



# Climacell *Eco + Evo*



Patented Forced Air Convection  
Materials Testing Chambers



CLIMACELL® climate chambers are designed to create exact reproducible simulations of a wide range of environmental conditions through precise control of temperature, humidity and optional lighting.

CLIMACELL® test chambers applications include degradation testing, QC/QA testing of products and packaging, and material quality and durability testing. CLIMACELL® EVO models can be equipped with programmable LED or fluorescent shelf and door lighting for a variety of VIS or UV light testing studies.



Materials testing in both automotive and aerospace industries



Electronics testing including use in metrology labs



Quality and durability testing of materials, components, and packaging



## ECO Controller

3" LCD display

Fuzzy Logic algorithm constantly monitors chamber conditions and continuously optimizes parameters.

(9) programs with (8) segments each for varying loads and parameters

Audible & visual alarms – temperature, time & humidity

Warmcomm Software for data capture and device control (P version)

USB flash & device, RS232 & optional Ethernet port

Integrated USB 30-day data logger for temperature measurement & recording

50mm (2") port



## EVO Controller

5.7" LCD touch display

Fuzzy Logic algorithm constantly monitors chamber conditions and continuously optimizes parameters.

(100) programs with (100) segments each for varying loads and parameters

Audible & visual alarms – temperature, time & humidity

Warmcomm Software for data capture and device control (P version)

USB device, RS232 & optional Ethernet port

Integrated SD card 30-day data logger & multi-level secure user authentication

50mm (2") port

## Temperature Range:

0°C up to 100°C (10°C up to 95°C with humidity)

- -10°C min. temperature option available on ECO units
- -20°C min. temperature option available on EVO units

## Humidity Control:

ECO: 10% up to 95% – controlled in 1% increments starting @ 10°C

EVO: 10% up to 98% – controlled in 1% increments starting @ 10°C

## Temperature Control:

Short recovery times with precise temperature regulation and uniformity

## Chamber Volumes:

111 (4 ft<sup>3</sup>) • 222 (8 ft<sup>3</sup>) • 404 (14.3 ft<sup>3</sup>) • 707 (25 ft<sup>3</sup>) • 1212 (43 ft<sup>3</sup>)

## Chamber Construction:

- AISI 304 stainless steel chamber (AISI 316 SS option available)
- Double wall, seamless main chamber & removeable inner chamber

## Electrical Data:

230V 50/60Hz, UL & CE

## Optional Programmable Lighting:

- VIS & UV fluorescent lighting
- VIS LED shelf and door lighting
- Light intensity controlled in 1% increments
- LED Door lighting (pictured)



## Optional Equipment:

- AISI 316 stainless steel chamber
- 160°C sterilization cycle (EVO only)
- Access ports 25 (1"), 50 (2"), 100 (4") mm
- Ethernet communication port
- Rolling carts for 111 & 222 models
- Door sensor and alarm
- Automatic and key door lock
- Warmcomm data acquisition software:
  - ✓ 4.0B – Receive data
  - ✓ 4.0P – Receive data and control the device
  - ✓ 4.0F – FDA 21 CFR part 111 compliant
- BMS – Building monitoring alarm contact
- 4-20mA contacts for temperature & humidity
- Flexible PT 100 sensor
- Stainless steel exterior
- Heavy load chamber
- IQ / OQ protocols with 9pt temperature mapping

Climacell ECO/EVO Technical Data		Model	111	222	404	707	1212
<b>Interior Dimensions</b>  <b>Chamber:</b> AISI 304 stainless steel (AISI 316 stainless steel option available)	Volume	ft <sup>3</sup>	3.9	7.8	14.3	25	43
		liters	111	222	404	707	1212
	Width	inches	21.25	21.25	21.25	37	3 x 21.25
		mm	540	540	540	940	3 x 540
	Depth	inches	14.6/15	20.5/20.9	20.5/20.9	20.5/20.9	20.5/20.9
		mm	370/380	520/530	520/530	520/530	520/530
	Height	inches	20.9/21	29.9/30.1	55.7	55.7	55.7
		mm	530/535	760/765	1415	1415	1415
<b>Exterior Dimensions (ECO/EVO)</b>	Width	inches	29.9/30.7	29.9/30.7	41.7/43.1	57.5/59.2	103.5/103.5
		mm	760/780	760/780	1060/1100	1460/1500	2360/2360
	Depth	inches	29.5/29.7	35.4/34.8	33.9/34.8	33.9/34.8	34.2/35.4
		mm	750/755	895/885	860/885	860/885	870/898
	Height (Legs L, Caster C)	inches	44.9L/47.8C	53.9L/57.1C	75L/74.4C	75L/74.4C	75.2L/75.6C
		mm	1140L/1215C	1370L/1450C	1905L/1890C	1905L/1890C	1905L/1921C
<b>Shelves: Stainless Steel</b>	Capacity: # of shelf guides in chamber side walls	Maximum #	7	10	19	19	3 x 19
		Standard #	2	2	2	2	6
<b>Shelf Distance</b>	Min. distance between trays	Inches	2.8	2.8	2.8	2.8	2.8
		mm	70	70	70	70	70
<b>Useable Shelf Area</b>	Width x Depth	Inches	20.5x13.2	20.5x19.1	20.5x19.1	36.3x19.1	20.5x19.1x3
		mm	520x335	520x485	520x485	920x485	520x485x3
<b>Maximum Shelf Load</b>	One Shelf	lbs	44	66.1	66.1	110.2	66.1
		kg	20	30	30	50	30
	Total Per Unit	lbs	110.2	154.3	220.5	286.6	661
		kg	50	70	100	130	300
<b># Outer Metal Doors</b>			1	1	1	2	3
<b># Inner Glass Doors</b>			1	1	1	2	3
<b>Volume of Steam Space</b>		ft <sup>3</sup>	5.8/5.9	10.6/10.8	18.5/18.7	30.9/31	61.9
		liters	163/167	299/305	524/530	876/878	1753
<b>Operation Temperature</b>	From 0°C (-10°C / -20°C)	Up to °C	100	100	100	100	100
<b>Temperature Accuracy</b>	Distribution @ 10°C	± °C	<0.5	<0.5	<1	<1	<0.9
	Distribution @ 37°C	± °C	<0.5	<0.5	<1	<1	<0.5
	Uniformity	± °C	<0.2	<0.2	<0.3	<0.4	<0.2
<b>Heating Time to 37°C From the Ambient Temperature</b>		Minutes	<11	<11	<13	<13	<30
<b>Cooling Down Time From 22°C to 10°C</b>		Minutes	<21	<17	<19	<21	<21
<b>Recovery Time After Door Opened for 30 s according to DIN 12880</b>	@ 37°C	Minutes	<4	<3	<3	<6	<10
	@ 50°C	Minutes	<5	<6	<7	<6	<10
<b>Relative Humidity (RH)</b>	Range	%	10% - 98%	10% - 98%	10% - 98%	10% - 98%	10% - 98%
<b>Accuracy RH (T<sub>CHAMBER</sub> ≥ 21°C)</b>	In Time	%	<2	<2	<2	<2	<2
<b>Heat Emission</b>	@ 37°C	W	70	63	123	148	200
<b>CO2 Concentration (EVO Only)</b>		%	0.1 - 20	0.1 - 20	0.1 - 20	-	-
<b>CO2 Required Pressure (EVO Only)</b>		Bar/PSI	0.3-0.7/5-10	0.3-0.7/5-10	0.3-0.7/5-10	-	-
<b>Noise Level of Complete Device</b>		dB	46	50	56	58	60
<b>Electrical Data: ECO &amp; EVO 0°C</b>	Max Consumption 50/60Hz	W	2050	2200	3150	3400	3500
		A	8.9	9.6	13.7	14.8	15.2
		V	230	230	230	230	230
<b>Electrical Data: EVO -20°C</b> Protective system: 16A minimum	Max Consumption 50/60Hz	W	1630	1780	2115	2640	3215
		V	230	230	230	230	230
<b>IP Code</b>			IP20	IP20	IP20	IP20	IP20
<b>ECO/EVO Weight</b>	Net	lbs	229.3/242.5	297/324.1	520.3/529.1	599.6/617.3	1193/1250
		kg	104/110	135/147	236/240	272/280	541/567
	Gross	lbs	288.8/308	372.6/390	696.2/617.3	696.7/718.7	1898
		kg	131/140	169/177	270/280	316/326	861
<b>EVO Weight -20°C</b>	Net	lbs	264.5	331	551	639	750
		kg	120	150	250	290	340
	Gross	lbs	331	412	639	741	871
		kg	150	187	290	336	395