IN-VITROCELL ES

DIRECT HEAT CO₂ INCUBATOR

The In-VitroCell ES (Energy Saver) NU-5700 series is a direct heat CO_2 incubator providing 5.65 ft³ (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 – 145ºC dry or 95ºC 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.
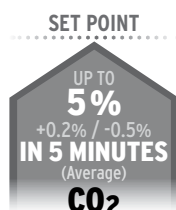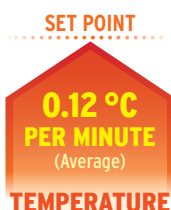
CuVerro Antimicrobial Surfaces add CuVerro® Antimicrobial Copper Surfaces (optional) - to the incubator growth chamber and shelving to kill bacteria* to minimize potential contamination. CuVerro® is laboratory tested and EPA registered. CuVerro® Antimicrobial Copper Surfaces kill more than 99.9% of bacteria* 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 0.3ºC at 37ºC.

CO₂ Gas Accuracy - using a dual wave infrared (IR) sensor that is insensitive to other components, such as water vapor, the chamber maintains CO_2 levels accurate within 0.1%.

Growth Condition Recovery – Quicker and more stable, In-VitroCell CO_2 Incubators recover gas and temperature back to set point faster than other CO_2 Incubators.

SET POINT
0.12 ºC PER MINUTE (Average)
TEMPERATURE

SET POINT
UP TO **5%** +0.2% / -0.5% **IN 5 MINUTES** (Average)
CO₂

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_2 gas to meet set point by monitoring and controlling oxygen using a sensor.

21% SET POINT **0.5%** **O₂ RANGE**

+0.25% SET POINT **-0.25%** **O₂ ACCURACY**

SET POINT **5%** +2.0% **15 MINUTES** (On Average) **O₂ RECOVERY**

Humidity Control – standard CO_2 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.

95%* SET POINT **AMBIENT RH RANGE**

+5% SET POINT **-3%** **RH ACCURACY**

SET POINT **90%** ±5% **25 MINUTES** (On Average) **RH RECOVERY**

*Set point to 90% plus 5% tolerance

Specifications

| Model	Chamber Volume (Ft.³ / 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	CO₂ Sensor	Sterilization Cycles	RH (Humidity) Control	O₂ 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 ¾" (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
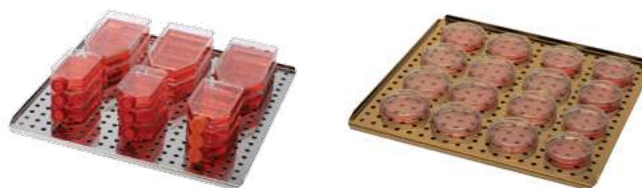
Features

Standard Features

NuTouch Electronic Control System

Closed Loop HEPA Filtration System

100% Stainless Steel Coved Interior Chamber

Dual Temperature Sensor Probes

Infrared (IR) CO_2 Sensor

Dual Sterilziation Cycles (NU-5710, 5720, 5731, 5741)

Humidity Control System (NU-5720, 5741)

O_2 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_2 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® Antimicrobal Copper Surface (Interior Chamber)

CuVerro® Antimicrobal Copper Surface (Shelving and Guide Brackets)

Automatic CO_2 Tank Switch (External)

Left Hinged Door Swing

Additional Stainless Steel Shelves with Guide Brackets

CO_2 Analyzer Fyrite Kit (Dry) 0-20%

Replacement Fluid for CO_2 Analyzer

Surge Protector

CO_2 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.

CO₂ Control Systems

CO_2 Sensor Type: Infrared Single Source Dual Wave Length

CO_2 Control Logic: Fixed Algorithm / Manual Environmental Adaptable.

Default Set Point: 5%

CO_2 Range: 0.1 to 20%. (0.0 Set Point Idles System)

CO_2 Accuracy: ± 0.1%

CO_2 Recovery: Up to 5% -0.50% / +0.20% in 5 Minutes Average.

CO_2 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

O₂ (NU-5731 / 5741)

Zirconia Ceramic Sensor

Default Set-Point: 21%

O_2 Range: 0.5 to 21%

O_2 Accuracy: ± 0.25%

O_2 Recovery: 5% ± 2% / 20 min.