

# FRIOCELL

with forced air convection and cooling



Laboratory incubators

The high technical standard of our FRIOCELL-incubators allows exact incubation processes both for variation and deviation. The units have very short recovery times and show an excellent manner in keeping the precise regulation. A unique cooling system ensures, that the samples are not dried while cooling. A high performance system of lighting ensures outstanding homogenous parameters for tests and growth conditions. These devices are designed for use in biotechnology, botany, food processing industry, cosmetics, chemical industry etc.

**Volume:**

22, 55, 111, 222, 404, 707 litres

**Working temperature:**

0 °C up to 99.9 °C, FC 22: +5 °C up to 70 °C

**Refrigerant:** R 134a (without CFC)

**Inner glass door**

**Interior:**

stainless steel, mat. No. 1.4301 (AISI 304)

## The high-tech comfort line with multi-functional microprocessor control unit

- 6 adjustable programs
- chip card system for individual program storage
- RS 232 – interface for printer or PC-communication
- delayed heating start and stop function
- acoustic and visual alarm of error state
- time range 0–40 years with 1 min-intervals
- digital safety thermostat
- real time
- programming temperature ramps
- heating sequences
- programme cycles
- adjustable ventilation rate 10 to 100 % (FC 22 only 100 %)
- keyboard blocking



## Options

- –9,9 °C with cooled incubators
- interior lighting – a wide offer of various luminary sources
- access ports Ø 25, 50, 100 mm (Ø 100 mm is not available for 22-litres volume)
- keyboard lock (prevents the access of unauthorised persons)
- automatic door lock
- left door versions (excluded volume 22, 404 and 707 liters)
- timer programmable water protected inner socket
- exposure/stimulating lighting (white/day light) 6 000–13 000 Lx (according to volume) with digitally adjustable light 10–100 %
- exposure illumination in shelves, especially for photo-stability tests (according to ICH Guideline CPNP/ICH279/95)
- potential-free alarm contact
- measurement of material's temperature with an independent movable sensor PT 100 (with indication on a display or PC)
- special software WarmComm
- stainless steel casing of the device

... c o m f o r t l i n e

Technical data		Models	22	55	111	222	404	707	
<b>Inner dimensions</b> Chamber, stainless steel	volume	l	22	55	111	222	404	707	
	width	mm	244	400	540	540	540	940	
	depth	mm	307	370	370	520	520	520	
	height	mm	296	350	530	760	1410	1410	
Volume of the steam space		l	43	89	163	299	524	876	
Trays, stainless steel *)	number	max./usual	4/2	4/2	7/2	10/2	19/2	19/2	
Min. distance between trays		mm	60	70	70	70	70	70	
Storage area	(w x d)	mm	185x265	380x335	520x338	520x485	520x485	920x485	
Number of outer metal doors		No.	1	1	1	1	1	2	
Number of inner glass doors		No.	1	1	1	1	1	2	
Admissible weight of trays	together inside the oven	kg	25	50	50	70	100	130	
	per 1 tray	kg	10	20	20	30	30	50	
<b>Electricity data</b>	max. power consumption	W	100	990	990	990	1590	1690	
	mains 50/60 Hz	V	100-240	230	230	230	230	230	
Protective system			IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	
<b>Temperature data</b>	Working temperature	from 0 °C	to °C	+5 °C – +70 °C	99,9	99,9	99,9	99,9	99,9
	Temperature accuracy in space	at 10 °C	± °C	< 0,3	< 0,5	< 0,5	< 0,5	< 1	< 1
		at 37 °C	± °C	< 0,3	< 0,5	< 0,5	< 0,5	< 1	< 1
		in time	± °C	< 0,1	< 0,2	< 0,2	< 0,2	< 0,3	< 0,4
	Heating/up time to 37 °C from the ambient temperature		min	< 10	23	24	25	26	27
	Cooling/down time from 22 °C to 10 °C		min	< 33	< 21	< 21	< 21	< 21	< 21
	Recovery time after 1 min. door open	at 37 °C	min	1,5	4	4	4	4	4
		at 50 °C	min	4	4	4	4	4	4
Heat emission	at 37 °C	W	50	62	70	97	123	148	
Noise level – complete incubator		dB	46	46	46	50	56	58	
Outer dimensions (incl. door and handle, Feet or Rollers)	width	max. mm	406	620	760	760	1010	1460	
	depth	max. mm	592	640	640	790	790	790	
	height	max. mm	605F	820F	1000F	1230F	1910R	1910R	
Weight	netto	kg	33	80	101	132	230	270	
	brutto	kg	38	99	131	169	270	316	

\*) Approx. 50 % of the tray area can be filled in a way a uniform air circulation is enabled inside the chamber.  
 Note: All technical data are related to 22 °C of ambient temperature and ±10 % voltage swing.  
 Changes in the design and make reserved.



MMM Medcenter  
 Einrichtungen GmbH  
 Semmelweisstraße 6  
 D-82152 Planegg / München

tel.: +49 89 89 92 26 20  
 fax: +49 89 89 92 26 30  
 e-mail: medcenter@mmmgroup.com  
 http://www.mmm-medcenter.com

