



SPECIAL CLIMATIC TEST CHAMBER FOR PALEONTOLOGICAL TESTS

MODEL, CCK-25/2340MT_e

GENERAL:

Taphonomy is the part of **palaeontology** that studies the processes of fossilisation and the formation of fossil deposits. The aim of a test laboratory is to simulate the environmental conditions to which fossils will be subjected in nature, under controlled and repeatable conditions. This will require a very special chamber that encompasses all types of environmental tests possible in nature and anywhere in the world: temperature control, cryogenics, humidity, rain, carbonation and solar radiation.

The **CCK-25/2340MT_e** chamber model was created with this premise in mind, the control of multiple variables existing in nature, within a medium volume and vertical chamber, in order to simulate the conditions to which the fossils will be subjected in real life. The equipment has several environmental simulation options that can be controlled both individually and as a whole, depending on the combination.



DYCOMETAL EQUIPOS DE C.C., S.L.

C/ De la Ciència, 35-37

08840 - Viladecans (Barcelona) - SPAIN

T: (34) 936 526 610 F: (34) 936 407 607

www.dycometal.com



TEMPERATURE TESTS:

During these tests, the chamber will be able to control the interior temperature in a conventional way, with a temperature range between -25 °C and +80 °C, the machine will work autonomously thanks to a previously introduced programme. The temperature gradients of the chamber will be 1 K/min in cooling and 2 K/min in heating. The ambient temperature will be controlled and measured by means of a Pt-100 sensor with a reading of 0.1 °C.

CRYOGENIC TESTS:

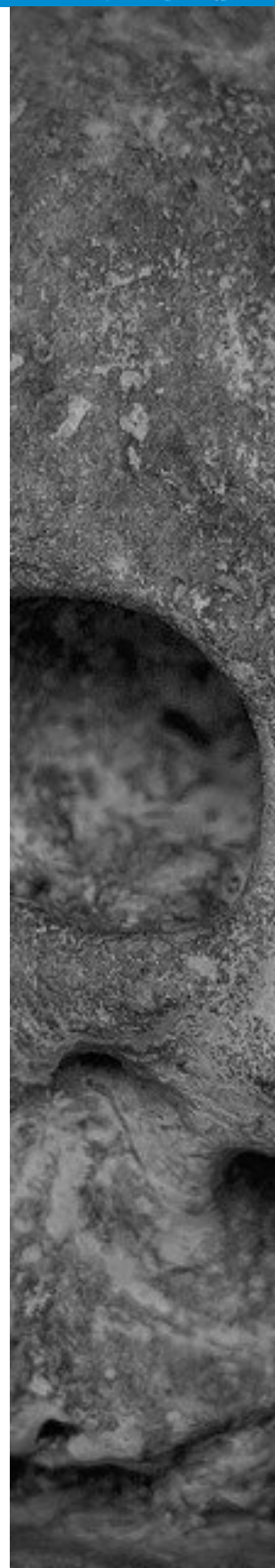
Extension of the temperature range of the chamber between -80 °C and +80 °C. In these tests, the chamber will be able to increase the cooling gradients, so that the sample can be subjected to thermal stress. Control will be possible directly from the programmer in both the heating and cooling stages, by means of events.

CLIMATIC TESTS:

For these tests, the chamber will have the capacity to humidify the interior as a function of the ambient temperature, to simulate the most common conditions in nature, with a humidity range from 10 % RH +/- 1% RH to saturation. The control and measurement of the relative humidity of the environment will be done by means of a capacitive type sensor with direct reading of 1% RH.

SOLAR SIMULATION TESTS:

During these tests the chamber shall be able to control the temperature, indoor relative humidity and simulate the conditions of exposure of the samples to solar radiation generated by an artificial radiation system. The source of solar radiation shall be external to the test enclosure using solar radiation lamps. The samples shall be positioned on a rack supplied with the chamber at a height of about 1000 mm from the irradiation source.



DYCOMETAL EQUIPOS DE C.C., S.L.

C/ De la Ciència, 35-37

08840 - Viladecans (Barcelona) - SPAIN

T: (34) 936 526 610 F: (34) 936 407 607

www.dycometal.com



RAIN SIMULATION TESTS:

The chamber is able to simulate rain conditions inside the chamber artificially. The rain will be generated through an angled sprinkler directed at the centre of symmetry of the enclosure. The chamber will prevent testing under incompatible conditions (freezing temperature).

CO2 TESTS:

The chamber is capable of subjecting the samples to a controlled amount of CO2 to evaluate the behaviour of the samples against a given percentage of CO2. The chamber will have the capacity to program a concentration between 0 and 3,000 ppm, during times pre-established by the programmer, with digital indication on the screen.



DYCOMETAL EQUIPOS DE C.C., S.L.

C/ De la Ciència, 35-37

08840 - Viladecans (Barcelona) - SPAIN

T: (34) 936 526 610 F: (34) 936 407 607

www.dycometal.com



CHAMBER CONSTRUCTION:

- Volume: 2.340 liters.
- Internal dimensions: 1.900 x 1.123 x 920 mm (H x W x D).
- External dimensions: 2.155 x 1.430 x 1.430 mm (H x W x D).
- Interior made in stainless steel AISI316.
- Exterior made in lacquered steel.
- Interior and exterior reinforcement of the structure.
- 1x Access port of 80 mm made in stainless steel.
- Pivoting door with dimensions of 1.850 x 800 mm (H x W).
- Observation window. Dimensions: 400 x 300 mm (H x W).
- Cover of the window during the sun simulation tests.
- Electromagnetic lock.
- 2x Height adjustable shelves.
- Reinforced floor ready to collect the water.
- Structure under the chamber to give mobility to the chamber.
- Height adjustable legs.
- Water treatment system.
- Extraction turbine.
- Independent cooling group.
- Calibration certificate.
- CE mark.



DYCOMETAL EQUIPOS DE C.C., S.L.

C/ De la Ciència, 35-37

08840 - Viladecans (Barcelona) - SPAIN

T: (34) 936 526 610 F: (34) 936 407 607

www.dycometal.com

