COVID-19 RISK MANAGEMENT - Guidelines for the use of aeraulic systems
REVISION 15.10.2020

INTRODUCTION

This document was drawn up on the basis of the Protocol "Guidelines on ventilation and air conditioning systems in non-health community facilities and in domestic environments in relation to the spread of the Sars-Cov-2 virus" of the *Istituto Superiore di Sanità* (Italian National Institute of Health; ISS) of 25.5.2020.
The campuses of the Ca' Foscari University of Venice include numerous buildings in the historic centre and mainland. The university buildings are varied both in terms of architecture and systems, with different solutions regarding the heating, cooling and air exchange systems. As far as this document is concerned, the systems shall be divided into two categories: systems with centralized management and control and systems with partial management by users. The field terminals also have different delivery methods that either enable or not local adjustment by the user, such as the air speed of the fan coils.
In this phase, the University intends to follow, as far as possible, the ISS guidelines, which envisage, in short, intervention to eliminate or reduce, as far as technically feasible, the recirculation of air in the rooms, by switching on the systems early in the morning in order to guarantee the exchange of air in the rooms with only or mostly external air.

CENTRALIZED SYSTEMS

Centralized systems are generally organised by building and their complex management is entrusted to maintenance service providers, which set them up and guarantee good working order for the comfort of people using the building. In these cases, users have the sole task of reporting any critical situations via the usual fault reporting procedures. It is therefore the task of the colleagues in the office in charge (Real Estate Development Office) to interface with the service providers to find the best solution to the problem reported.
In reality, even where there are only centralized systems, users can always intervene independently to improve personal comfort, where possible, by opening outside doors and/or windows. We recommend, in any case, that you follow all the guidelines in the COVID-19 Risk Management Protocol and Plan to Mitigate Transmission in the Workplace.
In this regard, in the case of natural ventilation of the rooms, the ISS guidelines recommend keeping the internal doors of the building closed in order to limit the movement of air between adjacent rooms. In any case, natural ventilation must be limited to as short a time as strictly necessary. In this regard, in classrooms fitted with opening windows, it is helpful to change the air between one lesson and the next. If there is also a room thermostat, it must be turned off during natural ventilation.
Air recirculation within rooms must be eliminated, where technically possible and where thermal conditions allow.

NON-CENTRALIZED SYSTEMS WITH EXCLUSIVE USER CONTROL

In several rooms of the University, there are air conditioning systems, i.e. that either cool or heat the air, by means of the recirculation of the air in the room. This means that these systems operate without requiring a air exchange with air supplied by the system. This is a fan-coil or split. These systems generally allow the people in the room to set the temperature range and air speed by means of controls that may vary according to the type of air conditioner. In particular, fan-coils are in turn connected to a centralized system that, by circulating a fluid in a closed circuit, changes the temperature of the air in the room via an exchanger.
Splits also work the same way. In these cases (fan-coil or split), in compliance with the ISS guidelines, the local air speed settings must be set to the minimum necessary to ensure the internal comfort of the rooms. Where the internal conditions of the rooms allow it, and where it is possible

for users to adjust the thermostat manually, the recommendations are to limit the use of such devices to the minimum necessary to achieve the required internal conditions.
In the event of partially using natural ventilation for air exchange, it must be undertaken only for the time strictly necessary and taking care to check that the ambient thermostat is turned off.
When leaving the room, the heating should be switched off via the thermostat, where possible, in order to save energy.

What measures must be taken in these situations to reduce the risk of possible virus transmission?

1. Face masks must be worn in all areas of the university, both indoors and outdoors.
If a room is occupied by a single worker, they may operate the fan coil or split as deemed appropriate, with the simultaneous use of a face mask at their discretion. If a colleague or visitor enters the same room, both workers must wear a face mask.
2. If the room is occupied by several workers at the same time, with the fan coils or splits in operation, workers must wear a face mask, even if they are at a distance of more than one metre.
In both situations, it is recommended that, having considered the meteorological conditions, and where technically feasible, the air be exchanged frequently or continuously by opening the windows, without forgetting to comply with the restrictions on opening doors betweeen rooms, as indicated above. A further recommendation that applies to both situations is to favour prolonged operation (avoiding repeated switching on and off) to minimize ventilation and keep air currents as low as possible.
The specific cleaning of the surfaces and grilles of fan coils has been included in the daily room cleaning and sanitizing procedures, as indicated in the ISS Protocol referred to in the introduction.

FINAL NOTES

During this emergency period, we all need to work together to keep the inconveniences to a minimum with a view to containing possible critical situations. In particular, we must emphasise the fact that aeraulic systems are designed to operate in different ways, as described above. Eliminating recirculation and opening windows, where possible, guarantees greater protection from a microbiological point of view, but may make it impossible to achieve a situation of comfort in terms of microclimate.
Furthermore, in some cases, the different system settings could increase the noise made by the duct systems. Therefore, we ask everyone working at the university to be understanding in evaluating their personal comfort in the workplace. This does not mean that problems or faults should no longer be reported, but that reports must take into account the fact that the current situation, imposed by law, means that it may take time to resolve critical situations.
The guidelines in this document shall apply until new guidelines or regulatory requirements are introduced.