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FRIOCELL EVO CO2 INCUBATORS

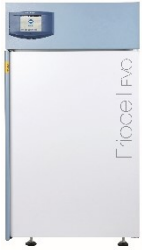
Large Volume Co2 Incubators



EVO 404 (14.3 ft3)
Color Touch Screen
Controller & 160°C
Sterilization



EVO 707 (25 ft3)
Color Touch Screen
Controller & 160°C
Sterilization



EVO 222 (8 ft3)
Color Touch Screen
Controller & 160°C
Sterilization



EVO 1212 (43 ft3)
Color Touch Screen
Controller & 160°C
Sterilization



The **Friocell EVO** series of large capacity **CO2 incubators** focused on constant and repeatable conditions for cell growth procedures, tissue, virology, and other culturing procedures. Full control of all chamber conditions with **temperature controllable in 0.1°C increments** and **patented air flow system controllable in 1% increments** for gentle convection. The **Drift-free infrared (IR) sensor** provides maximum reliability and measurement precision during the entire process. Thanks to the **5-layer insulation**, maintaining inner chamber conditions is assured. As well the inner glass door is sealed, allowing for full viewing of the inner chamber. The outer door is insulated with its' own external door gasket.

Volume: 111 (4 ft3), 222 (8 ft3) 404 (14.3 ft3) 707 (25 ft3) 1212 (43 ft3)

Color touch screen control with Fuzzy Logic microprocessor

CO2 Sensor Drift Free Infrared (IR) sensor

Sterilization 160°C Dry Heat sterilization cycle

Double wall chamber (Main & Inner) Removable inner chamber for sterilization

Working temperature 0°C up to 100 °C

Sealed Inner Glass Door to eliminate loss of chamber conditions

CO2 Concentration 0.1% up to 20%

Heated Doors to eliminate condensate

Access port options 25 mm (1"), 50mm (2") or 100mm (4")

Chamber Pharmaceutical Grade AISI 304 seamless with rounded corners

HEPA filter on incoming tubing

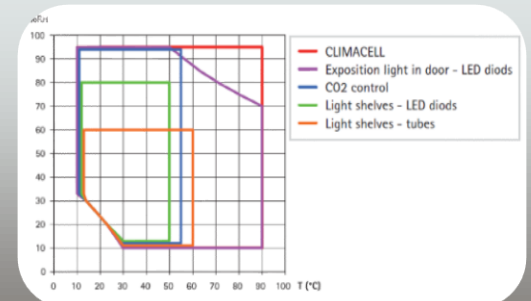
CO2 EVO Features

- Fuzzy Logic "learning logic" microprocessor
- large color touch screen display, simple icon navigation
- continuous indication of actual temp., CO2 concentration, time & alarm limits
- audio and visual alarm
- infrared drift free CO2 sensor
- independent safety thermostat
- 30day data logger event log of all relevant data
- SD card system saving data in CSV format
- closed chamber, precise uniformity, leading to quicker recovery times.
- RS 232 communication port
- HEPA filter on incoming CO2 / NO2 tubing
- seamless chamber with rounded corners
- inner chamber fully removable for chamber sterilization
- 5 layers of insulation for precise internal chamber uniformity
- on board data-logging with graphs
- high process security – users protected by passwords (5 users, 1 admin)



Options

- communication module: USB, Ethernet & WiFi
- automatic CO2 tank change over manifold
- single & two stage CO2 regulators
- stainless stacking frame for model 111 & 222
- Ethernet adaptor for RS232
- Warmcomm Software 4.0 with FDA version
- BMS relay alarm
- oxygen control 1-19 %
- IQ/OQ protocols with 9 point temp. mapping
- dynamic library interface for data
- inner socket
- protocol printer with 10 years ink well



FRIOCELL® EVO (FC EVO)			55	111	222	404	707	1212
Technical data Internal space - chamber, stainless steel DIN 1.4301 (AISI 304)	volume	cca l	54	110	219	404	704	1408
	volume	ft3	1.9	3.9	7.8	14.3	25	43
	width	mm	400	540	540	540	940	3x540(1905)
		inch	16	21.3	21.3	21.3	37	21.3
	height	mm	355	535	765	1415	1415	1415
		inch	14	21	30	56	56	56
	depth	mm	380	380	530	530	530	530
inch		15	15	21	21	21	21	
Volume of the steam space		cca l	91	167	305	530	878	1753
External dimensions (including door, Handle H and wheels W)	width	mm	640	780	780	1100	1500	2530
		inch	25	31	31	43	59	99.6
	height	mm	940H	1215H	1450H	1880W	1880W	1915W
		inch	37	47.8	57	74	74	75.4
	depth	mm	755	755	885	885	885	885
		inch	29.7	29.7	36	35	35	35
Package – dimensions (three-layers carton)	width	cca mm	820	890	950	1340	1680	2750
	depth	cca mm	1290	1590	1740	2200	2200	2230
	height (incl. palette)	cca mm	980	890	1070	1060	1060	1130
Weight	net	kg	110/120**	110/120**	143/153**	240/250**	280/290**	519/545**
		lbs	243/265	243/265	315/337	529/551	617/639	1144/1202
	Gross (carton)	kg	140/150**	140/150**	162/172**	280/290**	326/336**	803/829**
		lbs	309/331	309/331	357/379	716/639	719/741	1770/1828
Shelves of stainless steel *	trays	max. No.	5	7	10	19	19	3x19
	standard equipment	pcs. included	2	2	2	2	2	6
	min. distance between	mm	70	70	70	70	70	70
		inch	2.8	2.8	2.8	2.8	2.8	2.8
Storage area (w x d)	mm	380x335	520x335	520x485	520x485	920x485	520x485	
Maximal load *	per 1 screen	kg/screen	20	20	30	30	50	30
	for a shelf	kg/shelf	20	20	30	30	50	30
		lb/shelf	44	44	66	66	110	110
	total inside of device	kg/chamber	50	50	70	100	130	300
lb/chamber		110	110	154	220	287	661	
Number of outer metal doors		psc.	1	1	1	1	2	3
Number of inner glass doors		psc.	1	1	1	1	2	3
Electrical data	maximum power requirement w/out decontamination	W	700/850**	1000/1150**	1150/1300**	1700/1700**	2000/2050**	2500/3300* *
	maximum power requirement w/ decontamination	W	700/850**	1000/1150**	1150/1300**	1700/1700**	2600/2650**	2500/3300* *
	50/60 Hz	V	115	115	115	115	115	230
	protective system		IP20	IP20	IP20	IP20	IP20	IP20
Temperature data Working temperature	from 0.0°C from -20.0°C	to °C to °C	100 (decontamination 160°C) 100 (decontamination 160°C)					70 70
	Temperature accuracy	distribution at 10°C	cca (±) °C	<0.5	<0.5	<0.5	<1	<1
	uniformity	cca (±) °C	<0.2	<0.2	<0.2	<0.3	<0.4	<0.5
Heating/up time to 37°C from ambient temperature		min	<11	<11	<11	<22	<13	<30
Cooling/down time from 22°C to 10°C		min	<21/<11**	<21/<11**	<17/<14**	<19/<11**	<21/<22**	<21
Recovery time after 30 s of door opening according to DIN 12 880	at 37°C	min	<5	<5	<2	<10	6	10
	at 50°C	min	<6	<6	<3	<13	6	10
Heat emission	at 37°C	cca W	55	70	63	123	148	200
Complete device noise level		dB	45/50**	46/52**	50/56**	56/58**	58/65**	60
Optional: CO₂ concentration		%	0.1 - 20				-	0.1 - 20
Required pressure CO₂		bar/psi	0.3 - 0.7/5 - 10**				-	0.3-0.7/5-10**

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*Approx. 50% of the tray area can be filled to allow for proper air circulation is enabled inside the chamber.

** Value at cooling up to -20°C.

Note: All technical data are related to 22°C ambient temperature and ± 10% voltage swing (if not specified). For other parameters see section Electric connections. Change in the design and make reserved