

## DATA SHEET

### Advanced Climatic Cabinets



Advanced climatic cabinets 10-D1429/B, 10-D1429/D

#### General description

These Advanced Climatic Cabinets have been designed to be user-friendly, intuitive and above all highly accurate.

Fitted with a new and improved thermoregulator, the intuitive interface features a 7" touchscreen color display that makes it easy to programme freezing and thawing cycles.

All models can record temperature, humidity (when applicable) and time measurements in full compliance with all the relevant Standards. Version with temperature and humidity control is capable of generating 95% humidity with accuracy and reliability, making it also a perfect solution for cement specimen curing

#### Cabinet

Constructed from monobloc stainless steel, the cabinet has four shelves supported on stainless steel guides capable of holding heavy specimens. All internal angles have been rounded for easy cleaning. The cooling system and control unit are in the top of the cabinet for easy inspection and maintenance.

Insulation with high density (42 kg/m<sup>3</sup>) polyurethane **90mm thick** is CFC free and reduces heat loss by 30% compared to similar having 60 mm thickness.

#### Thermostatic unit

Air circulation is ensured by two fans for optimum uniformity conditions in the chamber. Cooling is obtained by direct evaporation of CFC free refrigerant gas by evaporator, while heating is achieved by resistances. The de-humidification is controlled by a smooth tube evaporator, while the humidity control is based on **pressure steam boiler** and ensures humidity values above 95% to saturation.

#### Control unit

The front panel includes a large colour **7" touch screen display** allowing:

- Manual control of the cabinet (setpoints, temperature rate, etc.)
- Easy programming of the thermal cycles (edit and perform of thermal cycles), even with delayed test start
- Data acquisition and recording of humidity, temperature and times values at sampling rate of 1 samples/minute.
- Simultaneous display of set points and absolute output values, both in numerical and graphical format.

All models allow **easy data export**, through industrial USB port, on the internal 512 MBytes memory including temperature and humidity values and implemented thermal cycles.

#### Temperature sensor

Two channels for PT100 temperature sensors (included) one movable inside the cabinet area (or positioned in the sample) and one fixed measuring chamber temperature.

Two additional PT 100 sensors can be added on request. See Upgrading options.

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### Humidity sensor

Allows measurements of humidity up to RH 100%

### Two versions of this advanced thermal chamber are available:

- 10-D1429/B: temperature controlled from -30 to 70°C, for testing aggregates conforming to EN 1367-1 and other similar tests on concrete and other construction materials;
- 10-D1429/D: temperature and humidity controlled respectively from -30 to 70°C and from 20 to ≥95% humidity, for aggregates and various other tests as for instance concrete and cement specimen curing (EN 196-1).

For the determination of resistance to freezing and thawing of aggregates the accessory 48-D0457, should be used. See accessories.

## Main features

**High performing** – Advanced controller with storage of 100 temperature and humidity cycle programs, each one with up to 64 segments.

**Energy efficient** – Heat loss is reduced by 30% thanks to a high density polyurethane insulation (42 kg/m<sup>3</sup>), CFC-free and 90mm thick (instead of the usual 60 mm).

**Flexible** – up to three movable temperature sensors (two optional) can be positioned inside the cabinet or placed in the sample to meet Standards' requirements. One fixed also included as standard.

**Standards compliant** – temperature, humidity and time are all recorded in accordance with Standards.

**High accuracy** – ±1°C, ±5%RH (RH with 10-D1429/D models only).

**Intuitive interface** – with a large and easy-to-use 7" color touchscreen display.

## Standards

- EN 196-1
- EN 1367-1

## Specifications

Capacity: 500 liters

7" colour display, 800x480 pixels

512 MBytes internal memory

Industrial USB port integrated in the front panel

Function controller: cycle programmer for 100 programs each one up to 64 segments

Temperature range/accuracy: -30 to +70°C/±1°C

Humidity range: from 20 to ≥95% (model 10-D1429/D);

Power: Cooling system 1100 W, Heating system 1500 W

Internal air circulation: 450 m<sup>3</sup>/h

Shelves dimensions (l x d): 530 x 650 mm, 4 included 40 kg loading cap. each

Internal dimensions (w x d x h): 560 x 680 x 1300 mm

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External dimensions (w x d x h): 730 x 850 x 2100 mm

Weight approx.: 180 kg

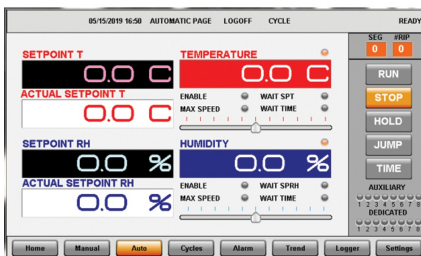
### WARNING, in the case of:

- continued use of the equipment in conditions of high humidity (> 70RH%)
- hard water inlet (> 15 ° F)

It is highly recommended to install an additional filter to protect the steam generator. Please contact our technician.



Metal can model 48-D0457



10-D1429\_B-rev2-(80) w1

## Products

### 10-D1429/B

TAC, temperature controlled climatic cabinet, 500 litres capacity, temperature range -30 to 70°C. Conforming to EN 1367-1 for aggregate testing and suitable for other tests on concrete and construction materials. 230 V, 50 Hz, 1 ph.

### 10-D1429/BY

TAC, temperature controlled climatic cabinet, 500 litres capacity, temperature range -30 to 70°C. 220 V, 60 Hz, 1 ph.

### 10-D1429/BZ

TAC, temperature controlled climatic cabinet, 500 litres capacity, temperature range -30 to 70°C. 110 V, 60 Hz, 1 ph.

### 10-D1429/D

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TAC, temperature and humidity controlled climatic cabinet, 500 litres capacity, temperature range -30 to 70°C, humidity range from 20 to 95%. 230 V, 50 Hz, 1 ph. Conforming to EN 1367-1 for aggregate testing and suitable for other tests.

### 10-D1429/DY

TAC, temperature and humidity controlled climatic cabinet, 500 litres capacity, temperature range -30 to 70°C, humidity range from 20 to 95%. 220 V, 60 Hz, 1 ph.

### 10-D1429/DZ

TAC, temperature and humidity controlled climatic cabinet, 500 litres capacity, temperature range -30 to 70°C, humidity range from 20 to 95%. 110 V, 60 Hz, 1 ph.

## Accessories and consumables

### 10-D1429/1

Third PT 100 sensor including hardware module.

### 10-D1429/2

Fourth PT 100 sensor

### 48-D0457

Metal can 2000 ml capacity complete with lid and removable ballast 1 kg conforming to EN 1367-1