

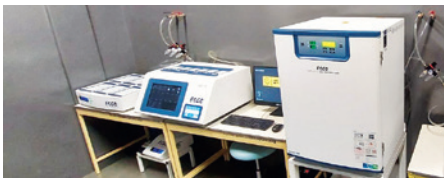
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## Escomedical's MIRI® installed at the prestigious Rood & Riddle Equine Hospital

As Escomedical continues to increase its animal customer base in the United States, and become recognized as a leader in this segment of the Assisted Reproductive Technology (A.R.T.) community, we recently had the good fortune to partner with

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### Full IVF Facility installed by Escomedical in Bogodogo, Burkina Faso

The accessibility of various diagnostic procedures and affordability of assisted reproductive technologies (ART) is a challenge in Africa the past years.

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### Telemedicine for Fertility Patients

A visit to a hospital or clinic because of a non-COVID medical concern during this time of the Covid-19 pandemic has become a challenge. Face-to-face consultations and check-ups as

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### Limited Edition MIRI® II-12 to be exhibited at the 77th ASRM

The 77th Scientific Congress & Expo of the American Society for Reproductive Medicine (ASRM) is happening on October 17 to 21 at the Baltimore

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## Esco Medical`s MIRI® installed at the prestigious Rood & Riddle Equine Hospital

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Dr. Charles Scoggin at Rood & Riddle, one of the largest and most prestigious Equine Hospitals and Reproductive Centers in the heart of Horse Country, Lexington, Kentucky.

In early August, Esco Medical U.S. installed Rood & Riddle's very first, but not their last, MIRI® Multiroom Incubator for Equine Embryo Culturing at the LeBlanc Reproduction Center.

Rood & Riddle began as an ambulatory practice in Lexington, Kentucky in 1982 and established a full-service equine hospital in 1986. Today the practice is known and respected throughout the world for innovative and highly skilled treatment of horses.

Rood & Riddle provides the most advanced reproductive medicine in the field. In 2002 Rood & Riddle created a reproductive center for specialized procedures for mares and stallions which is staffed by board-

certified theriogenologists. Under the direction of their theriogenologists the reproduction center has expanded with the addition of a 200 acre farm. This facility serves as the home for their recipient mare herd and stallion complex. With this expansion they are able to provide specialized treatment of infertile mares and administer advanced reproductive techniques such as embryo transfer and oocyte harvesting.

In 2013 the reproduction center was renamed The LeBlanc Reproduction Center in honor of Michelle LeBlanc, DVM, DACT, their dearly beloved colleague who passed away. Dr. LeBlanc was a widely respected practitioner, professor, mentor, researcher, leader and cherished friend. Her legacy lives on throughout the world of equine reproduction, and certainly in the theriogenology team at Rood and Riddle.



### About the MIRI® Multiroom Incubator

The Esco MIRI® Multiroom incubator is the best option for securing embryos in your IVF laboratory. With its six (6) independent chambers, not only does it provide embryologists a bigger capacity to accommodate more embryos. It also ensures that environmental parameters are maintained even when the neighboring chambers are opened. It also gives the best temperature recovery, accuracy, and uniformity in the IVF incubator market with its heated lid design. This feature ensures that temperature given to your embryos are not only sourced from the bottom of the dish but is also given on the top with a set point of 37.2°C to ensure that exactly 37.0°C is given to your samples.



## Full IVF Facility installed by Esco Medical in Bogodogo, Burkina Faso

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IVF's triumph and sustainability in certain resource-deprived places are dependent on the existing medical institutions' ability to improve its facility.

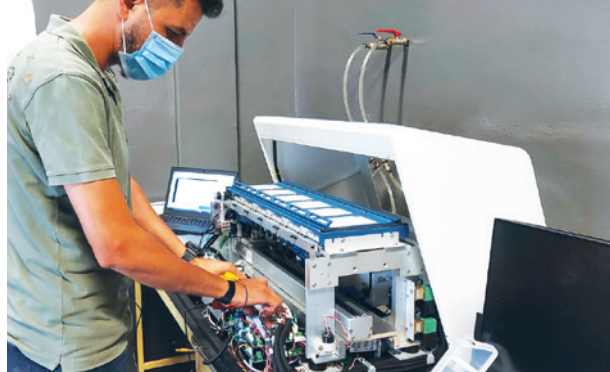
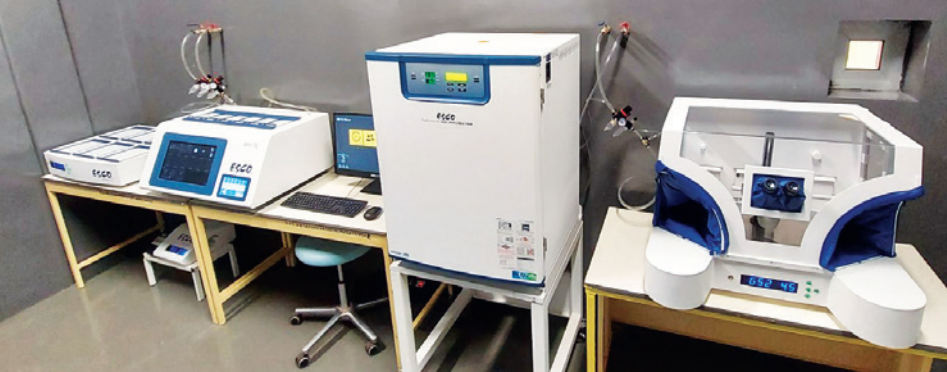
The Bogodogo University Hospital Center, one of the prime medical facilities in Burkina Faso, has recently acquired the installation of

a full IVF facility in their institution. This development comes with the university hospital's desire to improve the accessibility of the population to certain health facilities.

The IVF units from Esco Medical that were installed are the following: various incubators like the CelCulture CO<sub>2</sub> incubator, a MIRI® Multiroom







incubator, and a MIRI® TL6 – a time-lapse incubator. They have also installed an IVF workstation in the form of a Multi-Zone ART Workstation, and vibration isolation workstation, AVT-1. They also acquired semi-closed environment SCE-IVF equipment and a gas and temperature validation unit, MIRI® GA.

Other than this IVF line of products, the medical institution also acquired other Esco equipment that includes several

freezer models, refrigerator, oven, laminar flow and fume hoods.

Esco Medical is proud to provide and deliver efficiently these products and services; and we hope to continuously do so in this fast-changing world. At Esco, we aim to make human lives healthier and safer.

## The IVF Puzzle

Can you find all 15 IVF and Esco Medical related terminologies? How fast can you finish this puzzle? Clues are provided below. Go!

1. An *In vitro* fertilization procedure
2. An Esco Medical Global office location
3. A compact, scaled-down version of Esco MIRI®
4. Egg cell
5. An organism's reproductive cells
6. For pH monitoring
7. Antimicrobial powder coating
8. System which can take digital images of embryos at frequent time intervals
9. Validation unit
10. Specialized culture dish
11. Microscope brand compatible with Esco MAW
12. Incubator feature that prevent condensation
13. Heating optimization plate brand
14. Fertility drug
15. Condition that affects a woman's hormone levels

S	P	E	L	O	Z	O	R	T	E	L
A	C	C	M	E	G	R	H	U	P	I
G	L	I	T	H	U	A	N	I	A	R
I	A	B	O	O	C	Y	T	E	L	I
R	V	C	O	S	P	A	R	M	O	M
I	C	S	I	A	D	E	M	B	W	I
M	H	E	C	H	I	S	I	R	E	N
L	I	T	C	S	A	P	A	Y	I	I
S	N	E	S	E	F	A	S	O	S	M
S	O	M	F	A	M	L	C	L	O	X
I	T	A	I	L	I	E	R	M	C	E
E	J	G	V	R	R	M	P	H	I	L
Z	C	D	R	U	T	I	Y	R	D	A
Q	H	N	T	M	L	T	M	A	E	W
F	A	L	U	C	O	N	Z	Y	G	O
S	U	R	E	N	C	H	A	M	B	E
C	O	D	I	L	D	E	T	A	E	H





## Telemedicine for Fertility Patients

*Continued from Page 1.*

forms of communication with medical practitioners have posed certain risks. Because of this trend, telemedicine programs have been intensified into use.

Telemedicine refers to the delivery of remote clinical services, through a real-time two-way communication between the healthcare provider and a patient via electronic audio and visual means. Telemedicine technology is becoming an important tool for follow-up visits, management of certain health conditions, management of medication, and even consultation with specialists just like in the case of

fertility treatment.

It is not a hidden fact that fertility concerns and management require a lot of time and other resources. For people, couples who need fertility treatment, timing is crucial. With the uncertainty of the pandemic, telemedicine is a perceived valuable instrument for providing fertility care during this time. This modality will benefit fertility patients who are in most need of such care.

With an accessible telemedicine fertility care as a possibility and choice, there is no need for people to postpone getting

the necessary treatment they are after. Furthermore, telemedicine makes it probable for fertility patients to advance their goals, notwithstanding any external factors that may limit access to an actual IVF clinic visit.

In today's world, a lot of people have gadgets/ devices like computers, mobile phones with fast internet connection making communication with others more efficient and effective, the medical industry included. The coronavirus

predicament generated a shift, with more individuals working, socializing and availing various products and services from home in order to limit in-person contact. With this change came augmented use of video-conferencing technologies for medical services.

### Telemedicine Patient Benefits in Summary:

- Privacy/ Patient discretion
- Less time away from work (if you are a working individual)

- No travel expenses (both time and one's energy)
- Less interference with child or elder care responsibilities
- No contact to other possibly infectious patients

So if you have the option to avail of a telemedicine program, go for it. It may be a better way of reducing the stress of fertility treatment.





# Limited Edition MIRI® II-12 to be exhibited at the 77th ASRM

Continued from Page 1.



Convention Center, Baltimore, Maryland, USA.

ASRM is an institute committed to creating innovative changes in the field of reproductive medicine science and practice. This organization aims to deliver the greatest level of quality in unrelenting teaching and learning. This objective is met through various pioneering researches.

Esco Medical, the fertility technologies division of the Esco Lifesciences Group, is once again participating in the annual

event. In line with Esco Medical's 10th year anniversary, limited edition of MIRI® II-12 units (2) will be launched at the event. The multiroom incubators are painted differently from the regular unit and have unique numbering from 1 to 100.

Other Esco Medical products that will be showcased at the ASRM 2021 are the following: MIRI® and its stacking frame, the new MIRI® Humidity (a 6-chambered multiroom incubator that works on wet culture); a Multi-Zone ART Workstation (MAW), a new

product in the form of a warming table for physicians tool, and the MIRI® Time-Lapse incubator (both the 6 and 12 chambers).

Esco Medical, as one of the exhibitors, shares and supports the operations, welfare and vision of the ASRM. Together, we hope that this yearly occasion build and sustain the harmonious relationships within the reproductive medicine community. See you there!

## MAW with AVT

Did you know that the Esco Multi-Zone ART Workstation MAW-6D-MP Model can be designed to have an Anti-Vibration Table (AVT)?

IVF workstations are specially made to be used in fertility clinics and laboratories for work in the fields of human and animal reproduction. They are deemed essential in carrying out IVF and other ART techniques. A workstation, like the MAW, aims to achieve the best possible controlled environment for gametes and embryos during various ART procedures. They are specifically designed for aseptic handling of oocytes and embryos to minimize microbial contamination. An anti-vibration table, on the other hand, is a vibration isolation kind of workstation. It is particularly intended for micromanipulation procedures (like ICSI or intra-cytoplasmic sperm injection) that feature an anti-vibration mechanism for passive dampening of the microscope.



### FEATURES:

- Esco Sentinel™ Gold Microprocessor Control System
- Touchscreen Monitor
- Humidification System
- Multi-Zone Heating System
- Heated Glass Stage
- Microscope Integration Provision
- Anti-Vibration Table

Esco Medical's MAW-6D-MP Model has a built-in anti-vibration table that makes it ideal for handling specimen (sperm, oocytes, and embryo), and the carrying out of procedures that are sensitive to sound and movement. Also, the presence of a multi-zone heating system with four (4) temperature modes allows each of the 10 independent zones control

heat distribution since each zone has its own heating elements and sensors. The heating system will automatically prioritize power distribution to ensure effective temperature control with fast recovery.

Want to know more about this particular MAW model? Visit [esco-medical.com](http://esco-medical.com)

# Esco Medical to Launch New Website look this 4<sup>th</sup> Quarter

Changes are inevitable from happening, especially when one lives in a fast-paced world. As with our desire to continuously evolve, be better, and become more innovative with our product line, Esco Medical will also soon launch a new look for its website.

As we approach our 10th year anniversary, exciting events like offering a limited edition incubator and showcasing a novel website look are just but appropriate. Our team of web developers and marketing specialists has been working on this more modern and aesthetically appealing look for our web visitors to enjoy browsing, reading, and going through our products information.

The new website will feature a “feedback form” where all Esco Medical customers can freely drop their comments regarding their purchased devices. Also, a more comprehensive directory of all key Esco Medical personnel will be shown, with their complete contact details, for an easier way of communicating various concerns.





# Lymphocyte Immunization Therapy (LIT) as Fertility Treatment

According to one reproductive immunology theory, a fetus may be rejected by a mother's body and its immune cells. It is being suggested that a group of cells that function to prevent the body from developing cancer, called natural killer cells, could probably occur in extreme levels. Such excessive amount affects the endocrine system, the system responsible for producing hormones important for successful pregnancies. Once affected, it can lead to the creation of an unfavourable uterine environment for pregnancy, possibly causing miscarriage.

Reproductive immunology, as a field of study, encompasses the evaluation of a patient's immune system and the

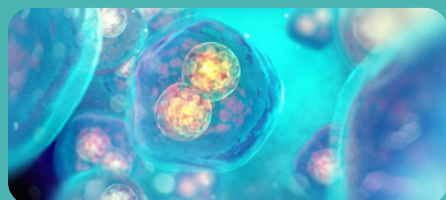
administration of appropriate immune therapy. Lymphocyte Immunization Therapy (LIT) is a type of immune treatment that aims to provide confidence in women suffering from unexplained recurring miscarriage. This therapy entails the extraction of white blood cells from the prospective father, then the isolated WBC are examined, and eventually a concentrated solution of it is administered into the skin of the potential mother via series of shallow injections into the forearms.

It is said that LIT as a fertility treatment is most useful to patients who have undergone many failed IVF cycles and that assumed immunologic causes have initiated implantation failures. LIT

is a hopeful option to other couples. It is believed to bring forth success since the developing embryo and fetal tissues are obtained from both the prospective mother and father's genes. It is believed that the mother's immune system is able to distinguish proteins obtained from the father's part of the genome. The idea here is that LIT is able to diminish the damaging effects to the growing embryo through the provision of a "friendly," incorporation of paternal proteins, antigens, and other cellular structures that may be perceived or considered trigger factors leading to an early-stage pregnancy termination.

## Are We Ready for Human-Monkey Embryos?

Earlier this year, news spread of the first human-monkey embryos that were successfully cultured inside a laboratory. A collaboration between scientists from China and Salk Institute of California made this possible with the intent for research on growing human organs in animals wherein the embryos are grown for up to 20 days. People began speculating about seeing human-monkey chimeras in the future and other conspiracy theories. The public was wary of this experiment



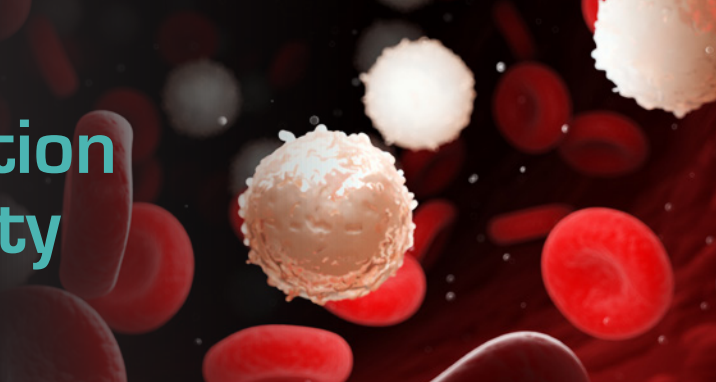
and how it will affect not only ethical practices in the IVF industry but the future in general.

On an interview of WTTW News with Professor Insoo Hyun – Director of Research Ethics in Harvard Medical School, he further explained the reason behind this controversial experiment. The embryos were grown by using both monkey egg and sperm cell and grown inside the laboratory. These were then injected with 25 human stem cells and grown up to preimplantation stage (~20 days), before the embryos could become more complex and begin to form limbs and organs. During the incubation period, the scientists observed the interaction between the

injected human stem cells and the monkey cells.

It is well known that there is a worldwide shortage of human organs for transplant which leads to deaths every day. This study opened doors to possibly growing transplantable human organs in livestock animals in the future. Esco Medical's MIRI® line of incubators are compatible with growing animal embryos and have a software that can support recording of data for research use.

With more complex studies surfacing one by one, is society ready to accept the next step towards this kind of research?



# MIRI® TL and Mini MIRI® to be displayed at Arab Lab 2021



The Arab Lab is an annual event wherein science and innovation converge. This showcases products from medical and pharmaceutical, scientific instruments, and various research and development industries.

Various international companies have actively participated through the years, Esco Lifesciences included. This year, after its postponement from its original date, Arab Lab is finally happening from November 15-17 at the Dubai World Trade Centre, United Arab Emirates.

Different Esco products will be showcased during the exhibit including some of Esco Medical's topnotch incubators – the MIRI® TL and Mini MIRI®.

The 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.

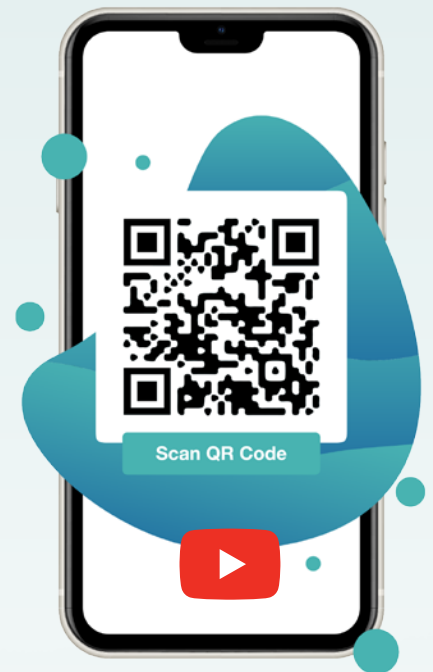
This incubation system also ensures predictability in the daily handling and currently offers the market's lowest cost of ownership.

The Mini MIRI®, on the other hand, is built on the strong and reliable MIRI® multiroom incubator. It is an incubator with a smaller footprint that provides a stable culture environment. It comes in two models, the dry and the humidity. These compactly designed models have two chambers and boasts off a feature that provides direct heat regulation that further translate to faster temperature and gas recovery.

Esco has always been vocal with its "Improving lives through science" tagline. Our presence in events like the Arab Lab is a testament of Esco's vigor in keeping up, in being responsive, and adaptive while keeping focused on its mission to deliver enabling technologies and provide service all over the world.



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To our channel



**We're on TikTok**  
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**TikTok**



# 3rd Quarter Esco Medical Webinars, Workshops, and Installations

Webinar Title	Country	Date
MIRI® TL Workshop (Distributor Training)	Lahore, Pakistan	July 07, 2021
Benefits of Time-Lapse Technology: A MIRI® TL Webinar	India	July 23, 2021
Esco Medical Product Portfolio and Basics of MIRI® Time-Lapse Technology	Vietnam	July 31, 2021
IVF Technologies Webinar	Uzbekistan	August 02, 2021
Benefits of Time-Lapse Technology: A MIRI® TL Webinar	Indira IVF, India	August 06, 2021
IVF Incubators and Workstations: Advances in Fertility Technology	Malaysia	August 12, 2021
Benefits of Time-Lapse Technology: A MIRI® TL Webinar	Kenya	August 17, 2021

## Product Installations

### Malaysia

Clinic: Star Fertility

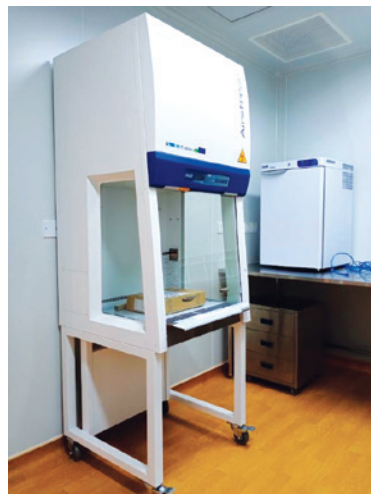
Address: Malaysia

Date Installed:

September 23, 2021

Devices installed:

(Esco Medical) MIRI®, MIRI® TL, CCL, AC2-2E8, HF, HR, Protech



## Africa

Clinic: Centre Hospitalier  
Universitaire de Bogodogo

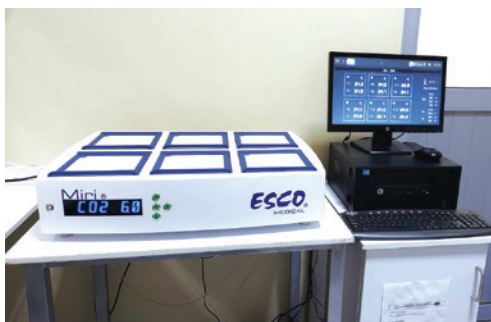
Address:

Bogodogo, Burkina Faso

Date Installed:

August 22-26, 2021

Devices installed: MIRI® TL6  
MIRI®, MIRI® GA, CCL, MAW-  
4D-MC, Anti-Vibration Table and  
Semi-Closed Environment IVF



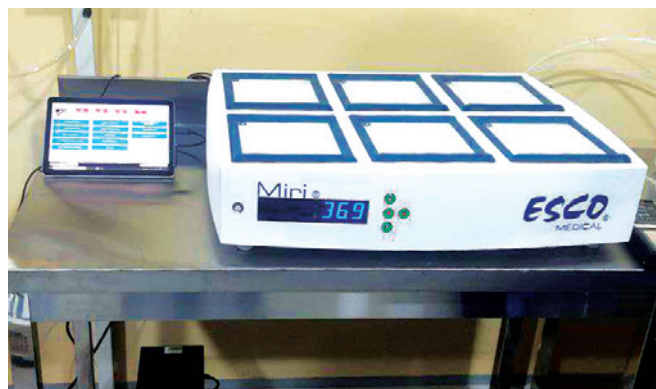
Clinic: Rwanda Military Hospital

Address: Kigali, Rwanda

Date Installed: September 10, 2021

Devices installed: MIRI®

## Uzbekistan



Clinic: MedioFarm Eco

Address: Tashkent, Uzbekistan

Date Installed: August 21, 2021

Devices installed: 1 MIRI®



Clinic: Israel Medical Center

Address: Tashkent, Uzbekistan

Date Installed: August 21, 2021

Devices installed: 5 MAW



## Indonesia

Clinic: Morula IVF Surabaya

Address: Surabaya, Indonesia

Date Installed:

September 16, 2021

Devices installed: MIRI® TL 12



## India

Clinic: Sumathy Hospital  
Address:  
Madurai, Chennai, India  
Date Installed: July 25, 2021  
Devices installed: 1 MAW



From right to left - Dr. Véronique Cottin, IVF Lab Director, Ms. Susanne Bagger, Embryologist, Ms. Arppana Rajan Kandamparambil, Embryologist

## Pakistan

Clinic: Australian Concept Infertility Medical Center  
Address: Lahore, Pakistan  
Date Installed: July 07, 2021  
Devices installed: 1 MIRI® TL

## Switzerland

Clinic: Viollier AG  
Address: Basel, Switzerland  
Date Installed: September 21, 2021  
Devices installed: MIRI® TL12

## USA

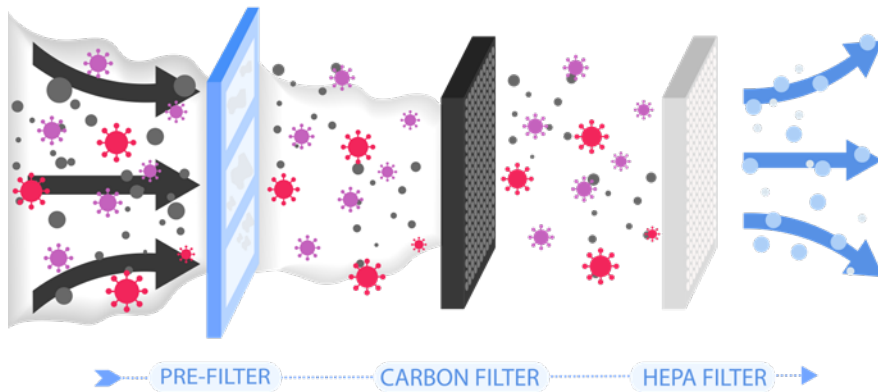
Clinic:  
Rood & Riddle Equine Hospitals  
Address:  
Lexington, Kentucky, USA  
Date Installed: August 2021  
Devices installed: MIRI®



# Know more About How CARBON FILTERS Work

## Why are they essential in IVF incubators?

Carbon filters are used to remove toxic gases, hazardous fumes, and odors. These filters are constructed from high-quality carbon pellets and durable chemical-resistant cases.



Activated carbon has special properties that permit it to eliminate volatile organic compounds (VOCs), odors, and other gaseous pollutants from the air. It is able to do this in a way that is different from other filters like HEPA that only filter particle pollution from the air. These carbon filters trap gaseous pollutants via the process of adsorption. During the adsorption process, gas molecules stick to the surface of the carbon granules. When carbon is activated, its surface and adsorption site increases allowing the absorbance of more contaminants like the various VOCs.

### Two primary methods by which carbon is activated:

**Steam activation:** This is carried out using steam at temperatures of between 800°C and 1000°C wherein instant water - gas reaction occurs, causing the carbonized material to gasify. After which, air is incorporated to burn out the gasses, without burning the carbon. Carbon activated via steam produces an ideal characteristic which is a fine pore structure. This is perfect for adsorbing both liquid phase and

vapor phase compounds.

Chemical Activation, on the other hand, requires the carbon to be filled initially with a potent dehydrating agent like phosphoric acid paste or even zinc chloride. This involves heating the paste to temperatures between 500°C and 800°C in order to activate the carbon. The resultant product is an activated carbon with very open pore structure, making it more suitable for adsorbing big molecules.

### Air quality: A crucial factor in *in vitro* fertilization (IVF)

Air contaminants that range from volatile organic compounds (VOCs) to particulate materials like pollens, and or allergens, are regarded damaging to embryo growth and development *in vitro*. Time and time again, studies have revealed that factors such as air quality, gas concentrations, humidity, temperature, VOCs, and even light in an IVF laboratory are recognized to have an effect on oocytes and embryos. The growth and development of an embryo is impacted by the direct attachment of VOCs to the DNA of an embryo,

eventually terminating its growth. Moreover, certain VOCs are also linked to the sperm cells' DNA fragmentation.



Esco Medical Incubators (MIRI®, MIRI® TL, and Mini MIRI®) have a reliable gas mixing system that allows gas phase flexibility. It has a gas mixer that provides total control over CO<sub>2</sub> and O<sub>2</sub> concentration levels, and at the same time, allows flexibility over what gas input is desired. The high quality airstream is achieved through the HEPA/VOC filter, wherein gas in the incubator is continuously recirculated. This ensures the circulation of the highest possible quality of air to the cultures.

### Manufacturer:

**Esco Medical Technologies, Ltd.**

Draugystes g. 19, 51230 Kaunas, Lithuania

**Service address:** Please contact your local distributor for details. Users of Esco Medical products should not hesitate to contact us if there are any unclear points or ambiguities in this newsletter.

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