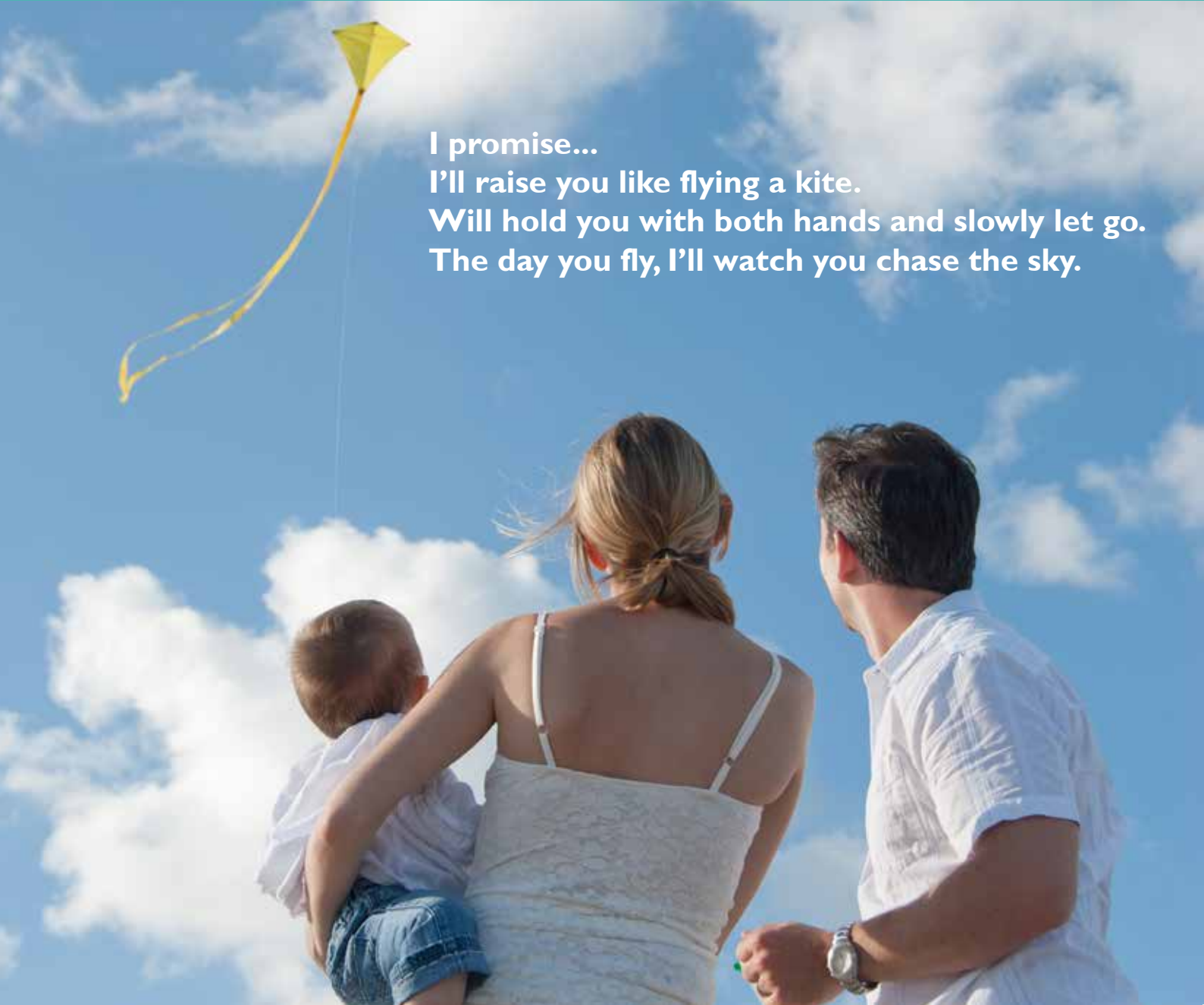




# Fertility

Product Catalogue  
2014-2015



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.

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## Welcome to Esco

Esco represents innovation and forward - thinking designs, which are all coupled with the highest standard quality since 1978. The Esco Group of Companies is a global life sciences tools provider, which produces state-of-the-art lines in laboratory, pharmaceutical and medical equipment.

Headquartered in Singapore, manufacturing facilities are located in Asia and Europe. R&D is conducted worldwide spanning the US, Europe and Asia. Sales, services and marketing subsidiaries are located in 12 major markets including the US, UK, Japan, China and India. With global offices in over 23 locations, Esco products are sold in more than 100 countries through more than 300 independent distribution partners.

Esco operates under ISO9001, ISO14001 and ISO 13485 standard 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, the other two being the laboratory and pharmaceutical equipment divisions. Esco is now targeting innovative technological solutions for fertility clinics and laboratories.

Esco Medical is positioned to become a leading manufacturer and innovator of high quality equipment such as Time-Lapse Incubator, Bench-Top Multi-room 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.

The slightest deviation, which we usually consider as insignificant errors often result to non-optimal conditions for embryo growth and can lower pregnancy success. Thus, our primary focus is to aid the fertility clinics and laboratories to increase pregnancy success rates. This is why we understand that even the smallest details matter to the way in vitro fertilization is being performed. With Esco Medical products, life has begun.



# Miri® TL - Time Lapse Incubator

Miri® TL is a Time Lapse incubator that monitors embryo development. The Esco Miri® 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.

## Key Features

### ◦ Unique Incubation Environment

In Miri® TL, 6 separate chambers have been designed to prevent cross-contamination during the process. The independent temperature regulation ensures optimal embryo developmental conditions.

### ◦ 2 Temperature Mode Options

Single: Uniform set points for all 6 chambers.  
Multi: Individual set points for each chamber.

### ◦ Time Lapse Monitoring

With Miri® TL, you can continuously monitor the development of embryos using built-in microscope and camera, specifically designed for embryo illumination. This enables a detailed scoring of embryos cultured, for better prediction of future developmental and implantation potential.



- Time lapse monitoring with 5 minute picture interval provides basis for better decision-making process.
- Retrospective data analysis provides complete documentation which can also be used for reference, knowledge sharing and training for embryologists.
- The 6 independent incubation chambers set new standards for a safe and secure handling of your embryos.
- Rapid temperature and gas recovery to ensure optimal environment stability



### CultureCoin, a culture dish, especially designed for the Miri® TL

- 1 Miri® TL chamber contains 1 CultureCoin and has room for 14 embryos.
- With 6 chambers, total capacity is 84 embryos.

### Certified Medical Device

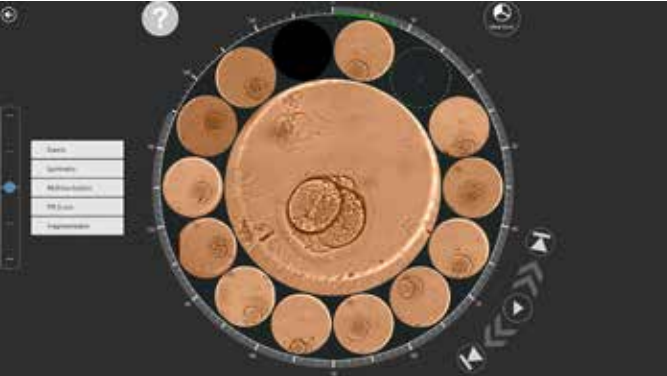
EU MDD Class IIa Medical Device  
CE 1023





Embryo Analysis and Evaluation System

The Miri® TL Viewer is equipped with embryo viability evaluation tools. These features help embryologists in improving the selection of only the best embryos to transfer. With retrospective embryo development analysis, you can maintain complete documentation of patient details, treatment and embryo data.



Navigation through the stacked timeline is easy and intuitive as all 14 wells of the special culture dish (CultureCoin) in a selected chamber can be monitored closely.  
*Shown on the image is a magnified view of embryo #2 at time point of 9 hours.*



After choosing the viable embryos, a 'transfer map' will be presented which can easily identify whether the chosen embryos will undergo embryo transfer, cryopreservation, or discarding.

Miri® TL Technical Specifications	
Dimensions and weight	950mm x 600mm x 370mm (37.4" x 23.6" x 14.6") 90 kg (198.5 lbs)
Temperature Control Range	25-40°C
Gas consumption (CO <sub>2</sub> )*	< 2 L/h
Gas consumption (N <sub>2</sub> ) **	< 12 L/h
CO <sub>2</sub> control range	1.9 - 10%
O <sub>2</sub> control range	5 - 20%
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	1280x1024. 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	
MRI-TL8	Miri® Time Lapse Incubator System, 230 V, 50/60 Hz
MRI-TL9	Miri® Time Lapse Incubator System, 115 V, 50/60 Hz
MRI-CC	CultureCoin for Time Lapse of 14 embryos (25 pcs. per pack)

# Miri® - Multi-room 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 multi-room 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 standards of care, it boasts a unique set of features that cannot be found elsewhere.

## Key Features

### ◦ 6 Completely Independent Chambers

- Any disruption (e.g., temperature drop after opening the lid) has zero impact on the rest of the system.

### ◦ Direct Heat Transfer

- Less than 1 minute temperature recovery.

### ◦ Heated Lid

- Prevents condensation.
- Enhances temperature regulation/recovery.



## Fast Recovery

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



Designed in Denmark



Made in the E.U.

- 6 completely separate heating chambers for safe and secure handling of your embryos.
- Total capacity of up to 48 standard culture dishes.
- Direct heat transfer allows for <1 minute temperature recovery.
- Heated Lid prevents condensation and enhances temperature regulation and recovery.
- Separate CO<sub>2</sub> and O<sub>2</sub> regulation, expensive mixed gases not required!
- Air quality is continuously cleaned by HEPA/VOC filters, and UV light.

## Certified Medical Device



Cleared



Tested



IEC/EN60601-1-2  
3rd Edition

MDD Class II A

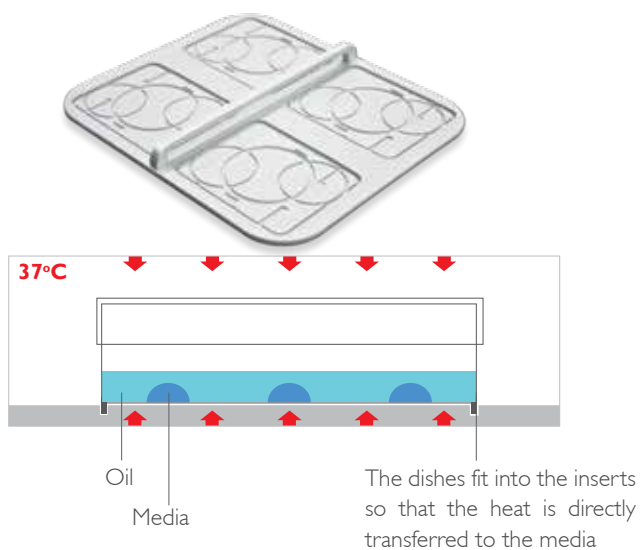


Medical Devices



1023

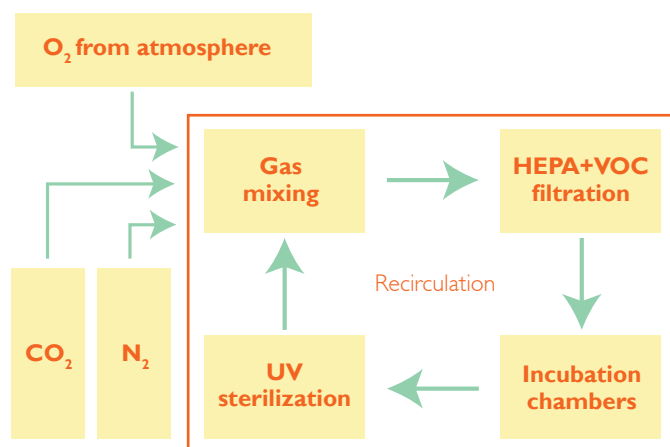
## Heating Optimization Plates



Each chamber contains a heating optimization plate to facilitate direct heat transfer to the culture dishe(s)

- Has inserts to fit various dish sizes
- Removable for easy cleaning

## 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.

## Miri® Multi-room Incubator Technical Specifications

Dimension and Weight	700 mm x 580 mm x 150 mm (27.6" x 22.8" x 5.9") 35 kg (77.2 lbs)
Total Dish Capacity	Falcon, Nunc, or Vitrolife brands 24x IVF 4-well 24 x 60 mm Petri Dishes (0.9" x 2.4") 48 x 35 mm Petri Dishes (1.9" x 1.4")
Temperature Control Range	25 - 40°C
Gas consumption (CO <sub>2</sub> )*	< 2 L/h
Gas consumption (N <sub>2</sub> )**	< 12 L/h
CO <sub>2</sub> Control Range	1.9 - 10%
O <sub>2</sub> Control Range	5 - 20%

\* 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

MRI-6A10	Miri® Incubator, 115V/230V, Dishes (Falcon, Nunc, Vitrolife or NIPRO)
MRI-1014	Stacking frame for 2x Miri® units

# Fertilisafe™ Multi-zone ART Workstation

The Fertilisafe™ 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 Fertilisafe™ has 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 is being carried out.

## Humidification System



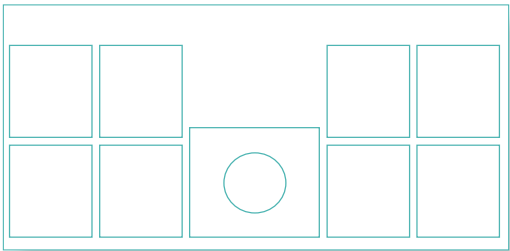
Gas outlet is located on the table surface. The plastic cover encloses the humidified gas effectively and creates a small incubator environment.

## Surveillance System



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

## Smart Power Injection



The heating system will automatically prioritize power distribution. This ensures effective temperature control with fast recovery. Note: Zone 4 (warmed glass stage) has dedicated power supply to further enhance the temperature control and recovery in this zone.

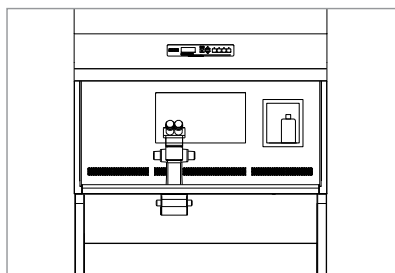


# Fertilisafe™ Multi-Zone ART Workstation

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

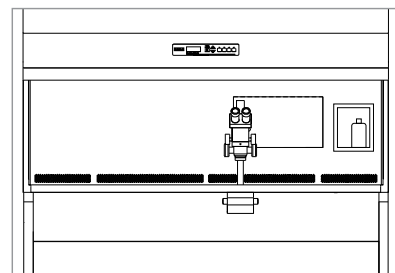
## MAW-4D\_

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



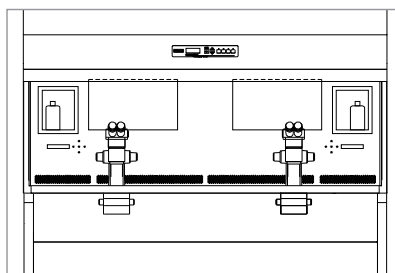
## MAW-6D\_

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



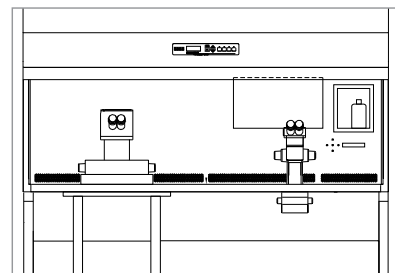
## MAW-6D\_-Dual

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



## MAW-6D\_-MP

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



## Fertilisafe™ Workstation Technical Specification

Model	MAW-4D_	MAW-6D_	MAW-6D_-DUAL	MAW-6D_-MP
Work area dimensions* (width x depth x height)	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 500 x 710 mm (73.6" x 19.7" x 28.0")
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			
Noise level (per NSF 49)**	47 dBA	52 dBA	52 dBA	52 dBA
Pre-filter	Disposable and non-washable polyester fibers with 85% arrestance / EU3 rated			
Set of (9+1) heating zone	1 set	1 set	2 sets	1 set
Surveillance system	1 set	1 set	2 sets	1 set
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	2 sets	1 set
Humidification system***	1 set	1 set	2 sets	1 set
PT 1000 ports	5 ports	5 ports	10 ports	5 ports
Shipping weight	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 dimensions 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 1 water bottle with tubing, 1 sample carry tray and 1 plastic cover.



Designed in Denmark



Made in the E.U.

The Esco Miri® GA is a desktop CO<sub>2</sub>/ O<sub>2</sub> and temperature validation unit. Employing state of the art sensor technology, this advanced CO<sub>2</sub> and O<sub>2</sub> gas analyser can take sequential samples from up to 6 ports. Connected to a PC, the logging software will document parameters and optionally send e-mail alarms if set up. The Esco Miri® Gas Analyser contains high precision quality components, which are chosen to ensure high durability and performance of the connecting equipment.

#### 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

#### Miri® GA Technical Specifications

Input ports	6x PT1000 ports for temperature monitoring
Output ports	1x gas feedback port
Shipping Dimension and Weight	440 mm x 430 mm x 240 mm (17.3" x 16.9" x 9.4"), 15 Kg (33.1 lbs)
Ordering information*	
MRI-GA	Miri® GA CO <sub>2</sub> / O <sub>2</sub> & Temperature Validation Unit, 115V / 230V

\*Includes data logging software, 1 pc PT1000 cable, 1 pc gas connection tube, and 1 pc gas feedback tube

## Anti Vibration Table



Designed in Denmark



Made in the E.U.

The Esco 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. The Esco AVT-I 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: 5,5-50 Hz

#### Technical Specifications

#### AVT-1

Overall Dimensions (W x D x H)	1200 x 800 x 800 mm (47.2" x 31.5" x 31.5")
Net weight	70 kg (154 lbs)
Material	Powder painted mild steel, Stainless steel and glass
Float Dimension	540 mm x 340 mm (21.26" x 13.39")

#### Ordering information

AVT-1	Anti Vibration Table
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# CO<sub>2</sub> Incubator



**ISOCIDE™**

## Cradle for Beautiful Cells

CelCulture® CO<sub>2</sub> incubators are widely used in scientific research to grow and maintain cell cultures. Typical fields of application include tissue engineering, in vitro fertilization, neuroscience, cancer research, stem cell research, regenerative medicine, and other mammalian cell research.

Sleek, reliable and intuitive, Esco CelCulture® CO<sub>2</sub> Incubators provide well-rounded sample protection.

### 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.

## SUPPRESSED O<sub>2</sub> MODEL

MODELS	DESCRIPTION
CCL-170T-8	CelCulture® Incubator, 170L, IR Sensor, CO <sub>2</sub> Control, O <sub>2</sub> Control ULPA, Moist Heat Decon, 230VAC 50/60HZ
CCL-170T-9	CelCulture® Incubator, 170L, IR Sensor, CO <sub>2</sub> Control, O <sub>2</sub> Control ULPA, Moist Heat Decon, 115VAC 50/60HZ
CCL-240T-8	CelCulture® Incubator, 240L, IR Sensor, CO <sub>2</sub> Control, O <sub>2</sub> Control ULPA, Moist Heat Decon, 230VAC 50/60HZ
CCL-240T-9	CelCulture® Incubator, 240L, IR Sensor, CO <sub>2</sub> Control, O <sub>2</sub> Control ULPA, Moist Heat Decon, 115VAC 50/60HZ

# Laminar Flow Cabinet



**ISOCIDE™**

## Product Protection at your Fingertips

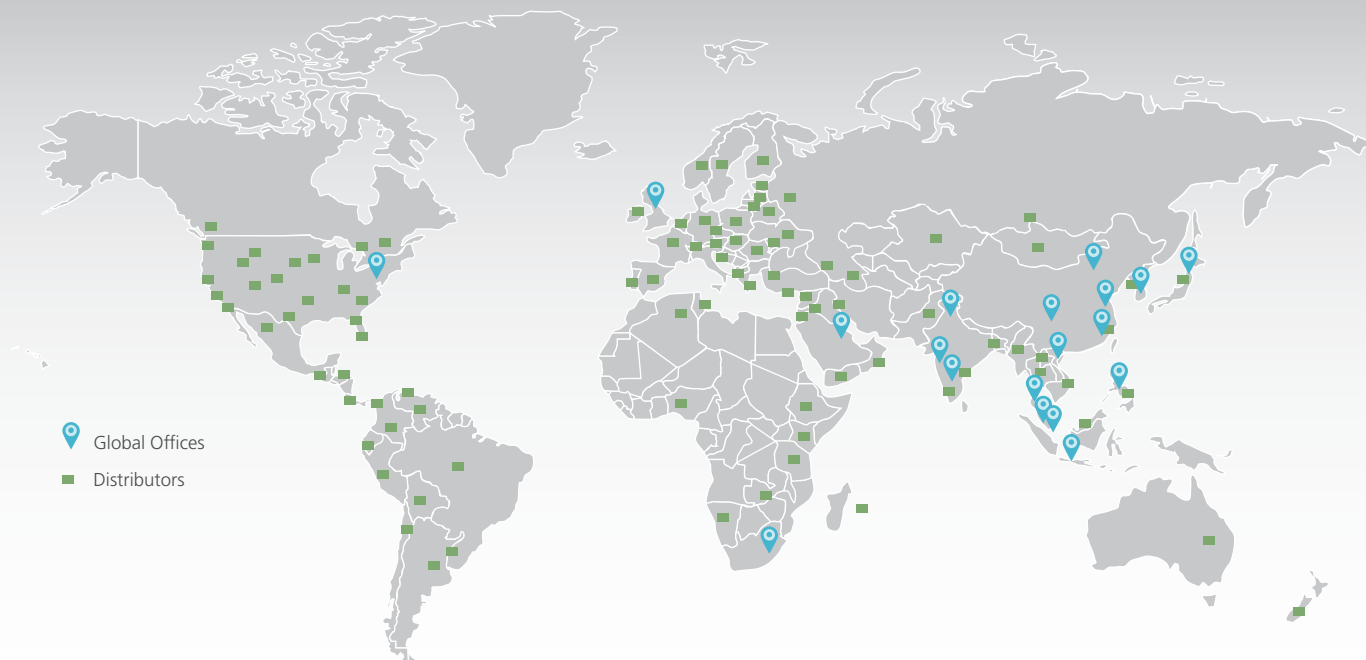
Airstream® Vertical Laminar Flow Clean Benches offer proven protection for your samples and processes where operator protection is required. Vertical laminar flow offers certain tangible advantages over horizontal flow clean benches (which may be the convention to some parts of the world), such as lower energy consumption (40% of conventional system) levels through the use of exclusive motorized impeller technology and less airflow turbulence (especially when large objects are used on the workzones). In fact, the negative pressure filter mounting system employed on these models is widely recognized to be superior to that of conventional horizontal flow clean benches.



### Key Features

- ISO Class 3 workzone
- Airflow monitoring
- Energy saving

Model		AVC-2D_	AVC-3D_	AVC-4D_	AVC-5D_	AVC-6D_
Nominal Size		0.6 m (2")	0.9 m (3")	1.2 m (4")	1.5 m (5")	1.8 m (6")
External Dimensions (W x D x H)	Without Base Stand	730 x 770 x 1250 mm 28.7" x 30.3" x 49.2"	1035 x 770 x 1250 mm 40.7" x 30.3" x 49.2"	1340 x 770 x 1250 mm 52.8" x 30.3" x 49.2"	1645 x 770 x 1250 mm 64.8" x 30.3" x 49.2"	1950 x 770 x 1250 mm 76.8" x 30.3" x 49.2"
	With Optional Base Stand 711mm (28")	730 x 770 x 1961 mm 28.7" x 30.3" x 77.2"	1035 x 770 x 1961 mm 40.7" x 30.3" x 77.2"	1340 x 770 x 1961 mm 52.8" x 30.3" x 77.2"	1645 x 770 x 1961 mm 64.8" x 30.3" x 77.2"	1950 x 770 x 1961 mm 76.8" x 30.3" x 77.2"
Internal Work Area Dimensions (W x D x H)		660 x 700 x 695 mm 26.0" x 27.6" x 27.4"	965 x 712 x 695 mm 38.0" x 28.0" x 27.4"	1270 x 712 x 695 mm 50.0" x 28.0" x 27.4"	1580 x 712 x 695 mm 62.2" x 28.0" x 27.4"	1884 x 712 x 695 mm 74.2" x 28.0" x 27.4"
Internal Work Area Space		0.39 m <sup>2</sup> (4.2 sq.ft.)	0.59 m <sup>2</sup> (6.3 sq.ft.)	0.79 m <sup>2</sup> (8.5 sq.ft.)	0.98 m <sup>2</sup> (10.5 sq.ft.)	1.18 m <sup>2</sup> (12.7 sq.ft.)

## GLOBAL NETWORK



-  Global Offices
-  Distributors



**Esco Medical Products:**  
 ART Workstations  
 CO<sub>2</sub> Incubators  
 Miri® Multi-room Incubators  
 Miri® TL (Time Lapse) Bench Top Incubators  
 Miri® GA (Gas Analyser)  
 Anti-Vibration Table (AVT)

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

*Esco Medical is one of the divisions of the Esco Group of Companies, the other two being the laboratory and pharmaceutical equipment divisions. Esco is now targeting innovative technological solutions for fertility clinics and laboratories. Esco Medical is positioned to become a leading manufacturer and innovator of high-quality equipment such as long-term embryo incubators, ART workstations, anti vibration table, time-lapse incubator and etc.*

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



**ESCO**  
 MEDICAL

**dijkstra  
 verenigde**

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