

3110	Difference between series I and series II	April 22, 2015

**3110 Series Enhancements, Improvements and Changes
July 2000**

As a result of input from customers, sales people, Distributors and Service personnel we have several changes to the 3110 Series incubators. The 3110 Series is recognized worldwide as the leading water jacket incubator, therefore we did not change model numbers, to identify the improvements we have implemented Series II

3210 Series

All model numbers for stacked units have been eliminated. If you desire stacked units order two incubators of the model you require. The model numbers eliminated are: 3210, 3211, 3220, 3221, 3230, 3231, 3240 and 3241.

Series II Labeling

An example of the new labeling is attached.

310 Filtered Air Exchange

This unique filtered air exchange allows the incubator to “breathe” though a HEPA filter system, allowing high humidity conditions inside the chamber while minimizing condensation during fluctuating ambient conditions. This will also assist in eliminating condensation in incubators that are operating in less than optimum ambient conditions and incubators that are opened for long periods of time.

This system uses two HEPA filters, one on the air coming into the chamber and one on the air leaving the chamber. The blower pulls air through the uncapped CO2 sample port through a HEPA filter into the blower scroll. This clean fresh air is mixed with the directed airflow of the chamber. At the same time chamber air is exhausted through a HEPA filter in the access port stopper. The air exchange flow rate is extremely small, approximately 0.02 CFM. This system is similar to the one used on the Forma direct heat incubators.

The feature – fresh clean air and condensation control

The benefit – reduction of condensation issues

Two Probes

The water jacked probe has been eliminated and an additional overtemperature probe has been added inside the chamber. Both the temperature and overtemperature probes have been into the scroll intake in the direct airflow of the cabinet.

These changes provide for quicker sensing of temperature changes as a result of door openings. The quicker sensing of the temperature change allows the incubator to react to the changes more rapidly, providing faster recoveries.

Please make sure that the end users understand that the Series II incubators may indicate a lower temperature after a door opening, but they will also recover more quickly than the

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current series. The new probe placement indicates the dynamic changes of the incubator more accurately than ever before.

The feature – more accurate temperature measurement
The benefit – faster recovery and more stable control

Snap-fit blower/scroll mounting

This was incorporated into the current series in January 2000. This change facilitates easy removal of the blower scroll and blower plate for cleaning. This area should be cleaned before the incubator is placed into operation. This will allow cleaning to be done more quickly and without tools.

The blower scroll in conjunction with the blower wheel and motor provides directed airflow throughout the chamber. Directed airflow facilitates better uniformity regardless of load. It also improves the incubator temperature, humidity and CO₂ uniformity without increased air velocity. High air velocity can contribute to desiccation.

The feature – easy to clean components and directed airflow
The benefit – fewer contamination problems due to improper cleaning of the incubator and better uniformity.

Easy to remove blower wheel

The blower wheel is now retained using a nut on the motor D-shaft. The nut does not require tools to remove.

The feature – new and improved motor
The benefit – longer life

Five to four shelves

This was implemented in January as a result of customers input.

Electro polished to 2B finish

This was implemented recently as a result of customer input.

Small humidity pan

This change was for customer convenience. The smaller pan is easier to remove, clean, fill and replace.

Injected molded inner door knob.

The new knob is more rounded and easier to clean.

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1% o2 Set Point

All model 3130, 3131, 3140 and 3141 can be set to operate at 1% O₂. Previously the lowest set point was 2%.

Shelf channels

The new channels are interchangeable to make setups easier.

Simplified CO₂ control

Calibration of units with TC sensors requires only one calibration point. The CO₂ ZERO has been changed to CO₂ CAL. This is an offset only and is all that is needed.

Replace HEPA Display

We have added a Replace HEPA message. This is a user settable timer function to remind the user to replace the HEPA filter. The user can specify the numbers of months from 1 to 12 for the next HEPA filter replacement. The factory default is 6 months. When the time has elapsed, Replace HEPA will appear in the display and the audible and visual alarms will be activated. Pressing the alarm silence will silence the audible alarm and it will not ring-back.

New HEPA

This is used whenever a new HEPA filter is installed to reset the HEPA filter replacement timer. The number displayed is the number of days before the HEPA filter replacement time specified runs out. The new HEPA reset is in the Configuration Mode.

Replace O₂

This was changed to a message only with the elimination of the audible and visual alarm.

Additional Software Changes

All AC Line Calibration and Monitoring has been removed, it is no longer required.

All blower motor calibration has been removed. With the new motor it is no longer required.

Eliminated the O₂ auto zero software. We have incorporated a simpler system.

Other improvements

Removed the O₂ auto zero assembly. With the new system this was no longer required.

Simplified the Micro Board and Gas Processor Board.

Removed one valve from the O₂ control system. This will result in improved O₂ performance.

The temperature control software was re-written to facilitate quicker recovery.

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All DECON kit instructions were updates and re-written.

KITS

The following kits are available to upgrade the current style 3110 Series incubators to the new style.

Kit number 1900018, Blower Motor Retrofit Kit - This kit contains the new D-shaft motor and instructions on how to replace the current motor.

Kit Number 1900069, Filtered Air Exchange – This kit contains all the components required to install the Filtered Air Exchange into a current 3110 Series.

Kit Number 1900041, Easy Clean (Class 100) Blower Plate – This kit includes all the parts including the motor, wheel, scroll and hardware to install the easy clean blower plate into a current 3110 Series incubator. All components are assembled. Use on models 3110, 3111, 3120 and 3121.

Kit Number 1900042, Easy Clean (Class 100) Blower Plate – This is the same as the 1900041 except it has the added components required for an O2 incubator. Use on 3130, 3131, 3140 and 3141.

Kit number 1900067, Filter replacement kit for the filtered air exchange. The kit contains three filters including the chamber HEPA filter, the sample filter and the access port filter.

Specification Changes

The following chart shows the specification changes between the current literature page 6 and the new literature specifications.

Specification	Current 3110 Series	Series II	Comments
O2 Range	2 – 20%	1 – 20%	Added Range
Humidity Pan	1.6 gal (6 liters)	3.2 qt. (3 liter)	
Shelf Construction	Electro polished	2B/matt finish	
Standard Shelves	5	4	
Electrical	90 – 125 VAC	115 VAC	Operating Range 90 – 125 V includes voltage fluctuations
	180 – 250 VAC	230 VAC	Operating Range 180 – 250 V includes voltage fluctuations

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