



Stability, Photostability, Growth, Incubation, Environmental Chamber



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L'instrumentation à son meilleur

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Pharmaceutical & Bio Tech

ICH Stability & Photostability



Insect Research

Simulating conditions for organisms, aquaculture and a wide variety of insects including drosophila, algae, bacteria and fungus.



Biology & Microbiology

Testing and growth of bacteria cultures and microorganisms



Plant Growth

Simulating environmental conditions for agricultural applications; germination, green plant growth, plant tissue culture, crops and fruits



Food & Beverage Science

Stability testing testing of food, beverages and packaging including shelf life studies



Cosmetics

ICH Stability, Photostability & durability testing

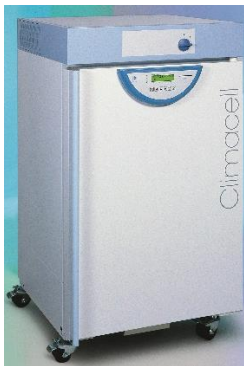


Aerospace, Auto, Industrial

Testing of materials quality and durability; adhesives, textiles, seals, composites, components & electronics



Climacell 404 (14.3 ft3)



Climacell 222 (8 ft3)

The **CLIMACELL** series was developed to created exact and reproduce simulation of a wide range of environmental conditions for the testing of pharmaceutical products, plant growth, insect rearing, shelf life testing of food, materials and components. This includes ICH Q1A & Q1B stability, photostability. Secure data storage Warmcomm Software conforming to **FDA 21 CFR part 11**.

The Climacells' stainless steel pharmaceutical graded (AISI 304) double-wall chamber design (main & inner chamber) allows for long life expectancy and facilitates the easy cleaning and sterilization of the chamber.

Combine these features with controllable lighting and BMT's patented air-flow system, humidification and dehumidification creates precise conditions.

Forced Air Convection: Patented Air flow system: vertical & horizontal

Chamber Sizes: 111 (3.9), 222 (7.8), 404 (14.3), 707 (25) ft3 /liters

Working Temperature Range: 0 °C up to 99.9 °C with humidity 10 °C up to 95°C

Humidity Range: 10-95%, controlled in 1% increments

Lighting:

VIS & UV shelf & door lighting: fluorescent tube

Fully programmable light intensity, microprocessor diming 0 – 100%

111 & 222: up to 2 shelf lights

404 & 707: up to 3 shelf lights

Power: 230V 50 / 60Hz

Features

- removable inner chamber for cleaning & sterilization
- AISI 304 seamless stainless steel chamber & shelves with rounded corners
- data encryption corresponding to FDA 21 Part 11
- multi-level user administration
- continuous indication of temperature, humidity, time & alarm
- audio and visual alarm
- independent safety thermostat
- RS 232 communication port with Ethernet option
- 5 layers of insulation for precise chamber uniformity
- digital safety thermostat
- patented air flow and adjustable forced air fan rate 10% to 100 %
- automatic water supply from water supply
- pure water tank with automatic pump

LED Comfort Controller



- fuzzy logic digital microprocessor controller
- humidification and de-humidification
- 6 programs – 40 segments – for varying loads and parameters
- chip card storage system for individual user programs & admin security
- Time range 1 minute to 16 years in 1 min. intervals
- graphic display of cycle parameters
- high process security – users protected by passwords (5 users, 1 admin)
- program temperature ramps, real time, heating sequences and cycling
- delayed heating start and stop

Lighting: LED & Tube

- VIS & UV fluorescent lighting
- Combination UV & VIS for ICH Q1B photostability
- digitally programmable intensity 0 – 100%

Options

- Communication module: WiFi, Ethernet, USB
- -10 °C with automatic defrost
- VIS & UV light measurement w/data output: -10 to 70°C
- access ports 25mm (1"), 50 (2"), 100 (4")
- automatic door lock or standard key lock
- programmable water proof inner outlet
- BMS remote alarm monitoring contacts
- PT 100 flexible sensor
- WarmComm software: FDA 21 CFR part 11 and Bi directional communication
- Stainless steel exterior
- AISI 316 stainless steel chamber
- Stainless steel exterior

Climacell Technical Data		Model	111	222	404	707
Interior dimensions Chamber: stainless steel	volume	ft3	3.9	7.8	14.3	25
		liters	111	222	404	707
	width	inches	21.25	21.25	21.25	37
		mm	540	540	540	940
	depth	inches	14.6	20.5	20.5	20.5
		mm	370	520	520	520
	height	inches	20.9	29.9	55.6	55.6
		mm	530	760	1410	1410
Volume of the steam space		ft3	5.8	10.6	18.5	31
		liters	163	299	524	876
Shelves: stainless steel	# of shelf guides in chamber side walls	max. number	7	10	19	19
		standard #	2	2	2	2
Shelf distance	min. distance	inches	2.8	2.8	2.8	2.8
	between trays	mm	70	70	70	70
Useable shelf area	width x depth	inches	20.5x13.3	20.5x19.1	20.5x19.1	36.3x19.1
		mm	520x338	520x485	520x485	920x485
Outer metal doors		No.	1	1	1	2
Inner glass doors		No.	1	1	1	2
Maximum shelf load	one shelf	lbs	44	66.1	66.1	110.2
		kg	20	30	30	50
	total per unit	lbs	110.2	154.3	220.5	286.6
		kg	50	70	100	130
Electric parameters	max consumption	W	50	70	100	130
	Protective system	V	230	230	230	230
		IP 20	IP 20	IP 20	IP 20	IP 20
Working temperature	range °C		0 -- 99.9	0 -- 99.9	0 -- 99.9	0 -- 99.9
Temperature accuracy in the chamber Distribution	at 10°C	± °C	<0.5	<0.5	<1	<1
	at 37°C	± °C	<0.5	<0.5	<1	<1
Uniformity		± °C	<0.2	<0.2	<0.3	<0.4
Heating up time from ambient temp., Cooling down time	to 37°C	min.	24	25	26	27
	from 22°C - 10°C	min.	<21	<21	<21	<21
Recovery time after 1 min. door open	at 37°C	min.	4	4	4	4
	at 50°C	min	4	4	4	4
Relative Humidity	range	%	10%-95%	10%-95%	10%-95%	10%-95%
Heat Emission	at 37°C	W	70	97	123	148
External dimensions (including door/Handle, feet / rollers)	width	inches	30	30	39.8	57.5
		mm	760	760	1010	1460
	depth	inches	25.2	31.1	31/1	31/1
		mm	640	790	790	790
	height	inches	43.3	52.4	75.3	75.3
		mm	1100	1330	1910	1910
Weight Climacell Technical Data	net	lbs	222.7	291	507	595.2
		kg	101	132	230	270
	gross	lbs	288.8	372.6	696.2	696.7
		kg	131	169	270	316



bmtus.com

CLIMACELL EVO



Stability, Photostability, Growth, Incubation, Environmental Control

Assuring Your Quality



Pharmaceutical & Bio Tech

ICH Stability & Photostability



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Simulating conditions for organisms, aquaculture and a wide variety of insects including drosophila, algae, bacteria and fungus.



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Climacell EVO 707 (25 ft3)



Climacell EVO 404 (14.3 ft3)

The CLIMACELL EVO series is the next evolution in BMT chambers designed to precise climate control including ICH Q1A stability and Q1B photostability. The EVO applications are extensive: shelf life testing, packaging, insect rearing and plant growth. Secure data storage with Warmcomm Software, fully conforming to **FDA 21 CFR part 11**.

The EVOs' all stainless steel pharmaceutical graded (AISI 304) double-wall chamber design (main & inner chamber) allows for long life expectancy and facilitates the easy cleaning and sterilization of the chamber. Optional 160 °C sterilization cycle.

BMT's patented air-flow system, humidification and dehumidification creates precise conditions.

Forced Air Convection: Patented Air flow, both vertical & horizontal

Chamber Sizes: 111 (3.9), 222 (7.8), 404 (14.3), 707 (25), 1212 (43) ft3 /ltrs

Working Temperature Range: 0 °C up to 100 °C with humidity 10 °C up to 95°C

Humidity Range: 10-95%, controlled in 1% increments

Lighting: VIS & UV shelf & door lighting – LED and fluorescent tube Fully programmable light intensity, microprocessor diming 0 – 100% 111 & 222: up to 2 shelf lights, 404, 707 & 1212: up to 4 shelf lights VIS Shelf lighting 400 – 700 (nm), UV 300 – 400(nm)

Reflective stainless steel surfaces & Flexibility of shelf placement

CO2 control option available 0.1% to 20% with IR sensor control

Power: 230V 50 / 60Hz

Features

- removable inner chamber for cleaning & sterilization
- AISI 304 seamless stainless steel chamber & shelves with rounded corners
- data encryption corresponding to FDA 21 Part 11
- multi-level user administration
- continuous indication of temperature, humidity, time & alarm
- audio and visual alarm
- independent safety thermostat
- RS 232 communication port with Ethernet option
- inner chamber which can be fully removed
- 5 layers of insulation for precise chamber uniformity
- digital safety thermostat
- patented air flow and adjustable forced air fan rate 1% to 100 %
- automatic water supply from water supply
- pure water tank with automatic pump

LCD Color Touch Screen



- fuzzy logic microprocessor controller
- LCD color, glove friendly color touch screen display with icon navigation
- humidification and de-humidification
- 100 programs – 100 segments – for varying loads and parameters
- SD card data storage in MS Excel format
- Graphic display of cycle parameters
- 30 day data logger with graphs
- High process security – users protected by passwords (5 users, 1 admin)
- program temperature ramps, real time, heating sequences and cycling
- delayed heating start and stop

Lighting: LED & Tube

- VIS & UV fluorescent lighting
- VIS LED shelf and door lighting
- digitally programmable intensity 0 – 100%

Options

- Communication module: WiFi, Ethernet, USB
- –20 °C with automatic defrost
- VIS & UV light measurement w/data output: -10 to 70°C
- access ports 25mm (1"), 50 (2"), 100 (4")
- automatic door lock or standard key lock
- 160°C sterilization cycle
- programmable water proof inner outlet
- BMS remote alarm monitoring contacts
- PT 100 flexible sensor
- WarmComm software: FDA 21 CFR part 11 and Bi directional communication
- Stainless steel exterior
- AISI 316 stainless steel chamber
- Stainless steel exterior

Climacell EVO Technical Data		Model	111	222	404	707	1212
Interior dimensions Chamber: stainless steel AISI 304 AISI 316 available as option	volume	ft3	3.9	7.8	14.3	25	43
	width	liters	111	222	404	707	1212
		inches	21.25	21.25	21.25	37	3 x 21.25
	depth	mm	540	540	540	940	3 x 540
		inches	14.6	20.5	20.5	20.5	20.5
	height	mm	370	520	520	520	520
		inches	20.9	29.9	55.6	55.6	55.6
Volume of the steam generator capacity		ft3	5.9	10.8	18.7	31	62.9
		liters	167	305	530	878	1781
Shelves: stainless steel	# of shelf guides in chamber side walls	maximum #	7	10	19	19	3 x 19
		standard #	2	2	2	2	6
Shelf distance	min. distance between trays	inches	2.8	2.8	2.8	2.8	2.8
		mm	70	70	70	70	70
Useable shelf area	width x depth	inches	20.5x13.3	20.5x19.1	20.5x19.1	36.3x19.1	
		mm	520x338	520x485	520x485	920x485	
Outer metal doors		No.	1	1	1	2	3
Inner glass doors		No.	1	1	1	2	3
Maximum shelf load	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
Electric parameters: EVO 0°C Protective system: 16 Amp minimum	max consumption	W	2050	2100	3150	3400	-
	50/60 Hz	V	230	230	230	230	230
		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Electric parameters: EVO -20°C Protective system	Max consumption	W	1630	1780	2115	2640	3215
	50/60 Hz	V	230	230	230	230	230
		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Temperature Data	from 0.0°C to °C 0 °C - + 100 decontamination 160°C						
Operation Temperature	From -20°C to °C -20 °C - + 100 decontamination 160°C						
Working temperature Temperature accuracy in the chamber ...Distribution ...Uniformity Heating up time from ambient temp., Cooling down time Recovery time after 1 min. door open Relative Humidity	range °C		0 -- 99.9	0 -- 99.9	0 -- 99.9	0 -- 99.9	
	at 10°C	± °C	<0.5	<0.5	<1	<1	<1.5
	at 37°C	± °C	<0.5	<0.5	<1	<1	<1.5
	to 37°C	± °C	<0.2	<0.2	<0.3	<0.4	<0.8
		min.	20	25	26	27	30
	from 22°C - 10°C	min.	<21	<21	<21	<21	<21
	at 37°C	min.	4	4	4	4	4
	at 50°C	min	4	4	4	4	4
	range	%	10%-95%	10%-95%	10%-95%	10%-95%	10%-95%
Heat Emission	at 37°C	W	70	97	123	148	200
External dimensions (including door/Handle, feet / rollers)	width	inches	30.7	30.7	43.1	59.2	103.5
		mm	780	780	1100	1500	2360
	depth	inches	29.7	34.8	34.8	34.8	34.8
		mm	755	885	885	885	885
	height	inches	46.3	57.2	74.3	74.3	75.2
		mm	1177	1452	1888	1888	1910
Weight Climacell EVO 0°C	net	lbs	242.5	309	529	617	-
		kg	110	140	240	280	-
	gross	lbs	309	390	617	719	-
		kg	140	177	280	326	-
Weight Climacell EVO -20°C	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
CO2 Concentration		%	0.1 - 20	0.1 - 20	0.1 - 20	-	-
CO2 Required Pressure		Bar / psi	0.3-0.7 / 5 -- 10	0.3-0.7 / 5 -- 10	0.3-0.7 / 5 -- 10	-	-

Note: All technical data is related to 22 °C ambient temperature and +/- 10% voltage swing (if specified). For other parameters see section: Electrical connections. Temperature and humidity variation occurs in the case of consistent air-flow during operation.

- No more than 50% of the tray should be filled in order to facilitate uniform air circulation inside the chamber
- MMM / BMT reserve the right to changes in design and manufacture of the device

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