rycobel

Friocell - laboratory incubators with forced air convection and cooling

High technical standard of the FRIOCELL® line allows time and spaceprecise tempering of samples. The unique cooling system offers precise and economic simulation of selected natural processes and it reduces evaporation of samples. They can be used in the field of biotechnologies, botany, zoology, food-processing industry, cosmetics, chemistry, etc., where they allow extremely short times of temperature conditions regeneration.

- Internal volume: 55, 111, 222, 404, 707, 1 212 litres
- Temperature range: from 0,0°C to 100°C
- Range up to 70°C for the volume of 1 212 litres
- CLC EVO as optional equipment up to -20°C
- CLC EVO as optional equipment of chamber decontamination up to 160°C
  (except for the volume of 1 212 litres)
- Cooling medium: R 134a (R449a for -20°C)
- CO2 concentration: 0,2% up to 20%
- Internal glass door
- Internal chamber: stainless steel DIN 1.4301 (AISI 304)

D-36-21-Friocell 03-2023

Eco line

- Intuitive control
- Microprocessor process control Fuzzy logic
- Multi-lingual communication
- Acoustic and visual alarm
- LED indicator of device functionality
- LCD display - 3 inches (7,6 cm)
- Transflective brilliant FSTN display, using COG technology (it is backlit and it uses external lighting reflection – higher intensity of external light increases the display readability)
- Adjustable display contrast depending on device placement
- Exceptionally wide vision angle
- Large signs on the display visible from afar
- Current values (eg. temperature, humidity for CLIMACELL®, pressure for VACUCELL®) during the device operation are enlarged for easy readibility
- Resistant foil keyboard with SoftTouch surface (pleasant to touch)
- Mechanic response of keys
- Lit symbols integrated directly in the foil keyboard
- Keyboard lock to block unauthorised access – adjustable by multiple pressing
- Real time programming and cycling (ramps as optional equipment)
- Up to 9 programs, 2 segments for each program and up to 99 cycles.
- USB Host port for flash disc connection for easy export of the relevant data (optional equipment)

Evo line

- Intuitive control
- Microprocessor process control Fuzzy logic
- Multi-lingual communication
- Acoustic and visual alarm
- LED indicator of device functionality
- LCD display – 5,7 inches (14,5 cm)
- Graphic displaying of a new program
- Control through colour icons
- Touch display lock – protection from unauthorised access by a password
- Multi-level administration of users (corresponding to FDA 21 Part 11)
- Data coding and no-manipulability (according to FDA 21 Part 11)
- Up to 100 programs and up to 100 segments for each program
- Programming of temperature ramps, real time and cycling
- Annual data recording in graphic and numeric form
- Data export in online and offline mode
- Pre-set service programs for prompt diagnostics of failures
- Easy service diagnostics including remote access
- SD memory card, USB Host and interface RS 232 – included as a standard
- Connection: WiFi, USB Device or Ethernet interface with proper IP address for remote data transfer, control and diagnostics (optional equipment)

Technical data								
Inner space	volume	l	55	111	222	404	707	1212
	width	mm	400	540	540	540	940	3x540 (1905)
	depth	mm	370/380	370/380	520/530	520/530	520/530	520/530
	height	mm	350/355	530/535	760/765	1415	1415	1415
External dimensions (including door, handle, legs N or casters K)	width	max. mm	620/640	760/780	760/780	1060/1100	1460/1500	2435/2530
	depth	max. mm	650/755	750/755	900/885	790/885	790/885	870/898
	height	max. mm	875N/940K	1045N/1187K	1275N/1450K	1905K/1890K	1905K/1890K	1905/1921K
Package – basic package - case ECO (mimo 1212) - wooden crate EVO + ECO 1212	width	approx mm	730/990	830/992	830/1120	1130/1332	1530/1682	2742
	depth	approx mm	710/830	830/954	970/952	900/1062	900/1064	1137
	height (including palette)	approx mm	1070/1300	1320/1650	1470/1746	2090/2200	2090/2190	2240
Volume of the steam space		cca l	89/91	163/167	299/305	524/530	876/878	1753
Trays / shelves	maximal number	pc	4	7	10	19	19	3x19
	standard equipment	pc	2	2	2	2	2	6
	minimal distance between trays/shelves	mm	70	70	70	70	70	70
	usable area	mm	380x335	520x335	520x485	520x485	920x485	520x485
Maximal allowed loading of trays *)	per 1 tray	kg	20	20	30	30	50	30
	per 1 shelf	kg	20	20	30	30	20	30
	inside the device - in total	kg	50	50	70	100	130	300
Number of external metal door		pc	1	1	1	1	2	3
Number of inner glass doors		pc	1	1	1	1	2	3
Weight	net	approx kg	83/95	106/110	137/143	224/230	255/270	519/545
	gross (cartoon)	approx kg	102/180	136/220	174/263	275/390	321/500	839/865
Electric data – mains 50/60 Hz	max. input **)	kW	0,7	0,7/1	0,85/1,15	1,7	2	2,5
	stand by input	W	5/11	5/11	5/11	5/11	5/11	5/11
	current for voltage ***)	A	3,3	3,3/4,5	4,3/5,3	8,1	9,8	11,6
	current for voltage ***)	A	7,6	7,6/10	9,2/11,2	16	17,9	23
IP Code			IP20	IP20	IP20	IP20	IP20	IP20
Temperature data								
Operation temperature	from 0°C (-10°C) / 0°C(-20°C)	to°C	100	100	100	100	100	70
Temperature accuracy	in space at 10°C	±°C	<0,5	<0,5	<0,5	<1	<1	<0,6
	in space at 37°C	±°C	<0,5	<0,5	<0,5	<1	<1	<0,5
	in time	±°C	<0,2	<0,2	<0,2	<0,3	<0,4	<0,2
Heating up time to 37°C from the ambient temperature		min	<11	<11	<11	<22	<13	<30
Cooling down time from 22°C to 10°C		min	<21	<21	<17	<19	<21	<21
Recovery time after door opened for 30 s according to DIN 12880	at 37°C	min	<5	<5	<2	<10	<6	<10
	at 50°C	min	<6	<6	<3	<13	<6	<10
Heat losses	at 100°C	W	55	70	63	123	148	200
Noise level of complete device		dB	45	46	50	56	58	60

Note:

FRIOCELL® ECO Line/FRIOCELL® EVO Line

All the technical data apply to 22°C of ambient temperature and ± 10% voltage oscillation (unless stated otherwise).

*) The trays may be covered to approximately 50% of their surface and if possibly in such a way so as the air may evenly flow inside the chamber space.

**) Automatics + compressor + condenser + electromagnetic valves + ventilator (s) + 1/2 heating of the chamber + steam generator heating.

***) Mains voltage is specified on type label of the device.

The values may differ depending on specific charge and media parameters.

Changes in the design and make reserved.