

SAFE Sens

Continuous pH Monitoring

Worry-free pH monitoring of your Esco incubators

SAFE Sens (Sterile, Automated Fluorescopic 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.



SV2 Sensor is a small surrogate vessel into which you put a sample of the media* for pH tracking. It's a single use sensor that can be used up to seven (7) days of pH readings.

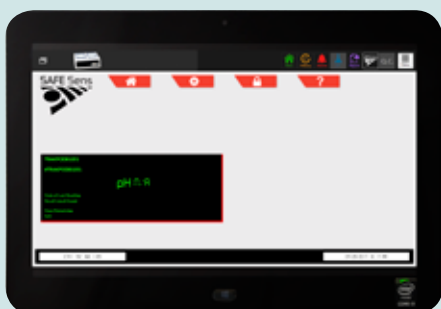
*Volume of media and oil overlay depends on the incubator type. Please see page 4 for the recommended volume.

Fiber Optic Fixture – is the part where the sv2 sensor fits into. The machine reads this result and calculates the pH of the media sample. You can set the timing of this measurement to be once per minute or once every 30 minutes.



The **QC2 Alignment Tool** is a fluorescent standard used for System Alignment and Quality Control. The alignment requires no buffer solutions.

It is mandatory to have at least one QC2 alignment tool per lab.



The **SAFE Sens TrakStation** provides real-time information of pH measurements. The TrakStation can be connected to eight (8) incubators by using a USB 3.0 Hub.

Ordering Guide for SAFE Sens

Miri® Benchtop Incubator with SAFE Sens



Miri® with SAFE Sens

SV2 Sensor

QC2 Alignment Tool

SAFE Sens TrakStation

Step 1: Choose Miri with the correct electrical rating.

Model Code	Item Code	Description
MRI-6A10-SS-8	2070086	Miri® Incubator; with SAFE Sens for pH measurement, 230V, 50/60Hz
MRI-6A10-SS-9	2070087	Miri® Incubator; with SAFE Sens for pH measurement, 115V, 50/60Hz

Step 2: Order the SAFE Sens Accessories.*

Model Code	Item Code	Description
TBA	1081277	SAFE Sens SV2 Sensor; Pack of 10 pieces (shelf-life 12 months)
TBA	1081278	SAFE Sens QC2 Alignment Tool
TBA	1320191	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 4 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. (To be Announced)
 (5) The Esco datalogger should be installed separately on another Windows PC/ tablet. Please see page 4 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.



1 pc Heating plate with hole for SAFE Sens



5 pcs heating plate with no hole

Note: Six (6) heating plates are free per Miri®. Anything in excess of six (6) heating plates will be charged accordingly.

Item Code	Model Code	DESCRIPTION
Heating Plates with No Hole		
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
Heating Plates 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
1320219	TBA	Insert for Falcon® Dishes, with hole for SAFE Sens

Ordering Guide for SAFE Sens

Mini Miri® Humidified Benchtop Incubator with SAFE Sens



Mini Miri® with SAFE Sens

SV2 Sensor

QC2 Alignment Tool

SAFE Sens TrakStation

Step 1: Choose Mini Miri with the correct electrical rating.

Model Code	Item Code	Description
MRI-MINI-SS-8	2070078	Mini Miri® Incubator, with SAFE Sens for pH measurement, 230V, 50/60Hz
MRI-MINI-SS-9	2070079	Mini Miri® Incubator, with SAFE Sens for pH measurement, 115V, 50/60Hz

Step 2: Order the SAFE Sens Accessories.*

Model Code	Item Code	Description
TBA	1081277	SAFE Sens SV2 Sensor, Pack of 10 pieces (shelf-life 12 months)
TBA	1081278	SAFE Sens QC2 Alignment Tool
TBA	1320191	SAFE Sens TrakStation, a tablet with SAFE Sens Software, for pH monitoring.

- *Note:** (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 sensor, 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 4 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. (To be Announced)
 (5) The EscO datalogger should be installed separately on another Windows PC/ tablet. Please see page 4 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.



Note: Two (2) heating plates are free per Mini Miri®. Anything in excess of two (2) heating plates will be charged accordingly.

Item Code	Model Code	DESCRIPTION
Heating Plates with No Hole		
I320003	TBA	Insert for Falcon® Dishes
I320004	TBA	Insert for NUNC® Dishes
I320070	TBA	Insert for Vitrolife® Dishes
I320099	TBA	Insert for Nipro Dishes
I320100	TBA	Insert for LifeGlobal/ GPS Dishes™
I320101	TBA	Insert Without Footprint for Plain Dishes
I320118	TBA	Insert for Sparmed - Oosafe™

Item Code	Model Code	DESCRIPTION
Heating Plates with with Hole for SAFE Sens		
I320219	TBA	Insert for Falcon® Dishes, with hole for SAFE Sens
I320220	TBA	Insert for NUNC® Dishes, with hole for SAFE Sens
I320221	TBA	Insert for Vitrolife® Dishes, with hole for SAFE Sens
I320222	TBA	Insert for Nipro Dishes, with hole for SAFE Sens
I320223	TBA	Insert for LifeGlobal/ GPS Dishes™, with hole for SAFE Sens
I320224	TBA	Insert Without Footprint for Plain Dishes, with hole for SAFE Sens
I320225	TBA	Insert for Sparmed - Oosafe™, with hole for SAFE Sens

Data-logging System

Step 4: Sample Matrix on the suggested number of SV2 sensors to order in a year per incubator based on your laboratory's pH monitoring requirement

Frequency of replacing the SV2 Sensor (Default setting of pH sensor replacement once every 30 minutes)	Number of SV2 sensors to Order (good for a year)	Number of packs of SV2 sensors to Order (good for a year)
Four times a month Measurement (weekly)*	48	5
Three times a month measurement	36	4
Bi-monthly sv2 sensor replacement	24	3
Once a month sv2 sensor replacement	12	1 – 2

*Example: Weekly pH monitoring will entail usage of one (1) sv2 sensor per week and approximately 48 sv2 sensors a year. May need to stock 5 packs of sv2 sensors a year.



Frequently Asked Questions

- How often should I replace the QC2 alignment tool?**
The alignment tool should be replaced every year.
- I have 6 Miri® incubators. Do I need to have 6 QC2 alignment tool too?**
One QC2 tool can be used for all incubators.
- Is the preparation for the SAFE Sens setup the same for both Miri® and Mini Miri®?**
The preparation for the culture media will be different for both Miri® and Mini Miri®.

Incubator	Incubator Type	Culture Media	Oil Overlay
Mini Miri®	Humidified (wet)	100µL	50µL
Miri®	Dry	100µL	150µL

- How often does the SAFE Sens device measures pH?**
By default, SAFE Sens will measure pH every 30 minutes for up to seven (7) days. Frequency of measurement can be changed in the settings to meet your requirement.
- Are buffers needed to calibrate the SAFE Sens device?**
No need for buffers. The QC2 alignment tool is designed for easy calibration.
- How many incubators can I connect to one datalogger PC?**
You can connect up to eight incubators to one SAFE Sens TrakStation using a USB 3.0 Hub.
- Why do I need two separate computers for SAFE Sens and Esco Datalogger?**
The SAFE Sens software operates on a different environment from the Esco datalogger and cannot be integrated together. The TrakStation is for pH monitoring while the Esco datalogger is for the other parameters such as temperature, gas concentration and overall incubator performance record.
- What's the minimum PC requirement for the Esco Datalogger?**
*Windows 7 or Higher
*USB 2.0 port for each connected device
*Tablet PC or desktop PC

- Can I provide my own tablet for the SAFE Sens pH monitoring?**
We cannot guarantee continuous and full functionality of the device. Hence, we recommend you to buy the SAFE Sens TrakStation, which is already loaded with the software for pH monitoring.

