



Temperature range:	0°C – 100°C (<i>-10°C min. temp. option available</i>)
Temp. w/ humidity:	10°C – 90°C
Humidity range:	10% – 98% RH, controlled in 1% increments
Chamber volume:	4 cu. ft. (111 L) – 43 cu. ft. (1212 L)
Controller:	ECO standard microprocessor
Housing material:	Galvanized mild steel, painted
Chamber material:	AISI 304 stainless steel
Regulatory labels:	CE, UL, and CSA listed



ECO Controller:

- 3" LCD with keypad operation
- 9 programs, 8 segments each, up to 99 cycles
- Real-time programming, optional temperature ramp settings
- Cycle status display
- Acoustic and visual alarms: temperature, humidity, and time
- Integrated USB 30-day data logger with Excel-formatted export
- USB, RS-232, and optional Ethernet connectivity
- Keypad lock against unauthorized access

Standard Equipment:

- Patented forced air convection system with simultaneous vertical and horizontal airflow for precise temperature uniformity
- Humidity controlled in 1% increments
- Active dehumidification
- ECO standard microprocessor with Fuzzy Logic for real-time adaptive control
- AISI 304 stainless steel chamber, double-walled:
 - Seamless main chamber with rounded corners and fully removable inner chamber for ease of cleaning
- Five layers of insulation to minimize heat loss and efficiently maintain chamber conditions
- Shelving brackets molded into inner chamber walls
- Patented 4-point door locking system securely seals the door to the chamber
- Inner glass door allows sample viewing without disrupting chamber conditions
- 2" (50 mm) stainless steel access port for routing sensors, probes, or external connections

Optional Equipment:

- Stainless steel exterior, AISI 304 or 316
- AISI 316 stainless steel chamber
- -10°C minimum temperature
- Additional 1" (25 mm), 2" (50 mm), 4" (100 mm) stainless steel access port
- Flexible PT100 temperature sensor
- Ethernet communication port
- Automatic key and door lock
- Door sensor and alarm
- Interior electrical socket, 230 V
- Interior light
- Stacking frame: 111
- Rolling cart: 111, 222
- BMS contacts (24 V, 1 A)
- IQ/OQ protocols with 9-pt. or 27-pt. temperature mapping
- WarmComm software:
 - 4.0B, data monitoring
 - 4.0P, data monitoring and control
 - 4.0F, supports FDA 21 CFR Part 11 compliance

	Unit	111	222	404	707	1212
Temperature						
Working temperature	°C	0 – 100	0 – 100	0 – 100	0 – 100	0 – 70
Working temperature w/ humidity	°C	10 – 90	10 – 90	10 – 90	10 – 90	10 – 90
Temperature uniformity @ 10°C	±°C	<0.5	<0.5	<1	<1	<0.9
Temperature uniformity @ 37°C	±°C	<0.5	<0.5	<1	<1	<0.5
Temperature stability	±°C	<0.2	<0.2	<0.3	<0.4	<0.2
Time to reach 37°C from ambient	minutes	<11	<11	<13	<13	<30
Cool-down time from 22°C to 10°C	minutes	<21	<17	<19	<21	<21
Recovery from door open 30 sec. (37°C / 50°C)	minutes	<4 / <5	<3 / <6	<3 / <7	<6 / <6	<10 / <10
Heat emission @ 37°C	watts	70	63	123	148	200
Humidity						
Relative humidity (RH)	%	10 – 98	10 – 98	10 – 98	10 – 98	10 – 98
Accuracy (T _{CHAMBER} ≥ 21°C)	%	<2	<2	<2	<2	<2
Volume of steam space	cu.ft. / liters	5.8 / 163	10.6 / 299	18.5 / 524	30.9 / 876	61.9 / 1753
N2 / O2 control	%	1 – 20	1 – 20	1 – 20	1 – 20	1 – 20
Chamber						
Capacity	cu.ft. / liters	4 / 111	8 / 222	14.3 / 404	25 / 707	43 / 1212
Doors	#	1	1	1	2	3
Shelves (standard / max)	#	2 / 7	2 / 10	2 / 19	2 / 19	6 / 3x19
Shelf distance	in / mm	2.8 / 70	2.8 / 70	2.8 / 70	2.8 / 70	2.8 / 70
Usable shelf area (w x d)	in	20.5 x 13.2	20.5 x 19.1	20.5 x 19.1	36.2 x 19.1	20.5 x 19.1
	mm	520 x 335	520 x 485	520 x 485	920 x 485	520 x 485
Maximum shelf load	lb / kg	44 / 20	66 / 30	66 / 30	44 / 20	66 / 30
Maximum unit load	lb / kg	110 / 50	154 / 70	220 / 100	287 / 130	661 / 300
Overall Dimensions						
Width	in / mm	29.9 / 760	29.9 / 760	41.7 / 1060	57.5 / 1460	95.9 / 2435
Depth	in / mm	29.5 / 750	35.2 / 895	33.9 / 860	33.9 / 860	34.3 / 870
Height*	in / mm	44.9 / 1140	53.9 / 1370	75.2 / 1910	75.2 / 1910	75.2 / 1910
Weight	lb / kg	229 / 104	298 / 135	520 / 236	600 / 272	1193 / 541
Internal Dimensions						
Width	in / mm	21.3 / 540	21.3 / 540	21.3 / 540	37 / 940	3x21.3 / 3x540
Depth	in / mm	14.6 / 370	20.5 / 520	20.5 / 520	20.5 / 520	20.5 / 520
Height	in / mm	20.9 / 530	29.9 / 760	55.7 / 1415	55.7 / 1415	55.7 / 1415
Electrical						
Voltage	V, Hz	230, 50/60	230, 50/60	230, 50/60	230, 50/60	230, 50/60
Wattage	watts	1700	1850	2700	3000	3500
Amperage	amps	7.4	8.1	12	13.8	15.7
IP code		IP20	IP20	IP20	IP20	IP20

*Overall device height measured on casters.