


<b>KB HSE Documentation</b>		Version nr.: 1	Introduced date: 27.02.2021	
Revision nr:	Revision date:	Document type: KB Temperature Rooms and Experimental Rooms Guidelines and Regulations		
Made by: Marine Ilg		Document code:		
Approved by:		Page 1 of 4		

# KB: Temperature Rooms and Water Tank Rooms Guidelines and Regulations

## 1. Introduction to the Temperature Rooms and Water Tank Rooms facilities in the Marine Laboratory

The purpose of this document is to ensure that all persons follow the same rules and procedures in the Kings Bay laboratories. You are obliged to work as per the guidelines given below. This document is for you to keep and refer to throughout your lab work.

The Marine Laboratory is equipped with four Temperature controlled laboratories for measurements or experiments to be held under cold temperature, in the following called Temperature Rooms. In addition the Marine laboratory has four Experimental Rooms with Water tanks, in the following called Water tank Rooms.

Many people use these facilities for various purposes and varying lengths of time. It is therefore necessary to state the regulations and guidelines of these labs. In this document you will find the routines and regulations and safety instructions concerning the temperature rooms and the water tank rooms.

Please read the text carefully and make sure that you understand everything before you begin your work. Do not hesitate to ask if you have any questions or suggestions regarding our routines and safety protocols.

Any questions may be directed to the Departmental Engineer.

## 2. Short description of the facilities

### Temperature Rooms:


The Temperature is controlled in the office of the Departmental Engineer. Each Room has its own control and it is possible to choose:

- Upper and lower set point
- Defrosting Cycle (Interval and duration)

Currently it is not possible to log the temperature, but that will change in the future. Until the rooms cooled down to the chosen temperature it takes around a day. You are only allowed to operate the software by yourself, if you got an introduction by the departmental engineer and if you got allowed to do it by yourself. In general, it is not necessary, that the user learns how to use the program and the departmental engineer overtakes the control of the temperature rooms.

The Temperature Rooms are equipped with racks and tables which can be arranged depending on your needs. They do not have any fixed installation inside. In addition, they are equipped with seawater outlets and electrical outlets. Here is an overview over the Temperature rooms:

- **Temperature Room 1 (108) Size 2,9m<sup>2</sup> Temperature [0°C – 15°C]:**
  - Seawater Outlets:
    - Ambient Sea Water: PN10 DN 10 / 15 (d<sub>a</sub>=2 cm)

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Approved by:		Page 2 of 4		

- Cold Sea Water (-1,5°C): PN10 DN 10/ 15
  - 2 electrical outlets
  - Fresh water (out of order)
  - Low pressure outlet DN25/PN16 (out of order)
- **Temperature Room 2 (109) Size 2,7m2 Temperature [0°C – 15°C]**
  - Seawater Outlets:
    - Ambient Sea Water: PN10 DN 10 / 15 (d<sub>a</sub>=2 cm)
    - Cold Sea Water (-1,5°C): PN10 DN 10/ 15
  - 2 electrical outlets
  - Fresh water (out of order)
  - Low pressure outlet DN25/PN16 (out of order)
- **Temperature Room 3 (105) Size 8,5m2 Temperature [-3°C – 5°C]**
  - Seawater Outlets:
    - Ambient Sea Water: PN10 DN 10 / 15
    - Cold Sea Water (-1,5°C): PN10 DN 10/ 15
    - Cold Sea Water (0,5°C-5°C): PN10 / DN20
  - 6 electrical outlets
  - Pressurized Air outlet (1MPa, 150 PSI)
  - Ethernet
  - Low pressure outlet DN25/PN16 (out of order)
- **Temperature Room 4 (106/107) Size 5,8m2 Temperature [4°C – 15°C]**
  - Seawater Outlets:
    - Ambient Sea Water: PN10 DN 10 / 15 (d<sub>a</sub>=2 cm)
    - Cold Sea Water (-1,5°C): PN10 DN 10/ 15
  - 2 electrical outlets
  - Ethernet
  - Fresh water (out of order)
  - Low pressure outlet DN25/PN16 (out of order)

### **Water Tank Rooms:**


The Marine Lab has four designated water tank rooms.

- Water Tank Room 1 (118/110) Size 10,5 m<sup>2</sup> equipped with 5 x 200 l water tanks
- Water Tank Room 2 (111/112) Size 13,0 m<sup>2</sup> equipped with 10 x 200 l water tanks
- Water Tank Room 3 (113) Size 5,9 m<sup>2</sup>
- Water Tank Room 4 (116) Size 15,8 m<sup>2</sup>

All water tank rooms have access to:

- Pressurized air
- Low pressure outlet DN25/PN16 (out of order)
- Sea Water (Ambient / -1,5°C / 15°C / 5°C – 15°C / 0,5°C – 5°C )
- Oxygen outlet (needs oxygen bottle)

In addition, Water Tanks can be installed temporary in Basement Lab West, Basement Lab East and on the Platform. The Wet Lab and Aquarium Lab can only host smaller Aquariums.

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Approved by:		Page 3 of 4		

There are also hoses and some other common equipment and tools found in the workshop, return these to their stored location after use, and make sure they are rinsed and dried after use and before storing them again.

### 3. Safety in the Temperature Rooms

The cold temperatures in the cold labs require that you be dressed appropriately when working there. You should not be working alone and always check regularly with your colleagues. It is advised to use warm clothes and warm shoes/boots. It is not allowed to work in any lab without shoes.

In addition to be clothed warm enough you have to follow the same guidelines as in other laboratories concerning the use of personal protective equipment.

NEVER use oxygen consuming/ exhaust producing devices such as engines, in the closed cold lab facilities. The ventilation in these rooms is not sufficient to ensure safe breathing conditions with such activities.

NEVER close the doors with the key or other means, while your colleagues are inside. The closing mechanism is only to be used, when you are away, to ensure, that your experiments do not get disturbed by people opening your door.

More information on Lab safety, and fire and accident protocols are found in the “General Introduction to Kings Bay Laboratories and Safety Rules in the Laboratory”.

### 4. Safety in the Water Tank Rooms


Whether working in the water tank rooms requires additional precautionary measurements depends on your risk assessment.

Some general advice:

- Have in mind, that cooling down takes less time in water than in air. Therefore, the usage of waterproof gloves makes your work safer and more comfortable.
- Waterproof Aprons and rubber boots may be advisable to wear, if you work a lot with the water tanks.
- In case you want to work with living animals, please contact the Departmental Engineer during the planning phase of your work.

### 5. Some remarks concerning correct usage of the rooms and routines

Salt water and freshwater can be used for filling the water tanks. All Temperature Rooms have two water supplies, which gives sea water filtered straight from the fjord. One with ambient temperature and one with a temperature around -1°C. It is of utmost importance that you are respectful of the labs and any work/experiments that take place there. You must make sure that the hose is well

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attached to the seawater-inlet so that there will be no leaks; use either a tight fitting hose (hoses can be found in the work shop), or attach a hose clamp to ensure a good seal. Monitor the hose for a minute to ensure there are no leaks.

Due to the low temperature and the presence of salt and water in the cold labs, there can be a great amount of wearing on the equipment; rust and moisture greatly impact the lifetime of instruments. It is therefore very important that the equipment, benches, and floors are cleaned after every use. Your workplace needs to be secured before leaving (no leakages, instruments that do not need to be kept on are turned off, and any ongoing work is labelled with your name, date, and contact information). All ongoing projects (even if very temporary) must be labelled; all samples and equipment that are being used need to be labelled with date, contents, and a name. Samples which are inadequately labelled may be thrown away without warning.

There are might be different groups who use the cold labs and all for different purposes, it is therefore very important that the following rules and guidelines are respected by all:

1. The rooms must be booked in advance and the use of the rooms is for research only.
2. In case you are sharing the room with another group, make sure any parallel experiments will not be affected by any temperature changes. Check with the Departmental Engineer and/or the other researchers if in doubt.
3. The cold laboratories are meant for researchers, who need them for experiments. In case you only need storage place for your samples, please ask for storage in the walk-in fridge and freezer in the Marine Lab.
4. Although our temperature rooms usually have temperatures over 0°C, please have in mind, that sensible instruments may suffer from the cold.
5. Do not leave any metal in contact with the floors or tables; this will leave rust marks.
6. Rinse instruments with fresh water after having used them with salt water or saltwater ice. Clear the instruments for ice and salt after every use.
7. Do not leave any ice on the floor. This is a hazard for the next user, be sure to melt it or leave it in a safe location to melt.
8. The lab user must not leave the water tanks unattended when they are being filled, so you can detect misfunctions, as spills and water leakages early.
9. Clean the water tank out entirely with fresh water after use. Do not leave it full of water. The last cleaning cycle should be done with cold fresh water.
10. If facing problems with the compressed air, get assistance from Kings Bay.
11. If technical assistance is needed, contact Kings Bay.
12. You should not change anything in supervisor (the computer program) without Kings Bay knowing before.
13. After your work is finished, please return the hoses and clean everything with fresh water. The last cleaning cycle should be done with cold fresh water.