



ENVIRONMENTAL CHAMBERS

Extreme Test Conditions

This Environmental test chamber is designed for all kind of conditions. The thermo-glass door is made with quadruple tempered glass, in order to give you a full view of the internal conditions without penalizing your test performances. The conditions uniformity during the test is improved through an advanced ventilation air system with whom the chamber is equipped.

This machine is automated by a touch screen controller, and gives your test the best conditions with also more control for users. Set your test directly on it and push the start button! In the end, download the results via USB pen drive.

Last but not least, besides excellent performances, what other features would you look for in a machine? Easy maintenance for sure! We developed a way to facilitate the cleaning of the condenser and of the air filter. Furthermore, the electrical compartment was placed on the lateral side for an easy access.

Is that it? Of course not, we can also offer a full customization of the chamber, according to any requirement.

We are the Environment Makers.



ERGONOMIC DESIGN

FDM chambers are made in Italy, user-friendly and of the highest quality. The panel control board is easily accessible and the thermo-glass door allows a wider view of the inner room.



IMPROVED PERFORMANCE

Homogeneous parameters distribution: temperature and humidity stability (low error margin) and high resistance, even at extreme temperatures.



EXTENDED VOLUMES

We offer volumes for any kind of samples testing. Have not found your own? Contact us for a customized solution!



EASY MAINTENANCE

The maintenance parts are easy to access, for a fast and efficient preservation. This means a long lasting chamber in the long term.



Standards compliance:

ISO 2528
ASTM E96
ASTM D1653
GB 1037
IEC 60068-2-30...
and more...



100% Italian design

bit.ly/2GyNfKx

Technical Data

5 Test Volumes 25 L, 150 L, 350 L, 900 L, 1500 L	Humidity range*¹ from 10% to 98% (for temperature from +10°C to +90°C)
Temp. uniformity*² ± 0.1...1.5 K	Humidity fluctuation ± 2%
Temp. fluctuation*² ± 0.2...0.5 K	Heat/Cooling rate*² +5 K/min -4 K/min
Temperature range from -40°C to +180°C	



Equipments

- ▶ Heated multiple-glass viewing window with led interior lighting
- ▶ Stainless Steel chamber internal
- ▶ Cable port with silicone plug as standard
- ▶ Internal water tank
- ▶ Livelling and swivel castors
- ▶ Stainless steel rack included
- ▶ Safety: Class 2 independent adjustable temperature safety devices (DIN 12880)

ADVANTAGES

This Chamber uses an ecological refrigerant **R449A** with a GWP of just 1,397, in line with the **EU Regulation 517/2014**, for tests up until 2030.

**-65%
of
GWP**

Performance

- ▶ Forced air ventilation system providing temperature and humidity parameters uniformity
- ▶ Ultrasonic humidification system, high efficiency:
 - low maintenance
 - low water consumption
 - low energy consumption
- ▶ Capacitive humidity probe, low maintenance, high accuracy and stability



Touch screen



USB storage

Controller



Display programming



Historical data of parameters and alarms



Remote alarms



Manual or remote working



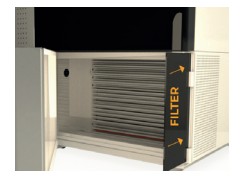
Dedicated APP



Wifi connection

EASY MAINTENANCE

Unique lateral side electric compartment.



Easy cleaning of condenser and filter.

OPTIONS

70T180E

Temperature extensions

Temperature range -70°C to +180°C (customizable temperature extension).

VOLXXE

Volume extensions

Looking for customized volumes? Choose your ideal size of the internal chamber

W65T00

Water source kit

This is a kit for connecting the chamber directly to the water source. The water filter is included.

GS85M

GSM module

GSM module will send you an sms to your phone in case of need.



*¹In accordance with the operating limits given on the datasheet.

*²In accordance with EN 60068-3-5

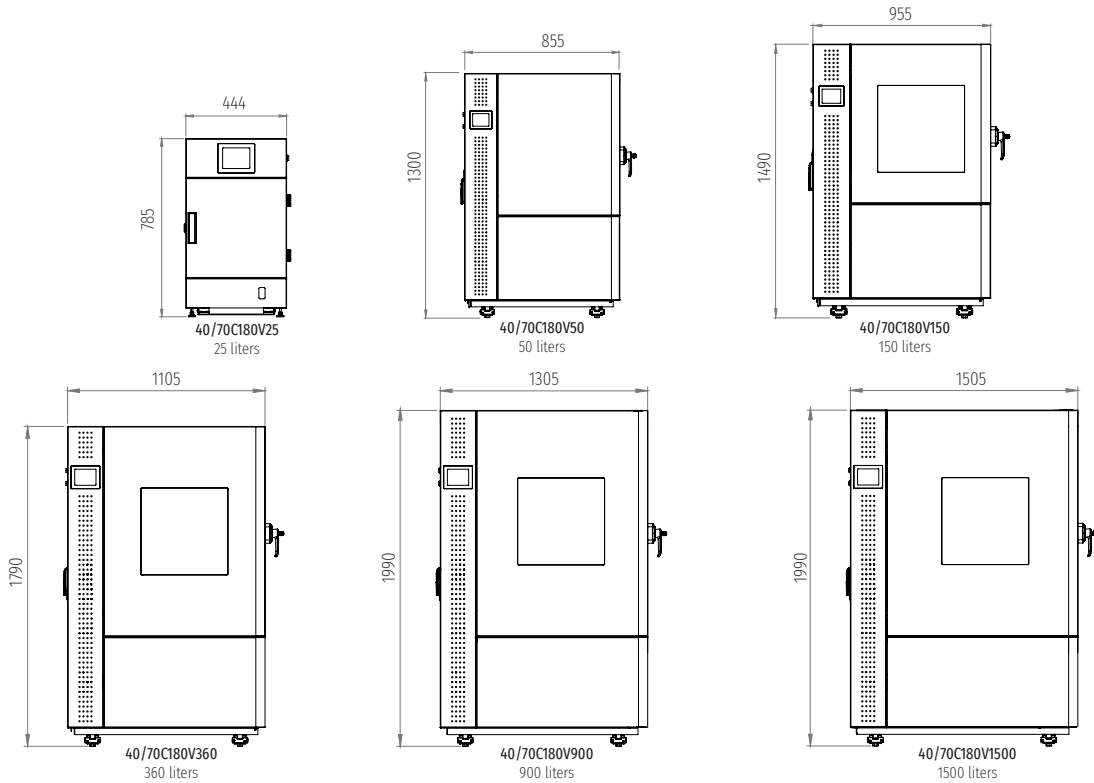


FDM - ENVIRONMENT MAKERS

FDM reserves the right to modify its equipment at any time without updating this manual.

Environmental Chambers

40/70C180V Pro - Series



EQUIPMENT



Volumes

25...1500 liters



Temperature

A -40°C...+180°C
B -70°C...+180°C



Humidity

10...98% rh



Rack

Stainless steel



stillFACE

Controller for stability testing



revoFACE

Programmer for dynamic testing



Viewing window

Anti-fog



Water tank

Internal with easy access



Cables port

1 hole Ø50 with plug



Fan

Forced ventilation



Alarms

High/low temperature and humidity



Electric power

230V / 1ph / 50Hz
400V / 3ph / 50Hz

Model A	40C180V25	40C180V50	40C180V150	40C180V360	40C180V900	40C180V1500
Model B	70C180V25	70C180V50	70C180V150	70C180V360	70C180V900	70C180V1500
Temperature performance						
Temperature range without humidity [°C]	A		-40/+180			
	B		-70/+180			
Temperature range with humidity [°C]	30/98		10/98			
Temperature uniformity depending on setpoint [± K]	0,5..1,5					
Temperature fluctuation depending on setpoint [± K]	0,1..0,5					
Average heating-up rate according to EN 60068-3-5 [K/min]	+2		+5			
Average cooling down rate according to EN 60068-3-5 [K/min]	-2		-4			
Performance Data Climate						
Humidity range [%]	30/98		10/98			
Humidity fluctuation depending on setpoint [±%]	0,5..2					
Water tank [L]	4	5	12	12	18	25
Outer dimensions						
Width net [mm]	444	855	955	1105	1335	1505
Depth net [mm]	695	902	1102	1202	1559	1912
Height net [mm]	785	1300	1490	1790	1990	1990
Wall clearance back/ sidewise [mm]	250/250	250/250	250/250	250/250	250/250	250/250
Viewing window width/ height [mm]	0	0	480/480	480/480	480/480	480/480
Doors						
Unit doors	1	1	1	1	1	1
Internal Dimensions						
Width [mm]	300	350	450	600	800	1000
Depth [mm]	280	350	550	650	1000	1360
Height [mm]	300	410	600	900	1100	1100
Measures						
Interior volume [L]	25	50	150	360	900	1500
Net weight of the unit (empty) [kg]	80	150	450	700	860	950
Load per rack [kg]	20	20	20	20	20	20
Fixtures						
Number of shelves (std./max.)	1/2	1/2	2/4	2/4	2/4	2/4
Width net [mm]	300	350	450	600	800	1000
Depth net [mm]	235	350	550	900	1000	1360
stillFACE Controller						
Controller	Constant monitoring temperature and humidity controllers					
Interface port	Optional: RS485					
revoFACE Programmer						
Set-up Display	Programme status, set up temperature, humidity and time					
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 - Wifi - Dedicated mobile app					
Environment-specific data						
Sound-pressure level [dB(A)]	< 65					

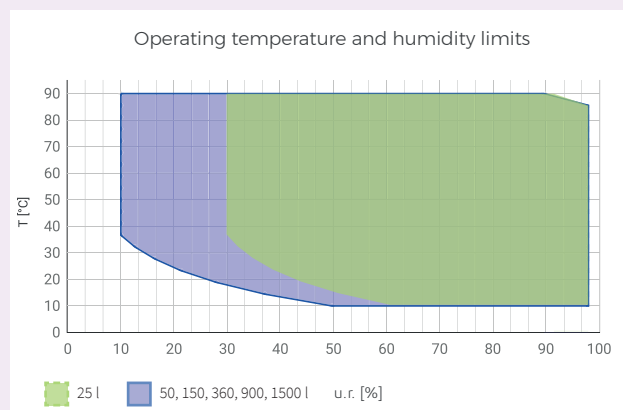
O = Optional

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



Model A	40C180V25	40C180V50	40C180V150	40C180V360	40C180V900	40C180V1500	
Model B	70C180V25	70C180V50	70C180V150	70C180V360	70C180V900	70C180V1500	
Structure and insulation							
Exterior material	Painted phosphated steel sheet						
Internal material	AISI 304 Stainless Steel						
Insulation	CFC and HCFC free						
Shelf grill	Removable and height adjustable steel grid						
Ventilation							
Fan	Forced						
Safety							
Temperature	Class 2 independent adjustable temperature safety devices (DIN 12880)						
Alarm	Audio-Visual						
Electrical data							
Rated Voltage [V]	A	230	230	230	230	400	400
	B	230	230	230	400	400	400
Power frequency [Hz]	50						
Nominal power [kW]	A	2,3	5,2	7,1	8,5	15	18
	B	5	8	10	13	19	23
Phase (nominal voltage)	A	1	1	1	1	3	3
	B	1	1	1	3	3	3

Charts



Main Options

- **MINI T-RH** - Temperature/humidity Datalogger
- **UDB100** - USB port for storage data
- **ETH100** - Ethernet interface for remote connection
- **SND20T** - Additional temperature sensor (Pt 100)
- **SND80H** - Additional humidity sensor
- **ASW00** - Water filtration system
- **BDS020** - Relative humidity decreasing up to 2% @ 20°C
- **CO200** - CO2 Regulation System for EN 12390-10
- **VOLXXE** - Volume extension of testing area
- **W65T00** - Kit for directly connection to the water source
- **UMS100** - Sterilised flux vapor humidifier
- **GS85M** - GSM module for sms alerts

- **PAC00** - Wooden crate packaging
- **PAW00** - Wooden boxes packaging
- **FA100C** - Access cables port with plug
- **GP100** - Additional rack
- **GP100R** - Additional reinforced rack
- **TE110** - Power supply 110 V 50-60 Hz

For the full options availability go to: bit.ly/2ltjSuP

**Click and go to
Online Configurator**



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Technical specifications are subject to change