



**FREEZE-THAWING
CHAMBERS**

CHD, SERIES

Construction materials installed outdoors endure strong climatic actions for years (in winter, moisture absorption during the day and frost at night, rain, sun...) that cause significant degradation.

With Freeze/Thaw Cycle Chambers, construction material manufacturers can simulate the most severe climatic conditions,

being able to solve, with total precision, the severe demands imposed in materials testing, optimize their products and make them more competitive.

GENERAL FEATURES

- 5 models.
- Designed for testing laboratories.
- Easy to install, easy to handle and reliable.
- Robust construction, resistant to corrosion
- Special designs.

CONSTRUCTION

- Chest (testing room) built on a structure of steel tube and AISI 304 (18/8) stainless steel sheet, polished, satin, completely watertight and without welds,
- Door made of stainless steel inside and outside.
- High and low temperature flexible silicone gasket on the interior weatherstripping for the perfect fit of the door.
- Opening system provided with gas shock absorbers and compensated hinges.
- Stainless steel fan protection grille.
- Thermal insulation formed by high-density polyurethane.
- Mechanical pressure seals to ensure tightness during the test.



- High-capacity thermostatic bath for conditioning water to the temperature determined by the standard for defrosting tests.
- Closed water circuit.
- Outdoor furniture made of AISI 304 quality stainless steel tube and sheet and painted.
- Interior furniture made entirely of AISI 316 quality stainless steel sheet, polished, antimagnetic, completely watertight and without interior welds.
- Possibility of installing the condenser internally or externally (aerocondenser).
- Multi-directional swivel wheels with height-adjustable rubber feet, to facilitate movement and subsequent immobilization/leveling.

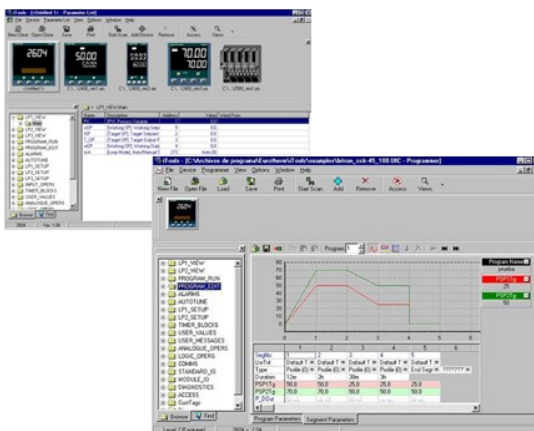
CONTROL

- LED liquid crystal display, IP65 degree of protection against aggressive environments and alphanumeric keyboard.
- Number of programs storable in memory: 25.
- Number of sections or segments per program: 100.
- Number of cycles: from 1 to 999 or infinite.
- Optimization of working values through PID parameters in cold and heat, with auto-adjustment function, differentiating a heating or cooling ramp function from a stabilization function on a set value.
- Temperature monitoring that allows programming in profiles through sections with ramp and stabilization function.
- Reading at all times of the actual working value and the set value.
- The system allows all programmed data to be saved in non-volatile memory, not being affected by power failures.
- Alarm configuration, it will warn when a safety limit value is exceeded or if for any reason there is a deviation from the programmed conditions.



SOFTWARE

Control and data recorder software with Windows support. The connection of the chamber with the PC is made by one RS-232 serial communication port.



- Recording and storage in ASCII file format.
- Visualization of the existing files.
- Visualization of the real time test.
- Digital data registers of the temperature and humidity values with programming of register intervals.
- Data recording and storage of the historical test files for real values and configured alarms.
- Graphical representation of the essay, type X-Y, that presents on the screen the programmed and real values, allowing to visualize the whole graphic or concrete amplifications thereof.

STANDARDS

- UNE- EN ISO 10545.
- UNE 67048.
- UNE 22174.
- UNE 22184.
- UNE 67028.
- UNE 67034.
- UNE-EN 491.
- UNE/EN 1348:1997.
- EN 1367-1:1999.
- UNE-EN 539-2, Method C.
- UNE-EN 494.
- UNE 7070.
- UNE-EN 12371: 2010 (test methods for natural stone).
- UNE-EN 1341:2001; UNE-EN 1342; UNE-EN 1343 (freezing method according to UNE-EN 12371).
- UNE-EN 13755 .
- UNE-EN 12326-2 Part 2 Test Methods UNE-CEN/TS 12390-9:2008 EX.

MAIN FEATURES

MODEL	CHD		243	525	720	896	1400
Volume		Liters	243	525	720	896	1400
Internal dimensions (chests)	Height	mm	750	750	800	800	700
	Width	mm	650	1000	1200	1400	2500
	Depth	mm	500	700	750	800	800
External dimensions (chest)	Height	mm	1200	1250	1350	1350	1270
	Width	mm	2200	2800	3000	3160	4825
	Depth	mm	720	925	1000	1250	1250
External dimensions (bath)	Height	mm	1900	1980	1980	2100	2200
	Width	mm	900	1260	1360	1450	1554
	Depth	mm	840	1150	1150	1320	1694
Maximum capacity (chest)		Kg	150	200	300	350	450
Temperature test							
Minimum temperature		°C				-30, optional -40	
Maximum temperature		°C				+30	
Temperature stability		°C				±0,1 °C to ±0,3°C	
Temperature uniformity		°C				±0,5 °C to ±1,5°C	
Service							
Voltage		V				400V 3N~PE	
Condenser						Air or water cooled	

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