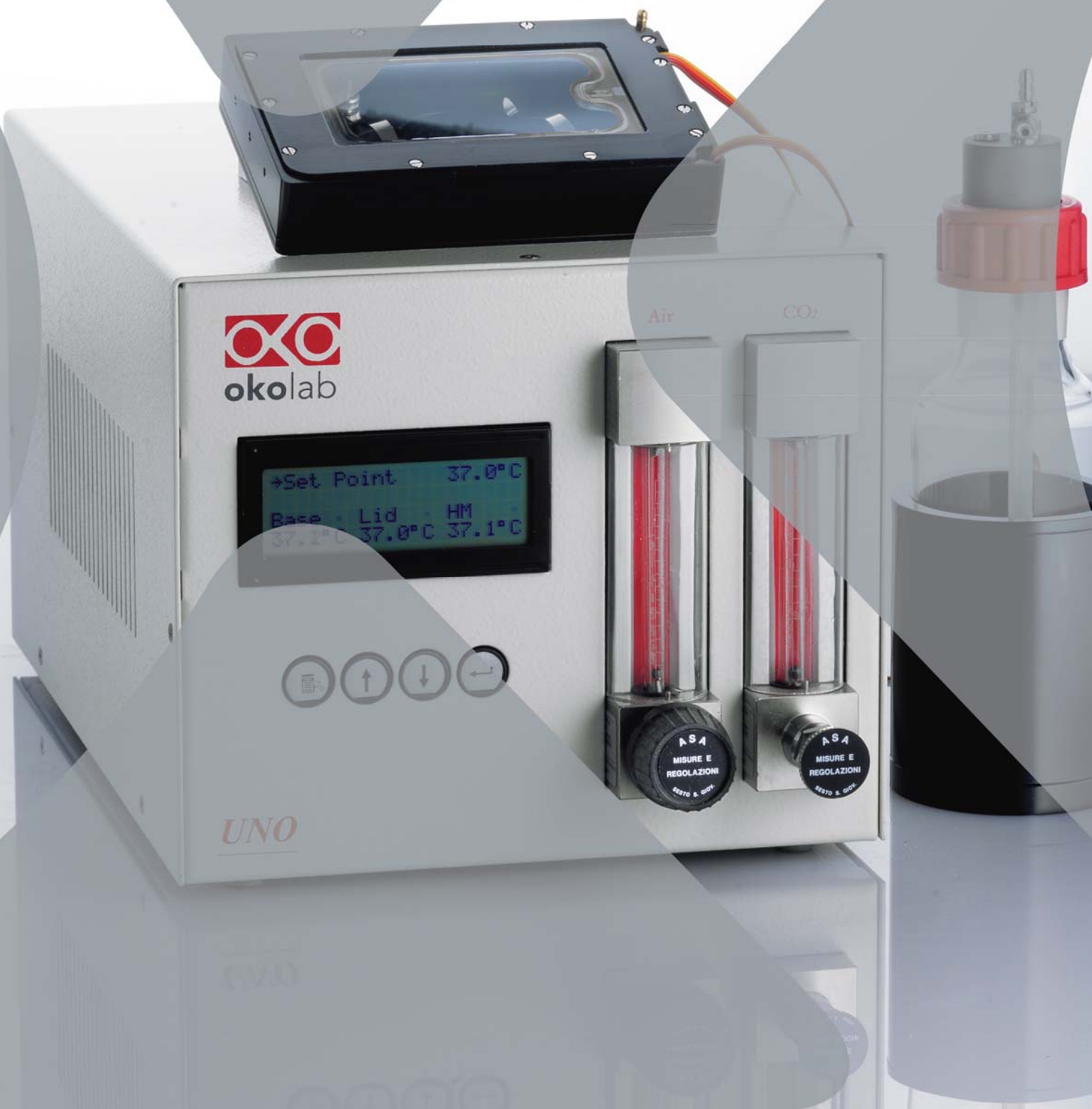


# UNO Incubator

Single specimen incubator with  
the size of a Multi Well plate



## Single specimen incubator with the size of a Multi Well plate

All-in-one temperature/humidity/CO<sub>2</sub> incubator



UNO Package - front view



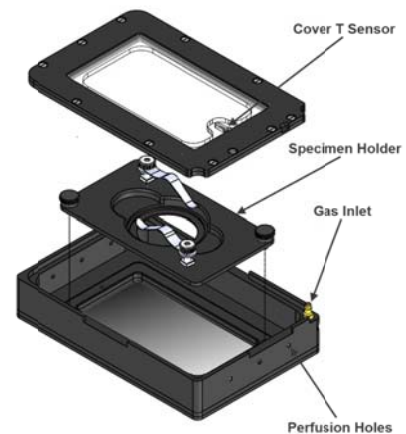
Multichannel Controller - rear view

### The package comprises:

- Incubating chamber
- Heated humidity module
- Dual Air/CO<sub>2</sub> mixer and Multichannel Temperature Controller

### Main Features:

- All-in-one temperature/humidity/CO<sub>2</sub> incubator
- Top Stage Incubator with the footprint of a Multi Well plate
- Fits in any XY stage, with the addition of the Multi Well plate holder (supplied by the stage manufacturer or by Okolab)
- Specimen holders for #1 35 mm dish, #1 glass slide or #1 chambered coverglass
- Heated Glass Cover with active temperature control
- Humidity Module with active temperature control
- Manual Air/CO<sub>2</sub> mixer
- Chamber feedback operation
- Improved accuracy thanks to Self Calibration Routine (requires software UNO-TS)



UNO-EC-1x35  
#1 35mm Petri-dish holder



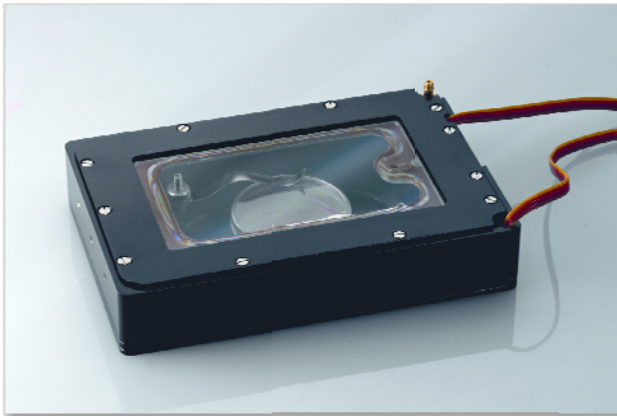
UNO-EC-1xGS  
#1 standard chamber slide holder



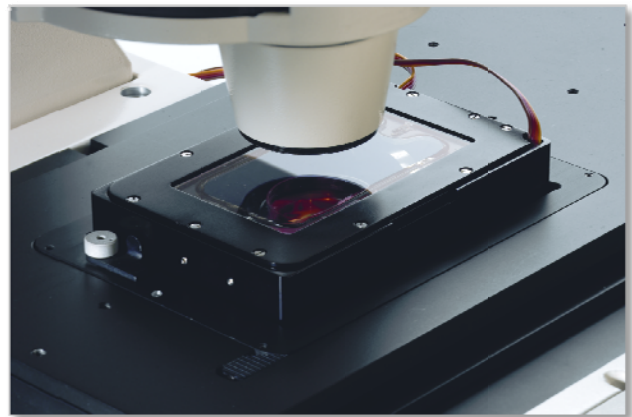
UNO-EC-1x[57mm]GS  
#1 57mm chambered coverglass holder

## Temperature control - technology

UNO controls the temperature of the chamber (metal main body), of the glass cover and of the humidity module. Pre-defined offset values stored in the controller memory guarantee that the set point temperature introduced by the operator is achieved in the position of the specimen, with the accuracy of  $\pm 0.3^{\circ}\text{C}$ . The combined action of the heated humidity module and of the heated glass cover allow to reach a high level of humidity within the chamber, with no condensation inside the chamber.



UNO chamber



UNO Chamber on XY stage

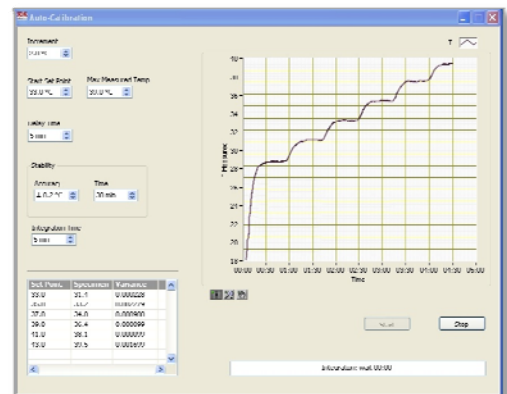
## Self Calibration Procedure

It is a quick and easy procedure that improves temperature accuracy in the position of the specimen by optimizing the calibration parameters to take into account actual lab temperature. It is particularly useful when lab temperature is significantly different from  $23^{\circ}\text{C}$



External T sensor in Petri, during Self Calibration

The Self Calibration procedure is launched via UNO-TS software and employs the External Temperature Sensor of the UNO controller. Once the External Sensor is placed into a Petri (or chambered glass slide) filled with water and positioned in the same position as the specimen, the routine searches for the best parameters to improve temperature accuracy in the position of the specimen.



Self Calibration Procedure - Screen shot of UNO-TS

## CO<sub>2</sub> and Humidity control

The combined action of the gas mixers and of the humidity module ensure proper medium pH and reduced evaporation. Pure CO<sub>2</sub> and Air should be supplied to the UNO controller by means of 6 mm (O.D.) tubes. The desired CO<sub>2</sub> concentration is set by regulating the gas flow rates by means of the two floating ball flow meters present in the UNO controller. Set point resolution is 1% and CO<sub>2</sub> range is 0-15%.

The mixed gas is humidified in the humidity module before entering into the incubating chamber by bubbling through distilled water maintained at the controlled temperature by the heating collar.



*Humidity Module*

## Accessories

**OKO-AP** is a plug and play solution to generate the Air stream needed by the UNO controller. It is a convenient alternative to air vessels or to compressed air lines. OKO-AP connects to Air input of UNO controller with a 6 mm (O.D.) tube.

Maximum outlet pressure is 0.3 atm.



*OKO-AP. Air pump*

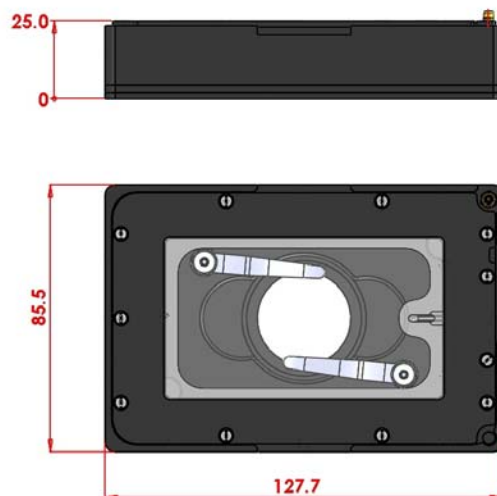
**GLASS-BOTTOM METAL DISH.** Stainless steel dish with round 0.17 mm coverglass bottom. They replace glass bottom plastic dish. They can be autoclaved and covered with any 35mm Petri dish cover. Thanks to the higher thermal conductivity of metal, with respect to plastic, the Glass Bottom Metal Dish allow to minimize temperature radial gradients and reduce the Heat Sink phenomena when oil immersion objectives are employed. They are suitable for both LD and oil-immersion objectives. Available with observation window of 18 mm and 6 mm.



*Glass bottom metal dish*

## Dimensions and compatibility

The UNO chamber has the footprint of a standard Multi Well plate, therefore, it fits in any XY stages with the addition of a Multi Well plate holder. Multi Well plate holders can be supplied by the XY stage manufacturer or by Okolab.



## Technical Specifications

Temperature range	From room to 50°C
Temperature accuracy	± 0.3°C
CO2 set point resolution	1%
Dimensions, mm	85,5 x 127,7 x 25,0
Weight, g	310
Minimum Condenser Working Distance, mm	23
Perfusion holes	# 12 [i.d. 2.5 mm]

## Accessories and Codes

UNO-EC-1x35	35mm Petri-dish holder
UNO-EC-1xGS	76x25mm chamber slide holder
UNO-EC-1x[57mm]GS	56x25mm chambered coverglass holder
UNO-TS	<b>Software.</b> It allows to read and store thermal data, set thermal cycles, automatically change controller settings when changing plate adapters, perform the self calibration routine and add personalized controller settings. It comes with an external thermal probe included.
OKO-AP	<b>Air pump.</b> Plug and play solution for Air inlet. Convenient alternative to 100% Air tanks/compressed Air lines. It directly connects to Air input of Okolab gas mixers/controllers. Maximum outlet pressure 300 mbar.
RA35-18-2000 / RA35-06-0200	<b>GLASS-BOTTOM METAL DISH</b> - They replace glass bottom plastic dish. They can be autoclaved and covered with any 35mm Petri dish cover. Minimise Heat Sink phenomena. Suitable for both LD and oil-immersion objectives. Available with observation window of 18 mm (RA35-18-2000 )and 6 mm (RA35-06-0200).

