for Falcon® Dishes, with hole for SAFE Sens                 |

# ESCO GLOBAL NETWORK



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



## Esco Medical Products:

- MIRI™ TL6 Time-Lapse Incubator
- MIRI™ TL12 Time-Lapse Incubator
- MIRI™ Multiroom Incubator
- MIRI™ II Multiroom Incubator
- Mini MIRI™ Incubator
- Esco Multi-Zone ART Workstation
- Esco Multi-Zone ART Workstation Class II
- Semi-Closed Environment IVF
- CelCulture® CO<sub>2</sub> Incubator
- MIRI™ GA (Gas and Temperature Validation Unit)
- Anti-Vibration Table (AVT)
- Versati™ Tabletop Centrifuge Refrigerated
- 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 Group of Companies. 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 EU.



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