

MIRI® Incubators

199

ESCO

for Embryo Culture Incubation



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About Esco

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Welcome to Esco

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

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

At Esco Medical, life has begun

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

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

Esco Medical is the leading manufacturer and innovator of high-quality equipment such as Time-Lapse Incubator, Multiroom Embryo Incubators, IVF Workstation, CO₂ 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.

About Embryo Culture

Embryo incubation is an essential step in all *In Vitro* fertilization (IVF) procedures. Embryo development using a suitable media in culture dishes, in a desired incubator entails a dynamic process. It moves past through the fertilization stage, cleavage stage, and then to the blastocyst stage in some cases.

IVF as an Assisted Reproductive Technology necessitates incubators that function as momentary environment for embryos that are moved back to the female for implantation. Such IVF incubators are intended to copy the woman's uterine environment that aids in embryo development. Because of such importance, IVF laboratories regard culture incubators as some of the most critical equipment as they are responsible for decreasing environmental stress to gametes, wherein they provide stable and appropriate environment.

Incubators control parameters like carbon dioxide levels/pH, oxygen concentration, and humidity/evaporation/media osmolality, and temperature. These factors have an impact on embryo development. Esco Medical offers an array of incubator models that is suitable to the needs of IVF laboratories and clinics.

This catalogue will guide and inform you about Esco Medical's different incubators.



MIRI[®] Time-Lapse Incubator

MIRI® TL is a Time-Lapse incubator that monitors embryo development. The 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.



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[®] TL6: 6 Individual chambers

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.





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.



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.



This equipment is a CE-marked device and is in

conformity with the essential requirements of the medical devices EU regulation 2017/745.

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 590 x 375 mm (31.7 x 23.2 x 14.8")	950 x 685 x 375 mm (37.4 x 27.0 x 14.8")	
Compartment Dimensions	120 x 90 x 26	6 mm (4.7 x 3.5 x 1")	
Temperature Control Range	28.	7 - 41.0 °C	
Gas Consumption (CO ₂) *		< 2 L/h	
Gas Consumption (N ₂) **		< 5 L/h	
CO ₂ Control Range	2.9% - 9.9%		
O ₂ Control Range	2.0% - 20.0%		
Input Gas Pressure	0.61	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 (CO₂ set point reached at 6.0%, all lids closed).

** Under normal condition (O2 set point reached at 5.0%, all lids closed).

Ordering Information

ITEM CODE	MODEL CODE	DESCRIPTION
Unit		
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, 6 chambers with SAFE Sens, 230 V, 50/60 Hz
2070099	MRI-TL-MN-6C-SS-9	MIRI® Time-Lapse Incubator, 6 chambers with SAFE Sens, 115 V, 50/60 Hz
2070100	MRI-TL-12C-8	MIRI® Time-Lapse Incubator, 12 Chambers, 230 V, 50/60 Hz
2070101	MRI-TL-12C-9	MIRI® Time-Lapse Incubator, 12 Chambers, 115 V, 50/60 Hz
2070114	MRI-TL-SS-12C8	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
MIRI® TL Viewer Software		
2070042	MRI-VIEWER	MIRI [®] Time-Lapse Viewer
1320095	MRI-SERVER	MIRI® Time-Lapse Server
Accessories		
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 ₂ /O ₂ & Temperature Validation Unit, 115V/ 230V



CultureCoin[®] for MIRI[®] TL

- Holds up to 14 embryos with individual numbered wells (1-14).
- For single and separated culture where each embryo are cultured in its own environment.
- Ergonomic design for easy handling and location of embryos
- Separate well for pH measurement
- Oxygen plasma treated for high wet-ability (hydroscopic)
- Packed in 1 dish pouches and delivered in boxes of 25 pcs.

General Specifications

Overall dimensions (Diameter x Height)	Ø 71 x 10 mm
Weight empty	0.5 gram
Material	Polystyrene
Temperature range	25 - 40 °C
CO ₂ range	1.9 - 10%
O ₂ range	20 - 4.9%
Sterilization method	Gamma beam
Lifetime	1 year
Toxicity tested	Embryo toxicity tested with thawed 1 cell mouse embryos. Expanded Blastocyst rate after 96 hours > 80 % (n=150)0.6 bar (8.70 PSI)

~		
ITEM CODE	MODEL CODE	DESCRIPTION
1320088	MRI-CC	CultureCoin® for Time-Lapse of 14 embryos

Multiroom Incubator

MIRI® Incubation System

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

• Heated Lid

Prevents condensation. Enhances temperature regulation.

- Completely Independent Chambers
 Any disruption (e.g., temperature drop after opening th
 lid) has zero impact on the rest of the system
- Direct Heat Transfer

Less than one minute temperature recovery.

- 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 CO₂ 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 CO₂ and O₂ 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 EU regulation 2017/745.

Stacking Frames



MIRI® Stacking Frame with drawer



MRA-1014 - Stacking frame for 2 units

MIRI® II-12 Multiroom Incubator



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

Independent Chambers

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

Excellent footprint

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

Low gas consumption

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



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

Just a fitting solution... MIRI® II-12 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_2 and O_2 sensors allow accurate control of gas composition in the chambers.

General Specifications



MIRI® Multiroom Incubator

Overall Dimensions (W x D x H)	700 x 585 x 165 mm (27.6 x 23.0 x 6.5")
Compartment Dimensions	200 x 176 x 25 mm (7.9 x 6.9 x 1")
Power Supply	115 / 230V, 50/60 Hz
Power Consumption	300 W
Temperature Control Range	24.9 - 40°C
* CO ₂ Gas Consumption	<2 L/h
**N ₂ Gas Consumption	<12 L/h
CO ₂ Control Range	2 - 9.9%
O ₂ Control Range	5 - 20%
Input Gas Pressure (CO ₂)	0.6 bar (8.7 psi)
Input Gas Pressure (N ₂)	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 $_2$ set point reached at 5.0%, all lids closed) ** Under normal condition (O $_2$ set point reached at 5.0%, all lids closed)

MIRI[®] II-12 Multiroom Incubator

Overall Dimensions (W x D x H)	740 x 575 x 215 mm (29.1 x 22.6 x 8.5")
Compartment Dimensions	120 x 90 x 26 mm (4.7 x 3.5 x 1")
Power Supply	115V 50/60 Hz or 230V 50/60 Hz
Power Consumption	500 W
Temperature Control Range	25 - 40° C
*CO ₂ Gas Consumption	<2 L/h
**N ₂ Gas Consumption	<12 L/h
CO ₂ Control Range	3 - 10%
O ₂ Control Range	5 - 10%
CO ₂ Input Gas Pressure	0.6 bar (8.70 psi)
N ₂ Input Gas Pressure	0.6 bar (8.70 psi)
Net Weight	47 kg
Shipping weight	60 kg
Shipping dimension	880 x 700 x 355 mm (34.6 x 27.6 x 14")

* Under normal condition (CO₂ set point reached at 5.0%, all lids closed) ** Under normal condition (O₂ set point reached at 5.0%, all lids closed)

MIRI® Multiroom Incubator MRI-6A10-8 MIRI® Incubator, 230V, 50/60Hz 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® Incubator, with SAFE Sens for pH measurement, 115V, 230V MIRI® IL12 Multiroom MIRI® GA CO ₂ / O ₂ & Temperature Validation Unit, 115V / 230V 2070164 MRI2-12C-8 MIRI® IL12 Incubator with 12 chambers, 230V, 50/60Hz 2070165 MRI2-12C-9 MIRI® IL-12 Incubator with 12 chambers, 115V, 50/60Hz	ITEM CODE	MODEL CODE	DESCRIPTION
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® Incubator, with SAFE Sens for pH measurement, 115V, 230V MIRI® II-12 Multiroor MIRI® GA CO_2 / O, & Temperature Validation Unit, 115V / 230V MIRI® II-12 Multiroor MIRI® II-12 Incubator with 12 chambers, 230V, 50/60Hz 2070164 MRI2-12C-8 MIRI® II-12 Incubator with 12 chambers, 115V, 50/60Hz 2070165 MRI2-12C-9 MIRI® II-12 Incubator with 12 chambers, 115V, 50/60Hz	MIRI [®] Multiroom Incuba	ator	
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® Incubator, with SAFE Sens for pH measurement, 115V, 50/60Hz MIRI® II-12 Multiroom Internet Network MIRI® II-12 Incubator with 12 chambers, 230V, 50/60Hz 2070164 MRI2-12C-8 MIRI® II-12 Incubator with 12 chambers, 115V, 50/60Hz 2070165 MRI2-12C-9 MIRI® II-12 Incubator with 12 chambers, 115V, 50/60Hz	2070047	MRI-6A10-8	MIRI® Incubator, 230V, 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 ₂ / O ₂ & Temperature Validation Unit, 115V / 230V MIRI [®] II-12 Multiroom International Marking Constraints MIRI [®] II-12 Incubator with 12 chambers, 230V, 50/60Hz 2070164 MRI2-12C-8 MIRI [®] II-12 Incubator with 12 chambers, 115V, 50/60Hz 2070165 MRI2-12C-9 MIRI [®] II-12 Incubator with 12 chambers, 115V, 50/60Hz	2070048	MRI-6A10-9	MIRI® Incubator, 115V, 50/60Hz
2070087 MRI-6A10-SS-9 MIRI® Incubator, with SAFE Sens for pH measurement, 115V, 50/60Hz 1320045 MRI-GA MIRI® GA CO ₂ / O ₂ & Temperature Validation Unit, 115V / 230V MIRI® II-12 Multiroom 2070164 MRI2-12C-8 MIRI® II-12 Incubator with 12 chambers, 230V, 50/60Hz 2070165 MRI2-12C-9 MIRI® II-12 Incubator with 12 chambers, 115V, 50/60Hz	2070086	MRI-6A10-SS-8	MIRI [®] Incubator, with SAFE Sens for pH measurement, 230V, 50/60Hz
1320045 MRI-GA MIRI® GA CO2 / O2 & Temperature Validation Unit, 115V / 230V MIRI® II-12 Multiroom MIRI2 MIRI® II-12 Incubator with 12 chambers, 230V, 50/60Hz 2070164 MRI2-12C-9 MIRI® II-12 Incubator with 12 chambers, 115V, 50/60Hz 2070165 MRI2-12C-9 MIRI® II-12 Incubator with 12 chambers, 115V, 50/60Hz	2070087	MRI-6A10-SS-9	MIRI® Incubator, with SAFE Sens for pH measurement, 115V, 50/60Hz
MIRI [®] II-12 Multiroom Incubator 2070164 MRI2-12C-8 MIRI [®] II-12 Incubator with 12 chambers, 230V, 50/60Hz 2070165 MRI2-12C-9 MIRI [®] II-12 Incubator with 12 chambers, 115V, 50/60Hz	1320045	MRI-GA	MIRI® GA CO ₂ / O ₂ & Temperature Validation Unit, 115V / 230V
2070164 MRI2-12C-8 MIRI® II-12 Incubator with 12 chambers, 230V, 50/60Hz 2070165 MRI2-12C-9 MIRI® II-12 Incubator with 12 chambers, 115V, 50/60Hz	MIRI [®] II-12 Multiroom I	ncubator	
2070165 MRI2-12C-9 MIRI® II-12 Incubator with 12 chambers, 115V, 50/60Hz	2070164	MRI2-12C-8	MIRI® II-12 Incubator with 12 chambers, 230V, 50/60Hz
	2070165	MRI2-12C-9	MIRI® II-12 Incubator with 12 chambers, 115V, 50/60Hz
2070166 MRI2-12C-SS-8 MIRI® II-12 Incubator with 12 chambers, with SAFE Sens, 230V, 50/60Hz	2070166	MRI2-12C-SS-8	MIRI® II-12 Incubator with 12 chambers, with SAFE Sens, 230V, 50/60Hz
2070167 MRI2-12C-SS-9 MIRI® II-12 Incubator with 12 chambers, with SAFE Sens, 115V, 50/60Hz	2070167	MRI2-12C-SS-9	$MIRI^{\texttt{0}}$ II-12 Incubator with 12 chambers, with SAFE Sens, 115V, 50/60Hz

Mini MIRI® Incubator



Built on the strong and reliable MIRI® Multiroom, the Mini MIRI® 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® Humidity

- 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[®] Dry

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

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

General Specifications

Model	Mini MIRI [®] Dry	Mini MIRI [®] Humidity
Overall Dimensions (W x D x H)	525 x 420 x 230 mm (20.7 x 16.5 x 9.1")	
Compartment Dimensions	200 x 176 x 25 mm (7.9 x 6.9 x 1")	
Power Supply	115 VAC or 230 VAC, 50/60 Hz	
Temperature Control Range	24.9 - 40° C	
CO ₂ Gas Consumption	<2 L/hr < 4 L/h	
N ₂ Gas Consumption	<8 L/h <12 L/h	
Gas Pressure	0.4 to 0.6 bar	

ITEM CODE	MODEL CODE	DESCRIPTION
2070155	MRI-MINI-H-8	Mini MIRI® Humidity, 230V, 50/60Hz
2070156	MRI-MINI-H-9	Mini MIRI [®] Humidity, 115V, 50/60Hz
2070157	MRI-MINI-H-SS-8	Mini MIRI [®] Humidity with SAFE Sens for pH monitoring, 230V, 50/60 Hz
2070158	MRI-MINI-H-SS-9	Mini MIRI® Humidity 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-D-9	Mini MIRI® Dry with SAFE Sens for pH monitoring, 115V, 50/60 Hz

Inserts for MIRI[®], MIRI[®] II-12, and Mini MIRI[®]



Extensive list of inserts for MIRI®, MIRI® II-12, and Mini MIRI®

When ordering a MIRI®, MIRI® II-12 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®, MIRI® II-12 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.













Nunc™

Vitrolife

LifeGlobal[®] GPS Dishes

SparMED Oosafe®

ITEM CODE	MODEL CODE	DESCRIPTION
For MIRI® and Mini MIRI®		
1320003	MRA-FD	Insert for Falcon® Dishes
1320004	MRA-ND	Insert for Nunc [™] Dishes
1320070	MRA-VD	Insert for Vitrolife Dishes
1320099	MRA-NID	Insert for Nipro™ Dishes
1320100	MRA-LD	Insert for LifeGlobal® GPS Dishes
1320101	MRA-PD	Insert Without Footprint for Plain Dishes
1320118	MRA-OD	Insert for SparMED Oosafe®
For MIRI [®] II-12		
1320429	MRA2-FD	Insert for Falcon® Dishes
1320430	MRA2-ND	Insert for Nunc™ Dishes
1320431	MRA2-VD	Insert for Vitrolife Dishes
1320433	MRA2-LD	Insert for LifeGlobal® GPS Dishes
1320436	MRA2-OD	Insert for SparMED Oosafe®
1320434	MRA2-PD	Insert for Plain Dish

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 CO₂ / O_2 incubators
- CO₂ / O₂ 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 temerature monitoring 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 (17.3" x 16.9" x 9.4"), 15kg (33.1lbs)

Ordering Information*

ITEM CODE	MODEL CODE	DESCRIPTION
1320045	MRI-GA	MIRI® GA CO ₂ / O ₂ / Temp validation Unit, 115/230V, 50/60Hz

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

Accessories

ITEM CODE	MODEL CODE	DESCRIPTION
1320063	MRA-1101	1pc PT1000 cable
1320064	MRA-1102	Set of 6pcs PT1000 cables
1320065	MRA-1103	1pc Gas connection tube
1320066	MRA-1104	Set of 6pcs Gas connection tubes

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.

Mini MIRI

MIRI

CCE

MIRI® II-12

FCCD

FCC

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
- Single use sensor probe for up to seven (7) day 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
MIRI [®] TL6		
2070098	MRI-TL-MN-6C-SS-8	MIRI® Time-Lapse Incubator, Mini, 6 chambers with SAFE Sens, 230 V, 50/60 Hz
2070099	MRI-TL-MN-6C-SS-9	MIRI® Time-Lapse Incubator, Mini, 6 chambers with SAFE Sens, 115 V, 50/60 Hz
MIRI [®] TL12		
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
MIRI®		
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
Mini MIRI®		
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
MIRI [®] II-12		
2070166	MRI2-12C-SS-8	MIRI® II-12 Incubator with 12 chambers, with SAFE Sens, 230V, 50/60Hz
2070167	MRI2-12C-SS-9	MIRI® II-12 Incubator with 12 chambers, with SAFE Sens, 115V, 50/60Hz

Step 2: Order the SAFE Sens Accessories.*

ITEM CODE	MODEL CODE	DESCRIPTION
1081277	MRA-SS-SV2	SAFE Sens SV2 Sensor, Pack of 10 pieces (shelf-life 12 months)
1081278	MRA-SS-QC2	SAFE Sens QC2 Alignment Tool
1320191	MRA-SS-TS	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

Hole for SAFE Sens



1 pc heating plate with hole for SAFE Sens



5 pcs heating plate without hole

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

Heating Plates with Hole for SAFE Sens

ITEM CODE	MODEL CODE	DESCRIPTION	
For MIRI [®] and Mini MIRI [®]			
1320220	MRA-ND-SS	Insert for Nunc™ Dishes, with hole for SAFE Sens	
1320221	MRA-VD-SS	Insert for Vitrolife Dishes, with hole for SAFE Sens	
1320222	MRA-NID-SS	Insert for Nipro $^{\ensuremath{TM}}$ Dishes, with hole for SAFE Sens	
1320223	MRA-LD-SS	Insert for LifeGlobal [®] GPS Dishes, with hole for SAFE Sens	
1320224	MRA-PD-SS	Insert Without Footprint for Plain Dishes, with hole for SAFE Sens	
1320225	MRA-OD-SS	Insert for SparMED Oosafe®, with hole for SAFE Sens	
1320219	MRA-FD-SS	Insert for Falcon® Dishes, with hole for SAFE Sens	
For MIRI [®] II-12			
1320417	MRA2-FD-SS	Insert for Falcon [®] Dishes, with hole for SAFE Sens	
1320418	MRA2-ND-SS	Insert for Nunc™ Dishes, with hole for SAFE Sens	
1320419	MRA2-VD-SS	Insert for Vitrolife Dishes, with hole for SAFE Sens	
1320421	MRA2-LD-SS	Insert for LifeGlobal® GPS Dishes, with hole for SAFE Sens	
1320437	MRA2-OD-SS	Insert for SparMED Oosafe®, with hole for SAFE Sens	
1320422	MRA2-PD-SS	Insert for Plain Dish with hole for SAFE Sens	

ESCO LIFESCIENCES GROUP



Regional Distribution Centers





Esco Medical Products:

MIRI® TL6 Time-Lapse Incubator MIRI® TL12 Time-Lapse Incubator MIRI® Multiroom Incubator MIRI® II-12 Multiroom Incubator Mini MIRI® Dry Incubator Esco Multi-Zone ART Workstation Celculture® CO, Incubator MIRI® GA (Gas and Temperature Validation Unit) MIRI® AVT Versati® Tabletop Refrigerated Centrifuge CultureCoin®

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

Esco Medical is one of the divisions of the Esco Lifesciences Group. We provide innovative technological solutions for fertility clinics and laboratories. We aim to become the leading manufacturer of high-quality equipment such as long-term embryo inclubators, 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 is 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.



21 Changi South Street 1 • Singapore 486 777 Tel +65 6542 0833 • medical@escolifesciences.com www.esco-medical.com

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