

BLOCK OVEN AGING CHECK

THERMAL REGULATED BLOCK FOR THE PERFORMANCE OF AGEING TESTS IN AIR AND IN LIQUIDS OF ELASTOMERIC MATERIALS AT TEMPERATURES UP TO 250°C



Standards the instrument complies with:

ASTM D471; ASTM D865; ASTM D1056; AS_NZS 4179; EN 681-1; ISO 188; ISO 1817; ISO 12046; ISO 6916-1; ISO 6916-2; VDA 675-301;

Overview

Thermal regulated Block for the performance of aging tests in air and in liquids of elastomeric materials at temperatures up to 250°C conforming to ISO 188, 1817 ASTM D 471 and 865 Standards.

Aging tests are typically carried out to measure the variation of characteristics of an article before and after the aging process. The characteristics that are most frequently measured before and after aging are:

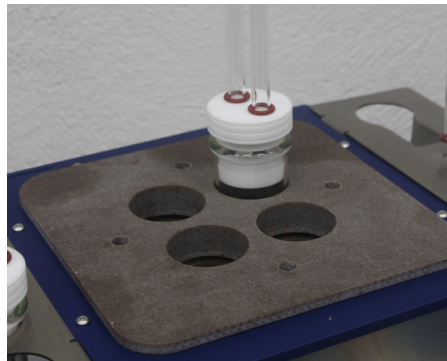
- Variation of mechanical characteristics (loading, lengthening, tearing)
- Variation of hardness
- Percentage variation of mass and volume.

Gibitre, in addition to providing this tool to perform accelerated aging in air or in liquid, also provides the tools to measure changes in the properties of the article and to produce the related reports.

Instruments Characteristics

The instrument is fitted with:

- **Aluminium block** contained in a stainless steel housing with thermal insulation with 4 calibrated holes designed for the insertion of **4 glass test tubes**
- **Heating resistance**
- **PT 100 thermal probe** for temperature measurement
- **PID thermoregulator**
- **Timer** for the set of the heating time with automatic switch off of the heater at the end of the set time



Timer for Auto-Stop

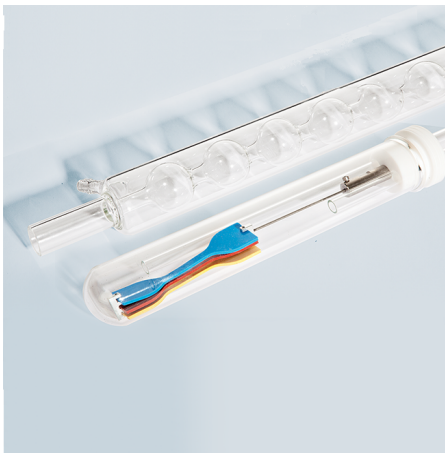
The instrument is equipped with a timer that can be set between 0 and 99 hours and 59 minutes. The instrument automatically stops at the end of the set test time.

The Timer allows you to activate aging cycles by ending the test automatically in the absence of the operator.



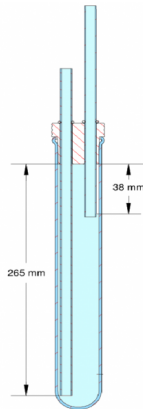
Glass Tubes for samples.

4 glass tubes with a diameter of 38 mm and a length of 300 mm can be inserted into the instrument.
The specimens can be inserted into the glass tubes and locked using the fasteners provided.
Fixing devices allow the specimens to be placed in order to avoid contact with the glass tube walls.



Glass Tubes for test according to ASTM D865

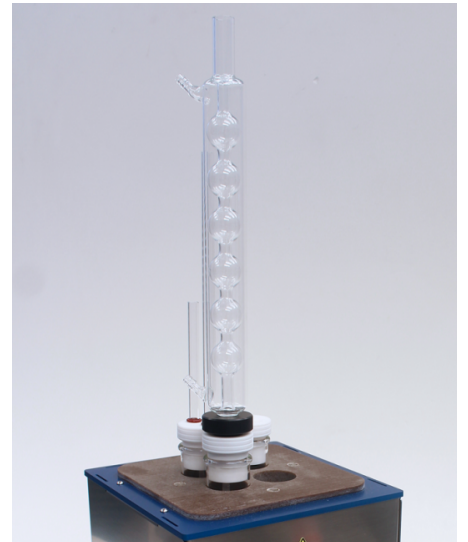
The glass tubes are closed in the upper part with PTFE plugs provided with holes for the insertion of the glass pipes requested for the aging test in hot air according to ASTM D865



Water-cooled reflux condenser

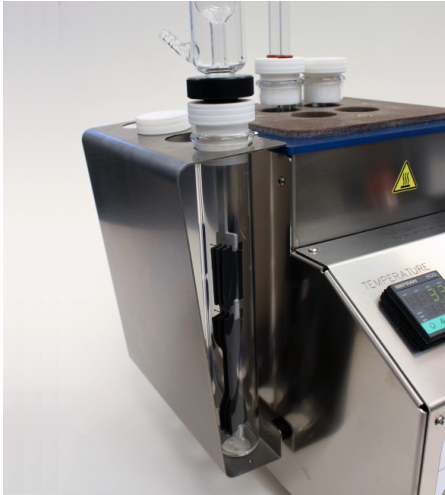
For aging tests in volatile liquids it is necessary to use **condensation columns connected to a water supply**. The condensation columns allow to condense the volatile part of the test liquid and make it fall back into the tube. In this way, the amount and formulation of the liquid in the glasses will remain unchanged.

A condensation column can be applied to each test tube.



Removable Side Supports

Together with the instrument are supplied two side supports for housing the glass tubes not in use. The supports can be removed to reduce the overall dimensions of the instrument.



Safety Devices

- Safety switch to prevent overheating
- Safety Push-button
- CE Labelling

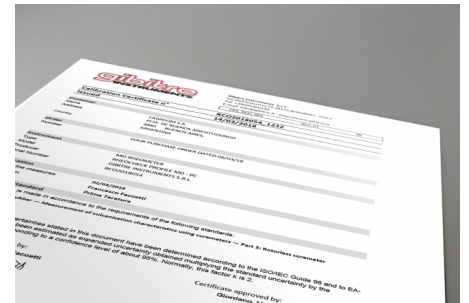


Standard Calibration service for a Block Oven

The calibration is performed with reference to the requirements of ISO 1817 standard.

The service includes:

- Ordinary maintenance of the instrument
- Calibration of the temperature inside the testing tubes (at 70°C, 150°C, 200°C, 250°C).
- Issue and e-mail shipment of the Calibration Certificate with traceability to primary standards.



Development and production

The instrument is totally developed and produced in the plant of Gibitre Instruments in Italy.

All the mechanical parts are produced in the company workshop using modern CNC machines.

Components and sensors from well-known brands are selected in order to ensure the maximum reliability in the measures

Internal trained personnel takes care of all the production stages: **assembly, start-up, calibration, packing, shipment and installation.**



Testing Configuration

Test stations	N° 4 glass tubes with 38 mm diameter and 300 mm length The use of individual test stations eliminate cross-contamination among different products under test
Heating system	The thermal resistance surrounding the round-shaped aluminium block ensures uniform heating of the system
Temperature control range	From room temperature to 250°C (Resolution 1 °C)
Vapour phase recovery	By condensation with water-cooled reflux condenser
Timer for set of test time	Timer with set of hours and minutes with automatic swiching off of the heating system at the end of the time

Safety Devices

Safety devices	Safety Pushbutton. safety thermostat for over-heating
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Labelling	CE Labelling
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Calibration

Calibration	Calibration Report conforming to ISO 1817 with traceability to primary standards
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Technical specifications

Power supply	220 VAC ±10%, 50 Hz ±3, 10A, single phase - 110 VAC ±10%, 60 Hz ±3 on request.
Electrical power	1.5 kW

Dimensions	Instrument only: 400 x 420 x 360 mm With test tubes holders: 490 x 420 x 360 mm And with reflux condenser mounted: 490 x 420 x 860 mm
Weight	24 Kg



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