



# IN-VITROCELL<sup>ES</sup>

DIRECT HEAT CO<sub>2</sub> INCUBATOR

The In-VitroCell ES (Energy Saver) NU-5700 series is a direct heat CO<sub>2</sub> incubator providing 5.65 ft<sup>3</sup> (160 L) of useable space designed to deliver a reliable controlled In-vitro environment for optimum tissue cell culture growth. The chamber also provides an environment for the storage and preservation of gametes and animal tissue cell cultures at or near body temperature.

## Features

### Constant Contamination Control

**Closed Loop HEPA Filtration** - Maintained at positive pressure, gas and air entering the growth chamber continuously pass through 99.99% @ 0.3 microns efficient HEPA filters producing an environment similar to an ISO Class 5 cleanroom.

**Dual Sterilization Cycles** - 145°C dry or 95°C humidified, sterilization cycles help eradicate potential contamination threats when switching cell lines or performing routine cleaning procedures.

**Coved interior corners** - A crevice-free interior is easier to clean eliminated potential growth areas within the chamber.

### CuVerro Antimicrobial Surfaces

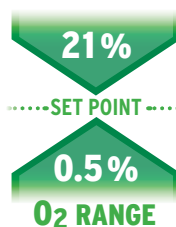
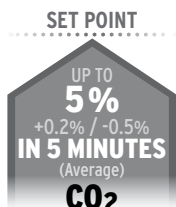
add CuVerro® Antimicrobial Copper Surfaces (optional) - to the incubator growth chamber and shelving to kill bacteria\* to minimize potential contamination. CuVerro® is laboratory tested and EPA registered. CuVerro® Antimicrobial Copper Surfaces kill more than 99.9% of bacteria\* within two hours, and continues to kill 99% of bacteria\* even after repeated contamination and regular cleaning.



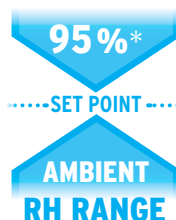
**Temperature Uniformity** by wrapping the chamber with direct heating elements and monitoring the chamber with dual temperature sensor probes model NU-5700 offers temperature uniformity within 0.3°C at 37°C.

**CO<sub>2</sub> Gas Accuracy** - using a dual wave infrared (IR) sensor that is insensitive to other components, such as water vapor, the chamber maintains CO<sub>2</sub> levels accurate within 0.1%.

**Growth Condition Recovery** - Quicker and more stable, In-VitroCell CO<sub>2</sub> Incubators recover gas and temperature back to set point faster than other CO<sub>2</sub> Incubators.



**Humidity Control** - standard CO<sub>2</sub> incubators create humidity in the growth environment by heating a water pan. Models NU-5720 and NU-5741 feature a reservoir to inject humidity into the growth chamber to meet set point monitoring and controlled by using a sensor.



NU-5710

**NuTouch Electronic Control System (ECS)** - easily control system parameters with the touch of a finger. The NuTouch ECS is a user-friendly touchscreen LCD that allows for the control of parameters and offers status indicators, onscreen instructions, and notifications to assist with proper use.

**Hypoxic Conditions** - models NU-5731 and NU-5741 provides the ability to suppress oxygen in the growth chamber by injecting N<sub>2</sub> gas to meet set point by monitoring and controlling oxygen using a sensor.

Disclaimer: Laboratory testing shows that, when cleaned regularly, CuVerro surfaces kill greater than 99.9% of the following bacteria within 2 hours of exposure: Methicillin-Resistant Staphylococcus aureus (MRSA), Staphylococcus aureus, Enterobacter aerogenes, Pseudomonas aeruginosa, E. coli O157:H7, and Vancomycin-Resistant Enterococcus faecalis (VRE). The use of CuVerro® bactericidal copper products is a supplement to and not a substitute for standard infection control practices; users must continue to follow all current infection control practices, including those practices related to cleaning and disinfection of environmental surfaces. This surface has been shown to reduce microbial contamination, but it does not necessarily prevent cross contamination. CuVerro® is a registered trademark of GBC Metals, LLC and is used with permission.

\*Set point to 90% plus 5% tolerance

## Specifications

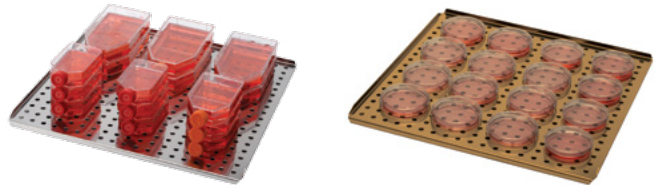
Model	Chamber Volume (Ft. <sup>3</sup> / Liters)	Electrical*	Chamber Dimensions (W x D x H)	Exterior Dimensions (W x D x H)	Weight
NU-57XX	5.65 / 160	115 VAC / 60 Hz E: 230 VAC / 50-60 Hz	20.25 x 20.678 x 24 in. 514 x 525 x 610 mm	25.5 x 27.5 x 36.188 in. 699 x 648 x 894 mm	235 lbs. / 106 kg

\* Specify models with appropriate letter suffix for electrical specifications. \*NU-5700E\* for 230 VAC / 50-60 Hz

Model	CO <sub>2</sub> Sensor	Sterilization Cycles	RH (Humidity) Control	O <sub>2</sub> Control
NU-5700	Dual Wave IR	-	Water Pan, Convection	-
NU-5710	Dual Wave IR	145°C Dry / 95°C Humidified	Water Pan, Convection	-
NU-5720	Dual Wave IR	145°C Dry / 95°C Humidified	Reservoir, Sensor Controlled	-
NU-5731	Dual Wave IR	145°C Dry / 95°C Humidified	Water Pan, Convection	Sensor (0.5 - 21%)
NU-5741	Dual Wave IR	145°C Dry / 95°C Humidified	Reservoir, Sensor Controlled	Sensor (0.5 - 21%)

## Accessories

**Size:** 18" x 18 3/4" (457 mm x 476 mm)  
**Supplied:** 4 Shelves  
**Max. Capacity:** 16 Shelves  
**Max. Weight Capacity:** 25 lbs. (11.34 kg) per Shelf / 125 lbs. (56.69 kg) per Incubator



## Features

### Standard Features

- NuTouch Electronic Control System
- Closed Loop HEPA Filtration System
- 100% Stainless Steel Coved Interior Chamber
- Dual Temperature Sensor Probes
- Infrared (IR) CO<sub>2</sub> Sensor
- Dual Sterilization Cycles (NU-5710, 5720, 5731, 5741)
- Humidity Control System (NU-5720, 5741)
- O<sub>2</sub> Control System (NU-5731, 5741)
- Four (4) Stainless Steel Shelves
- Eight (8) Stainless Steel Shelf Guides
- Four (4) Wall Brackets
- Heated External Right Hinged Door Swing (Field Reserveable)
- Inner Right Hinged Door Swing (Field Reserveable)
- Remote Alarm Output Contacts  
RJ-45 4 to 20 mA Analog Output  
RJ-11 Communication  
RS-485 Communication
- USB Port
- CO<sub>2</sub> Sample Port
- Adjustable Leg Levelers

- Access Port and Plug with Breather Holes
- One (1) Water Pan
- One (1) 6.5 ft. / 2 m Electrical Cord

### Optional Features

- CuVerro® Antimicrobial Copper Surface (Interior Chamber)
- CuVerro® Antimicrobial Copper Surface (Shelving and Guide Brackets)
- Automatic CO<sub>2</sub> Tank Switch (External)
- Left Hinged Door Swing
- Additional Stainless Steel Shelves with Guide Brackets
- CO<sub>2</sub> Analyzer Fyrite Kit (Dry) 0-20%
- Replacement Fluid for CO<sub>2</sub> Analyzer
- Surge Protector
- CO<sub>2</sub> Regulator (2 Stage)
- Platform with Castors

### Temperature Control System

- Temperature Sensor Type:** Precision Integrated Circuit
- Default Set Point:** 37°C
- Chamber Temperature Range:** 5°C to 55°C (5°C Above Ambient to 30°C Max. Ambient)

### Chamber Temperature

- Uniformity:** ± 0.3°C @ 37°C
- Temperature Accuracy:** ± 0.1°C
- Temperature Recovery:** 0.12°C/Minute Average
- Temperature Display Resolution:** 0.1°C

### Minimum Qualifications for Sterilization:

- 145 DEG Cycle 135°C
- 95 DEG Cycle 85°C

### Electrical Requirements

- Startup Power:** 625 watts
- Running Power:** 250 watts, 60 Hz
- Decon Cycle:** 995 watts
- Heat Rejected:** 14 BTU / min.

### Utility Connections

- Gas Connections:** 0.25 in. (6.3 mm) Tubing Connections
- Gas Input Pressure:** 20 PSIG (1.4 BAR) Input Pressures Maximum. Two-Stage Gas Regulators Required.

### CO<sub>2</sub> Control Systems

- CO<sub>2</sub> Sensor Type:** Infrared Single Source Dual Wave Length
- CO<sub>2</sub> Control Logic:** Fixed Algorithm / Manual Environmental Adaptable.

### Default Set Point:

- 5%
- CO<sub>2</sub> Range:** 0.1 to 20%. (0.0 Set Point Idles System)
- CO<sub>2</sub> Accuracy:** ± 0.1%
- CO<sub>2</sub> Recovery:** Up to 5% -0.50% / +0.20% in 5 Minutes Average.
- CO<sub>2</sub> Display Resolution:** 0.1%

### RH (NU-5720 / 5741)

- Default Set-Point:** 90%
- RH Range:** 5% Above Ambient to 95%\*
- RH Accuracy:** +5% / -3%
- RH Recovery:** 90% + 5% / - 3% 25 min.
- RH Water Tank Capacity:** 3 Liters (approximate)

- RH Evaporator Tank Temperature:** Chamber temperature set point +10C

\*Set point to 90% plus 5% tolerance

### O<sub>2</sub> (NU-5731 / 5741)

- Zirconia Ceramic Sensor**
- Default Set-Point:** 21%
- O<sub>2</sub> Range:** 0.5 to 21%
- O<sub>2</sub> Accuracy:** ± 0.25%
- O<sub>2</sub> Recovery:** 5% ± 2% / 20 min.

