


1. LOGO 	2. TITLE <h2 style="text-align: center;">Safety Procedure</h2>	3. SECTION <h3 style="text-align: center;">Operative Instruction for the TY2000WC thermal chamber</h3>	4. PAGE REF. <p style="text-align: center;">1 of 9</p>	
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ISTITUTO NAZIONALE DI FISICA NUCLEARE

Sezione di Perugia

Operative Instruction Thermal chamber TY2000WC

Introduction	Operative instruction for the Thermal chamber 2m ³
Description	Aim of this document is to give all the needed instruction to switch on, utilize and switch off the 2m ³ thermal chamber.
Rule	<u>This document contains rules that have to be kept inside the SERMS laboratory.</u>

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CONTENTS

1	AIM	2
2	TY2000WC CHAMBER.....	3
	TECHNICAL DATA.....	3
3	BEFORE TO SWITCH ON THE CHAMBER	4
4	OPERATIVE INSTRUCTION	4

1 AIM

Aim of this document is to summarize all the needed operative instructions to switch on, utilize and switch off thermal chamber model TY2000WC.

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2 TY2000WC CHAMBER



Figura 1 – View of the TY2000WC chamber.

Technical Data

Model	TY 2000WC
Dimensions	2000x1000x1000 mm
Volume	2000 lt
Temperature of the cooling water	Max +15°C
Temperature range	-70°C / +180°C
Maximum temperature gradient	Heating: 2°C/min
	Cooling: 1,5°C/min
Voltage	400 V 50 Hz 3+N+T
Power	36 kW

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3 BEFORE TO SWITCH ON THE CHAMBER

Make sure caps are tightly closed. Moist air in the chamber during the test in the cold can cause formation of ice on the camera and objects in the test. Always perform drying cycles of the chamber before to go below zero.

4 OPERATIVE INSTRUCTION

The thermal chamber is in stand-by conditions.



Read carefully the following instruction before to start to use the chamber.




*In case of problem please call one of the following people:
Gianluca Scolieri 3288413010
Serena Borsini 3286864231
Elisa Laudi 3495833451*

1. Put the test item inside the chamber.
2. Close the chamber door: check that the sensor on top of the door works.
3. Rotate the main switch from 0 to 1 (ON); the light on the left switches on.



Figure 1 – Main switch of the chamber and the light (on the left) that shows the operative status of the chamber (on or off).

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4. Rotate the ventilation switch in ON position (rotate clockwise toward the filled dot).



Ventilation switch in ON position.

Figure 2- Ventilation switch.

5. Rotate the temperature and humidity switch in ON position (rotate clockwise toward the filled dot).

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5. DOC. COD CamClim_2m3-INFN-Istruzioni operativeENGLISH.doc	6. ISSUE DATE 24 giugno 2009	7. VERSION/REVISION A01	8. ISSUED BY S.Borsini	9. APPROVED BY




Temperature and humidity switched in ON positionn

Figure 3 - Temperature and humidity switches.



The chamber has to be switched on (put the main switch in 1 position, switch on the ventilation, temperature and humidity switches) at least 8 hours before to run the test. During summer season 4 hrs could be enough.

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5. DOC. COD CamClim_2m3-INFN-Istruzioni operativeENGLISH.doc	6. ISSUE DATE 24 giugno 2009	7. VERSION/REVISION A01	8. ISSUED BY S.Borsini	9. APPROVED BY

6. Set the temperature profile:



Figure 4 – Main panel.

- a. Click the **PGR** button;
- b. Click the **CS** button to choose the memory location: digit a number using the numeric keypad;




this number represents the memory location where the profile will be stored; this number will be used both to verify the profile and to start the test. So do not forget this number!!!!!!

- c. Click the **°C** button and set the temperature value: digit the number until the first decimal digit (ex: to set 50°C digit the following numbers: 5 0 0);
- d. Click the **D** button and set the time value (for temperature gradient or stabilization time). The 0 value means that the chamber will reach the temperature set point with the maximum gradient. The time format is hh:mm.
- e. Repeat the step c and d to complete the profile;
- f. At the end of the profile, click the **PGR** button to store it.

7. Verify the temperature profile:

- a. Click the **VER** button to verify the profile stored;
- b. Click **CS** button and then the number of the memory location where the profile has been stored;

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- c. Click **°C** button to see the temperature set point;
- d. Click **D** button to see the time set;
- e. Repeat step c and d to verify all the profile;
- f. At the end of the profile on the display **END** will appear;
- g. Click the **VER** button to exit.

8. To delete the memory location:

- a. Rotate the ventilation switch from ON to OFF position and then from OFF to ON position (rotate counterclockwise and then clockwise).

9. To run the chambre with the profile stored:

- a. Click **CC** button and digit the number of cycles. The default value is 1 (click the **CC** button and then click the **1** button);
- b. Click the **RUN** button. The chamber starts to work. The light on the right of the ventilation switch and one of the two lights (CALDO-FREDDO) will switch on.




If the chamber door will be opened, the chamber switch off and starts to work again once the chamber door will be closed.

10. To switch OFF the chamber:

- a. Click the **E** button on the numeric keypad;
- b. Click the **1** button on the numeric keypad;
- c. Click **RUN** button. The chamber stops to work.



When the chamber stops to work the light on the right of the ventilation switch will switch OFF.

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