

DATA SHEET

Advanced Climatic Cabinets

TAC

EN 1367-1 | EN 196-1

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/m³), 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 — $\pm 1^{\circ}\text{C}$, $\pm 5\%\text{RH}$ (RH with 10-D1429/D models only).

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

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 colour 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/m³) 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.

DATA SHEET

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.

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.

TECHNICAL 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 m³/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
- External dimensions (w x d x h): 730 x 850 x 2100 mm
- Weight approx.: 180 kg

ORDERING INFO

10-D1429/B

Temperature controlled cabinet, 500 l cap., temperature range -30 to 70°C.
230 V, 50 Hz, 1 ph.

10-D1429/BY

As above but 220 V, 60 Hz, 1 ph.

10-D1429/BZ

As above but 110 V, 60 Hz, 1 ph.

DATA SHEET

10-D1429/D

Temperature and humidity controlled cabinet, 500 l cap., temperature range -30 to 70°C, humidity range from 20 to ≥95%.
 230 V, 50 Hz, 1 ph.

10-D1429/DY

As above but 220 V, 60 Hz, 1 ph.

10-D1429/DZ

As above but 110 V, 60 Hz, 1 ph.

ACCESSORIES

48-D0457

Metal can 2000 ml cap. with removable lid and 1 kg ballast . Conforming to EN 1367-1.
 Used for determining the resistance to freezing and thawing of aggregates including lightweight types.
 Weight approx.: 2.5 kg

UPGRADING

10-D1429/1

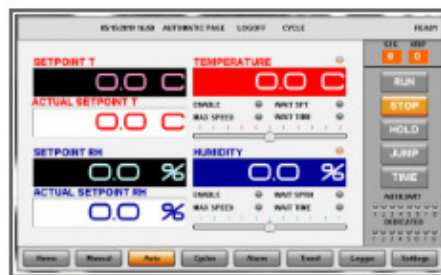
Third PT 100 sensor including hardware module

10-D1429/2

Fourth PT 100 sensor



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



7" touch screen display



Metal can model 48-D0457