

Climatic Chambers.

CB-CS Serie

FDM Environment Makers Products

Climatic and Thermostatic Chambers

Growth Chambers

Environmental Chambers

Ultrafreezers

Custom Products

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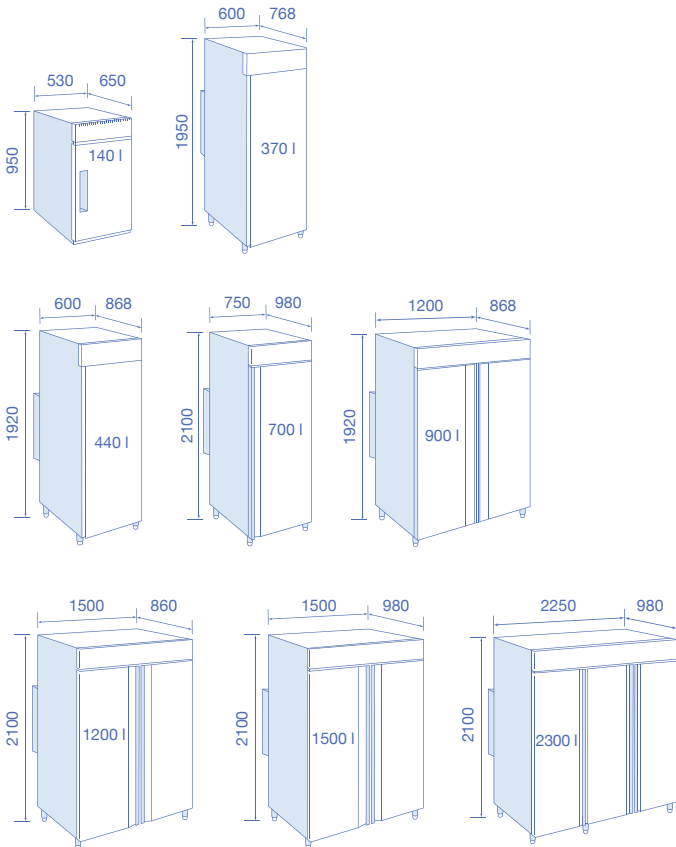
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Technical specifications are subject to change.

Sizes



Description

The CB-CS series is the standard FDM climate chamber category: you can select different temperature, humidity and volume parameters.

You can also choose between a cyclic or a constant climatic chamber: the cyclic climate chamber was developed for programming different test cycles with different temperatures during the same test.

The climatic chamber is an extremely important laboratory tool also and above all because the various tests to be carried out are regulated by different standards, established by official research bodies.

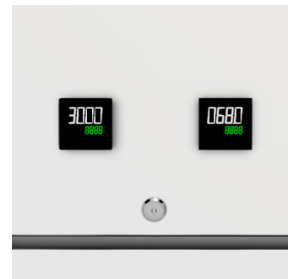
The range of products to be tested is various, below are some of the most important application areas:

- cosmetic and pharmaceutical
- food
- textile
- military/aerospace
- electronic components
- Automotive
- construction and building materials

For some categories, which require more strict and accurate parameters and also the reproduction of more “extreme” tests, we mostly refer to an environmental chamber.

Advantages

Volumes from 140 up to 2300 liters
Adjustable temperature -25°C...+70°C*
Humidity range 10...98%.
Internal shelves adjustable in height
Programmable controller revoFACE or stillFACE for stable testing
Internal forced and homogeneous ventilation
High and low temperature and humidity alarms
Electrical power 220-240V /50Hz or 110V
Compliant to the ICH Q1A pharmaceutical stability test



The stillFACE controller is designed for stability testing.



The revoFACE programmer is designed for cycle testing.

*Except for chamber with 140 liters volume starting from -20°C up to +70°C

Configuration examples



C140BXPRO
PV101-140



C700BXPRO
RT100



C700BXPRO
PV101 + RT100



C1500SXPRO

Positive Range (S)	C140S	C370S	C440S	C700S	C900S	C1200S	C1500S	C2300S
Negative Range (B)	C140B	C370B	C440B	C700B	C900B	C1200B	C1500B	C2300B
Temperature range without humidity [°C]	(S)			0...+70				
	(B)			-25...+70				
Temperature performance								
Temperature uniformity depending on setpoint [± K]	0.5..2.5							
Temperature fluctuation depending on setpoint [± K]	0.1..0.5							
Average heating-up rate according to EN 60068-3-5 [K/min]	+2							
Average cooling down rate according to EN 60068-3-5 [K/min]	-1	-0.6	-1	-0.6	-1	-0.6	-1	-1
Performance Data Climate								
Temperature range [°C] humidity is on	+10/+70							
Humidity range in according to Chart*1 [% r.h.]	10/98							
Humidity fluctuation depending on setpoint [± %]	≤ 3							
Humidification system	Ultrasonic humidification system							
Water filter	Water softening filter and replaceable cartridge equipped*2							
Max Water hardness permitted	600 ppm CaCO ₃							
Water inlet	Pressure 0.2÷5 BAR Temperature 10÷40°C Pipe connection 3/4"							
Outer dimensions								
Width net [mm]	530	600	600	750	1200	1500	1500	2250
Depth net [mm]	810	768	868	980	868	860	980	980
Height net [mm]	950	1920	1920	2100	1920	2100	2100	2100
Doors								
Unit doors	1	1	1	1	2	2	2	3
Internal Dimensions								
Width [mm]	540	480	580	670	580	570	670	670
Depth [mm]	520.5	1257	1257	1340	1257	1350	1340	1340
Height [mm]	520.5	1257	1257	1340	1257	1350	1340	1340
Measures								
Interior net volume [L]	130	310	370	530	810	1020	1180	1830
Net weight of the unit (empty) [kg]	78	98	108	165	195	210	213	365
Permitted load per rack [kg]	30	30	30	30	30	30	30	30
Fixtures								
Number of shelves (std./max.)	3/5	3/5	3/5	3/6	6/10	6/12	6/12	9/14
Shelf Width [mm]	400	460	460	530	460	530	530	530
Shelf Depth [mm]	500	470	570	650	570	550	650	650
stillFACE Controller								
Controller	Constant monitoring temperature and humidity controllers							
Interface port	Optional: RS485							
revoFACE Programmer								
Set-up Display	Programme status, set up temperature and humidity, date, time and language							
Programmer	10 programs and 50 segments each, adjustable from 1 min. to 999 hrs.							
Calibration	Possibility to calibrate all parameters							
Interface port	Optional: RS485 - Optional: Ethernet - Wi-Fi - Dedicated mobile app							
Environment-specific data								
Sound-pressure level [dB(A)]	60							

*2The cartridge should be change every 4÷6 months at most.

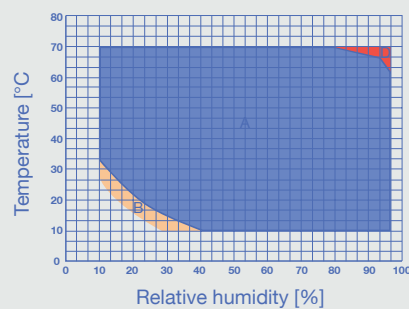
All technical data are specified for units with standard equipment at an ambient temperature of +24 °C and a voltage fluctuation of ±10 %.

Positive Range (S)	C140S	C370S	C440S	C700S	C900S	C1200S	C1500S	C2300S	
Negative Range (B)	C140B	C370B	C440B	C700B	C900B	C1200B	C1500B	C2300B	
Structure and insulation									
Exterior material	Stainless steel AISI 304								
Internal material	Stainless steel AISI 304								
Insulation	CFC and HCFC free								
Shelf grill	Removable and height adjustable stainless steel plastic coated								
Ventilation									
Fan	forced ventilation								
Safety									
Temperature	Class 2 independent adjustable temperature safety devices (DIN 12880)								
Alarm	Audio-Visual								
Electrical data									
Rated Voltage [V]	220/240								
Power frequency [Hz]	50								
Nominal power [kW]	(S)	1.4	1.5	1.4	1.8	2.2	2.4	2.6	4.1
	(B)	1.6	1.7	1.7	2.3	2.6	2.7	2.9	4.1
Unit fuse [A]	16							25	
Phase (nominal voltage)	1 ~								

Main Options

- ETH100 - Ethernet interface for remote connection
- RS485 - Interface port RS485
- PG50200 - Upgrade. 50 program 200 step for revoFACE
- PE100 - Interior socket coverable universal 220-230 V
- SPS100 - Interior compartment glass doors
- SPS07 - Flooding system for EN1348-2007
- BDS020 - Relative humidity decreasing up to 2% @ 20°C
- BSU10 - Humidity extension range below the 10°C
- TE110 - Power supply 110 V 50-60 Hz
- CO200 - CO2 Regulation System for EN 12390-10
- ICHQ1A - Equipment for pharmaceutical stability testing ICH Q1A

Operation flowchar



A= Standard
 B= With BSU accessory
 (for a limited time)
 D= Possible condensation inside
 the test chamber.

*1 Operation Temperature
 Humidity Limits



- FD100
Cable hole installed on the side of the chamber that allows the passage of cables inside without loss of performance. Rubber cap included.



- UDB100
USB port for downloading test data with the possibility of viewing them on a PC in Excel format.



- GP100R
The reinforced stainless steel shelf differs from the standard one (pictured above) in that it has a higher supported load capacity.



- RT100
Swivel castors with chamber lock for easy movement.



- PV101*
Double tempered glass door for a complete visibility of the environment and stability of the climatic conditions inside the chamber.



- WTO16
System of supply demineralized water tank 16 liters.

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PV101* - The adoption of this accessory reduces the maximum humidity range to 80% and the minimum temperature range to -20°C.

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