



Ensuring unique environment for human embryo culture

# Mini MIRI<sup>®</sup>

Dry and Humidified Incubator

**Design Excellence - Superior Quality**

Mini MIRI® - a compact incubator

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# Mini MIRI®

“A compact incubator”



*“Mini MIRI® – No compromises, built on the robust and reliable MIRI® design”*

Built on the robust and reliable MIRI® design, the Mini MIRI® Incubator provides a stable culture environment. The compact design and direct heat regulation further translate to faster temperature and gas recovery.

## FEATURES:

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### Heated Lid

- Prevents condensation
- Enhances temperature regulation and recovery
- Excellent uniformity between the top and the bottom
  - Accuracy:  $\pm 0.2$  °C
  - Uniformity:  $\pm 0.2$  °C



### Optional SAFE Sens Integration

For continuous pH measurement.  
*See page 6 for more info.*

### Direct Heat Transfer

- Provides superior temperature stability.
- Less than one (1) minute of temperature recovery.

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### Dual Chamber System

- This is ideal because any disruption (e.g. temperature drop after opening the lid) has zero impact on the rest of the system. Furthermore, calibration is much simpler since there is no crossover of heat from adjacent chamber.
- The small chamber volume allows for gas composition recovery in less than three (3) minutes and temperature recovery in less than one (1) minute.

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### Ergonomic Rotatory Key

The Rotatory Key is used to access the menu, to toggle among settings and to set parameter values.

# Superior Incubation Environment

The Mini MIRI® has two (2) chambers with temperature parameter that can be regulated independently. This is ideal because any disruption e.g., temperature drop after opening the lid of one chamber will have no impact on the other. Furthermore, calibration is so much simpler because there is no crossover of heat from adjacent chambers.

The Mini MIRI® features a total of 4 temperature controlled points. That is two (2) points for every chamber: one (1) on the bottom and another on the heated lid. The heated lid is another great feature of the Mini MIRI® as it enhances temperature uniformity.



**Gas Recovery:**  
Less than three (3) minutes

**Temperature Recovery:**  
Less than one (1) minute

## Fast Recovery

There are many advantages to using multiroom incubators. One important benefit is the speed of recovering temperature and gas parameters after opening a chamber.



## The little details count

IVF practitioners deal with precious and sensitive embryos, and often, the little details make a big difference. The Mini MIRI® has a large LED display that can be easily seen from a distance. Also, the glass lid tops, while acting as chamber insulators, can be written on — a very useful feature for organization.



## With Built-In Gas Mixer

The built-in gas mixer and the high-performance CO<sub>2</sub> and O<sub>2</sub> sensors allow input of pure gases and accurate control of gas phase composition within the chambers. It gives flexibility over the desired gas input.\*



## Stress-free Validation

PT 1000 Temperature Sensors are built-in, which are completely independent from the main circuitry. Gas sampling ports are likewise available for both 2 chambers. The Mini MIRI® can be connected to an external device such as the Esco MIRI® GA for gas and temperature validation.

\* Input of pure gases is recommended

# Mini MIRI<sup>®</sup> comes in two variants to fit your culture's environmental needs.

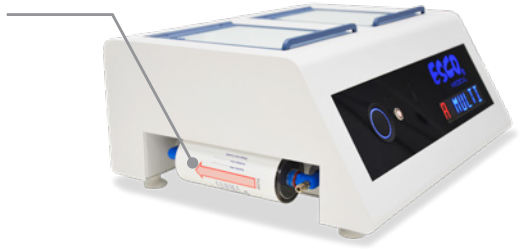


## Mini MIRI<sup>®</sup> Dry

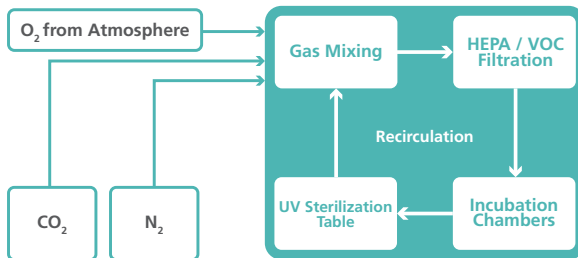
### High quality airstream via HEPA/VOC filter + UV

The filter module can be easily replaced once used.

The gas in the MIRI<sup>®</sup> is continuously recirculated through a HEPA/VOC filter. A UV-C light (254 nm) sterilizes the airstream before passing through the filter.



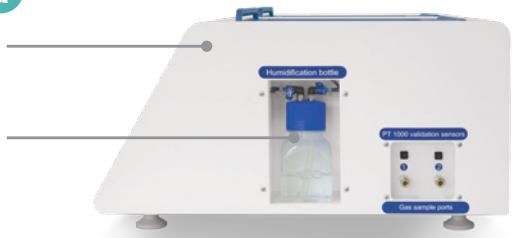
### Airflow Diagram



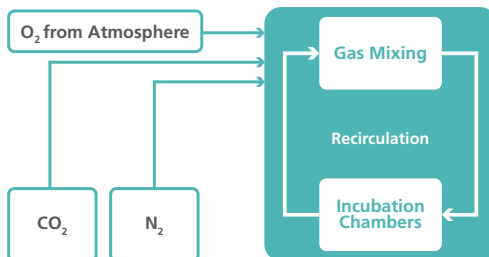
## Mini MIRI<sup>®</sup> Humidified

It has 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.



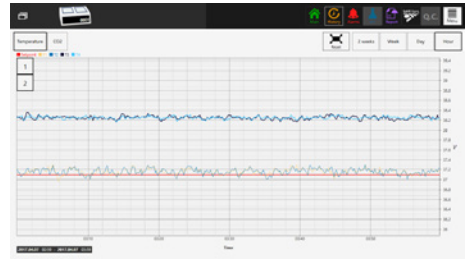
### Airflow Diagram



# Full-featured and user-friendly Control panel, display, and data logging software



Complete parameters are displayed. Histories of any alarm events are logged.



The data logger stores continuous performance data of the machine throughout its use. These can be viewed in graphs.



Conditions that put the Mini MIRI® into alarm state are recorded. It is possible for the software to send email alerts as well.

## The Mini MIRI® can be connected to an easy to-use, feature-packed data logging software installed on any ordinary PC and connected via USB.

Multiple machines can be connected and managed from a single computer. All real-time parameters of the machine can be conveniently viewed. These include the temperature of all monitored temperature and gas concentration points, gas input pressures, gas flow rates, current gas readings, and all set points.

All performance data of the machine including alarms are continuously logged and can be viewed in graphs. The data logger also automatically generate reports weekly which makes it more convenient for the user.





# Accessories



## 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
- Removable for easy cleaning

## Total Capacity

Heating plates customized for several types of dishes:

- 4 x Falcon® Ø 50/60 mm
- 8 x Falcon® Ø 35 mm
- 4 x Nunc™ Ø 54/60mm
- 8 x Nunc™ Ø 35 mm
- 4 x Vitrolife Dishes
- 4 x LifeGlobal® GPS Dishes
- 4 x Nipro™
- 4 x SparMED Oosafe®



For Mini MIRI® with integrated SAFE Sens (optional), order a different plate with hole to accommodate the SAFE Sens sensor (see ordering information on page 7).

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



Nunc™



Falcon®



Vitrolife



LifeGlobal®  
GPS Dishes



Nipro™



SparMED Oosafe®

# SAFE Sens\* Continuous pH Monitoring (Optional)

The Mini MIRI® can be installed with an integrated SAFE Sens technology for 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.



## 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.
- Only requires 100 µL of media + 50 µL of oil.

\* SAFE Sens is a trademark brand of Blood Cell Storage, Inc. (BCSI). SAFE Sens integration is currently offered as a factory-installed option.

\*\*Minimum system requirements for data logger PC/Tablet:

· Intel Core 2 Duo or AMD Athlon X2 at 2.4 GHz processor · 4Gb RAM ù 15Gb Hard Disk space · Integrated Video Card · Monitor with resolution 1024 x 768 · Windows 7 pro/ 8 Pro/ 10 OS with 64 Bit architecture · USB 3.0 port for each connected device

# General Specifications



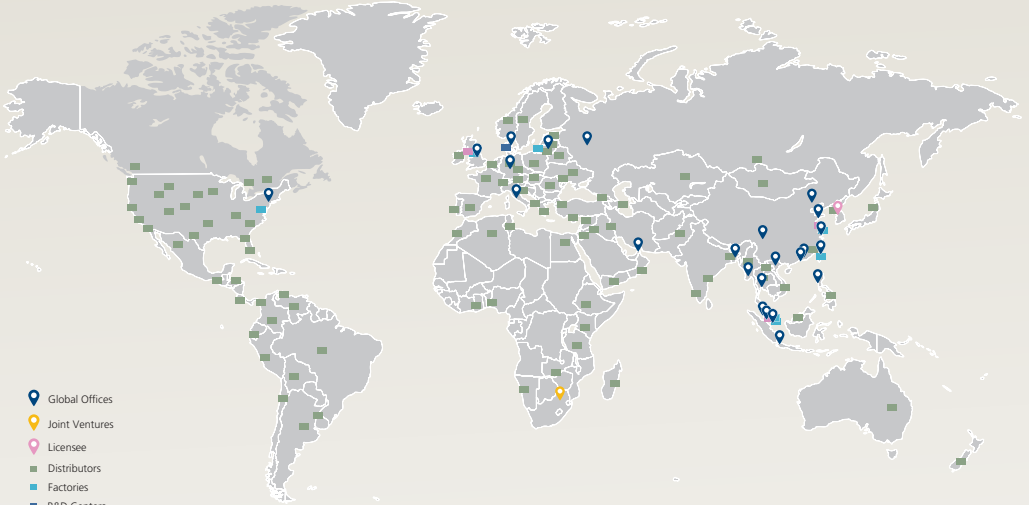
## Mini MIRI® Incubator

Model	Mini MIRI® Dry	Mini MIRI® Humidified
Overall Dimensions (W x D x H)	525 x 420 x 220 mm (20.7 x 16.5 x 8.7")	
Weight	22 kg	
Power Supply	115 VAC or 230 VAC, 50/60 Hz	
Power Consumption	90 W	
Temperature Control Range	25 - 40° C	
N <sub>2</sub> Gas Consumption	<5 L/h	
CO <sub>2</sub> Gas Consumption	<2 L/h	
Gas Pressure	0.4 to 0.6 bar	
Shipping Weight	32 kg	
Shipping Dimensions	700 x 600 x 470 mm (27.6 x 23.6 x 18.5")	

## Ordering Information

ITEM CODE	MODEL CODE	DESCRIPTION
<b>Unit</b>		
2070155	MRI-MINI-H-8	Mini MIRI® Humidified, 230V, 50/60Hz
2070156	MRI-MINI-H-9	Mini MIRI® Humidified, 115V, 50/60Hz
2070157	MRI-MINI-H-SS-8	Mini MIRI® Humidified with SAFE Sens for pH monitoring, 230V, 50/60 Hz
2050158	MRI-MINI-H-SS-9	Mini MIRI® Humidified with SAFE Sens for pH monitoring, 115V, 50/60 Hz
2070143	MRI-MINI-D-8	Mini MIRI® Dry, without Humidification, 230V, 50/60Hz
2070144	MRI-MINI-D-9	Mini MIRI® Dry, without Humidification, 115V, 50/60Hz
2070145	MRI-MINI-SS-D-8	Mini MIRI® Dry with SAFE Sens for pH monitoring, 230V, 50/60 Hz
2070146	MRI-MINI-SS-DRY-9	Mini MIRI® Dry with SAFE Sens for pH monitoring, 115V, 50/60 Hz
<b>Accessories</b>		
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.
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®
1320219	TBA	Insert for Falcon® Dishes, with hole for SAFE Sens
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

# 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)
- 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 E.U.



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 ISO 13485: 2016