

Lascaux Technical Appliances

Humidification Chamber HC-5

The Lascaux Humidification Chamber HC-5 was designed to offer the professional a maximum of adjustment options in the treatment of paper objects. The robust precision device allows for permanent use and offers distinctive advantages:

- spacious chamber: 157 x 103 x 34 cm
- max. humidity achievable: 100%
- even and infinitely adjustable humidity
- no condensation
- built-in overhead heating and interior lighting
- infinitely adjustable cross ventilation fan
- precision hygrometre and thermometre
- timer (also for interval operation)

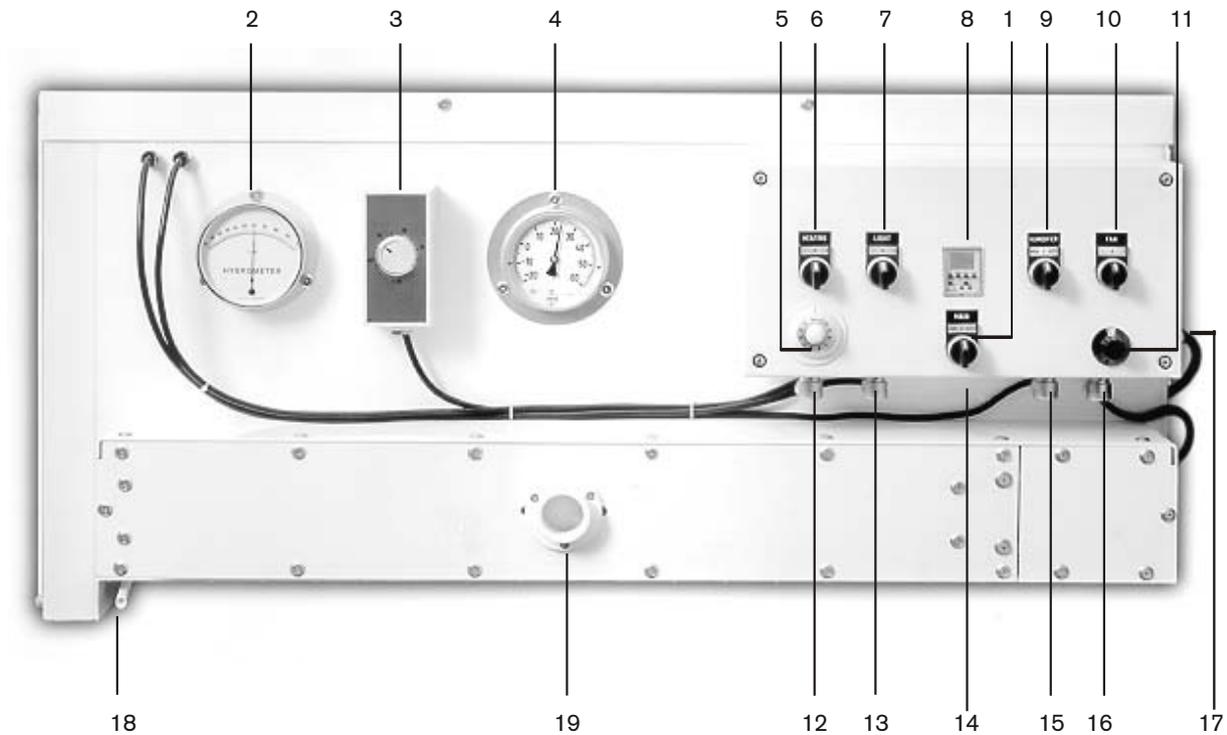
The HC-5 facilitates the gentle and controlled humidification of art works on paper, particularly delicate objects such as pastels, charcoal drawings, watercolours, etc. Also suitable for the gentle hydrating of glues. The perfectly even humidification prevents distortions or deformations of the object. Delicate works can be treated face-up. The glass door allows for visual control of the process.

Accessory to the Lascaux Humidification Chamber HC-5.

The humidification is carried out by the ultrasonic nebuliser which is included in the HC-5 package, along with a demineralisation cartridge and an ionic silver stick against microbial pollution. The nebuliser has infinitely adjustable power and humidity controls and is thus easy to operate. It is equipped with an adapter that connects to the HC-5 hose. The U600 nebuliser is also available as a separate part, as is the demineralisation granulate in refill packs.



Overview



1. Main switch: 0 off, 1 manual control, 2 operation by the timer (auto)
2. Hygrometer
3. Hygrostat
4. Thermometer
5. Control potentiometer for ceiling heating elements
6. On / off switch for ceiling heating elements
7. On / off switch for internal lighting
8. Timer for automatic operation of the chamber
9. Switch for operating the ultrasonic humidifier
0 off, 1 manual control, 2 controlled by the hygrostat
10. On / off switch for horizontal fan blower
11. Control potentiometer for horizontal fan blower
12. Plug contact for ceiling heating elements
13. Plug contact for internal lighting
14. Plug contact for ultrasonic humidifier
15. Plug contact for hygrostat
16. Plug contact for horizontal fan blower
17. Main supply
18. Water outlet
19. Connection hose to humidifier
20. Control potentiometer for amount of moisture



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Minor discrepancies might exist between the illustration and the original.

Technical Data

Equipment:	Aluminium case, white stove enameled, with glass front door.
Size:	174 x 109 x 52 cm outside measurement (68,5» x 43» x 20,5») 157 x 103 x 34 cm inner space above nylon grid frame (62» x 40,5» x 13,5») 142 x 95 cm working surface of the nylon grid frame (36» x 37,5»)
Electric supply:	230 V, 50 Hz
Internal lighting:	true-lite tube 40 W
Ceiling heating:	max. 150 W
Hygrometer:	scaled 0 - 100% RH
Hygrostat:	control range of RH
Thermometer:	scaled 0° - 60° C
Horizontal fan blower:	18 W
Ultrasonic humidifier:	50 W
Control panel:	single switches for light, ceiling heating, fan, humidifier
Potentiometer:	for fan and ceiling heating elements
Main switch:	on/off, manual or by the timer (auto)
Weight:	approx. 100 kg

Installation

The ultrasonic humidifier is placed below the humidification chamber and connected to the chamber with the flexible hose. Terminal «A» is put into the humidifier. Whereby care should be taken that the hose is not u-curved in order to avoid condensation in the latter. Water is filled into the humidifier. Should the water hardness exceed 16° dH, an extra filter is to be used (see enclosed description). The hygrostat of the humidifier is to be set at the maximum in any case, the relative humidity in the chamber being controlled by the hygrostat of the chamber (no. 3), whereas the amount of moisture is controlled by means of the control potentiometer of the humidifier (no. 20). Connect the main supply (no. 17). The humidification chamber is now ready to be operated.

It is important, as a first step, to always cover the nylon grid frame with a sheet of filter paper or blotting paper. This is necessary to ensure a proper circulation of the moist air.

Place the objects onto the filter paper and close the door. Turn on the ventilator (no. 10) and adjust the speed (no. 11). Since the horizontal fan blower requires quite some power to get started, care should be taken that it is only turned on if speed control potentiometer is set above 7. Do not run the horizontal fan blower below 6.5, it might stop and damage the motor. Switch on the humidifier (no. 9) and adjust the amount of moisture (no. 20).

Turn on the ceiling heating system (no. 6) and set ceiling heating control potentiometer (no. 5) just high enough to avoid condensation on the ceiling of the chamber.

By means of the hygrostat (no. 3), any relative humidity percentage in the range of 60 to 95% RH can be set. For drying objects, set heating system and speed of fan blower at their maximum.

If the internal lighting is used over a longer period of time, the temperature in the chamber may increase of 2° - 3° C.

The main switch (no. 1) allows manual operation or operation by the timer (no. 8) by use of which objects can be humidified in any chosen interval within 24 hours (see enclosed description for operation of the timer). After each use, it is recommended to leave the door open for drying.

The chamber should be cleaned periodically with warm water and soap. Commercial disinfectant may be used if necessary. The ultrasonic humidifier has to be maintained following the enclosed description.

If maintenance is required, the design of the chamber allows an easy disassembly of the horizontal fan blower, control panel, heating elements and internal lighting. More over, these items have plug devices to facilitate disassembly.

Practice has shown the importance of carrying out tests to gain the necessary experience allowing for safe control of the humidification process in general and with special regard to the capacity and limit of humidity absorption of the respective object.

Every object has different properties, according to the nature and quality of the paper, the media (water-colour, oil, acrylic, etc.) and the state of conservation. It is very important to determine the ideal ratio of the various functions, i.d. the degree of moisture, the speed of the horizontal fan blower and the temperature by constant control of the object during humidification process. Only this ensures a safe and satisfying work with the Lascaux Humidification Chamber HC-5.

Reference

- «The use of the Lascaux Humidification Chamber in the treatment of works on paper», O. Masson and W. Percival-Prescott: paper conservation news, No. 43, 1987.
- Paper and Water: "A Guide for Conservators" (Gerhard Banik / Irene Brückle) published by: Elsevier Science & Technology 2011 ISBN: 0750668318, 9780750668316

Selected References

Australia

- National Gallery of Australia, Canberra

Brazil

- Museum of Contemporary Art, Saõ Paolo

Germany

- Kunsthalle, Bremen
- Berlinische Galerie, Martin-Gropius-Bau, Berlin
- Staatsbibliothek zu Berlin, Berlin
- Hessisches Staatsarchiv, Darmstadt
- Fachhochschule, Köln
- Kunstmuseum, Bonn
- Museum Ostdeutsche Galerie, Regensburg
- Thüringsches Hauptstaatsarchiv, Weimar
- Staatsgalerie Stuttgart, Stuttgart
- Institut für Stadtgeschichte, Frankfurt am Main

France

- Atelier de Restauration des Photographies, Paris
- La Reluire du Limousin, Malemort sur Corrèze

Austria

- Albertina, Wien
- Salzburger Landesarchiv, Salzburg

Ireland

- National Gallery, Dublin

Iran

- University of Art, Tehran
- University of Isfahan, Isfahan

Russia

- Ermitage, St. Petersburg
- Puschkin Museum, Moskau
- Moscow State Academy of Fine Arts, Moskau

Spain

- Biblioteca Nacional de Madrid (National Library), Madrid

Switzerland

- Staatsarchiv, Luzern
- Kunstmuseum, Basel
- Franziskanerkloster Freibung, Freiburg i.Ü.
- Restauratoren: Oliver Masson, Zürich; Caroline Dick, Genf; Martin Strebel, Aargau

Czech Republic

- Nationalbibliothek, Prag

United Kingdom

- The British Museum, London
- Merseyside Maritime Museum, Liverpool
- The Wellcome Institute for the History of Medicine, London
- National Museum & Galleries, Liverpool
- Bodleian Library, Oxford

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