

Guideline on Operation Management and Use of Air Conditioners in Summer

This Guideline is specially formulated to scientifically guide and standardize the operation management and use of air conditioners in offices, public places and residences, so as to effectively reduce the risk of transmission of COVID-19.

1. Scope of application

This Guideline applies to central air-conditioning and ventilation systems (including all-air air-conditioning systems, fan coils units plus fresh air systems, fan coil units without fresh air systems, and variable refrigerant flow (VRF) systems), and split-type air conditioners in offices, public places, and residences in summer.

2. All-air air-conditioning systems

(1) Preparations before opening

- ①. Grasp the source and supply range of fresh air, and strengthen personnel training.
- ②. The normal operation of the filtering equipment should be checked. The open cooling tower and air treatment units should be cleaned and disinfected, and air duct should also be cleaned when condition permits. The cleaning and disinfection of air conditioning system should be carried out by the professional institution as the first choice and hygienic quality of air supplied should be tested when condition permits. The tests results should meet the requirements of national standards and regulations, such as the *Hygienic Management Regulations for central Air Conditioning and Ventilation Systems in Public Places* (WS 394-2012).
- ③. Keep the fresh air inlet and its surrounding environment clean, so that the fresh air will not be polluted.
- ④. Keep a certain distance between the fresh air inlet and the exhaust port to avoid short circuit.

(2) Management and maintenance during the operation

- ①. The return air should be turned off in medium-risk and high-risk areas. If the medium and high-efficiency and above-level filtering device is used in the return air port (pipe) or air-conditioning box, or an effective disinfection device is installed, the return air can be turned down.
- ②. It is recommended that the indoor temperature should not be lower than 26°C. If it can meet the requirements of indoor temperature regulation, it is suggested that the doors and windows should not be completely closed when the air conditioner is running.
- ③. When air conditioning system is used in a crowded place, indoor air flow should be enhanced. Priority can be given to opening windows, doors or ventilation devices such as fans, or the place must be ventilated for about 20-30 minutes every 2-3 hours of air conditioning operation.
- ④. For shopping malls, office buildings, underground garages and other places with large flow of people, ventilation should be strengthened; and after the daily business end, the fresh air and exhaust systems of the air conditioning system should continue to operate for a period of time.
- ⑤. Strengthen the sanitation management of condensate water and cooling water of cooling tower in air treatment units and fan coils.
- ⑥. Regularly clean, disinfect or replace the filters, tuyere, air treatment units, surface air cooler, heater (humidifier), condensate tray and other equipment and components of the air conditioning system in operation.
- ⑦. U-shaped pipes such as sewer pipes, water seals of air treatment devices, toilet floor drains, and condensate drain pipes of air-conditioning units should be regularly checked to replenish water in time in case of water shortage.

3. Fan coils units plus fresh air systems

(1) Preparations before opening

- ①. Grasp the source and supply range of fresh air.
- ②. The normal operation of the filtering equipment, surface air cooler, heater (humidifier) and fan coils units should be checked; the open cooling tower and air treatment units and condensate tray should be cleaned and disinfected and air duct should also be cleaned when condition permits. The cleaning and disinfection of air conditioning system should be carried out by the professional institution.
- ③. Ensure that fresh air comes directly from the outside, and do not take wind from the machine room, corridor and ceiling. Keep the fresh air inlet and its surrounding environment clean, so that the fresh air will not be polluted
- ④. Fresh air system should be operated all day.
- ⑤. Keep a certain distance between the fresh air inlet and the exhaust port to avoid short circuit.
- ⑥. Ensure normal operation of exhaust air system.
- ⑦. For large-depth rooms, measures should be taken to ensure ventilation in the internal area; if the fresh air volume is insufficient (below the national standard of 30m³/h. per person), the personnel density should be reduced.

(2) Management and maintenance during the operation

- ①. It is recommended that the indoor temperature should not be lower than 26°C. If indoor thermal comfort can be satisfied, it is suggested to open the door or windows when the air conditioning is running.
- ②. For shopping malls, office buildings, underground garages and other places with large flow of people, ventilation should be strengthened; and after the daily business end, the fresh air and exhaust systems of the air conditioning system should continue to operate for a period of time.
- ③. Increase the frequency of ventilation in crowded places. When the air conditioning system is running, it is important to open windows, doors or ventilation devices such

as fans, or the place should be ventilated for about 20-30 minutes every 2-3 hours of air conditioning operation.

④. Strengthen the sanitation management of the condensate water and cooling water in the air conditioning system and other areas prone to pollution.

⑤. Regularly clean, disinfect or replace the cooling tower, air treatment units, air inlet, condensate tray and other equipment and components of the air conditioning system in operation.

⑥. Strengthen the inspection of U-shaped pipes such as sewer pipes, water seals of air treatment devices, and toilet floor drains, so as to replenish water in time and prevent air mixing on different floors.

4. Split-type air conditioners

(1) Preparations before opening

①. Disconnect the power supply of the air conditioner.

②. Wipe the dust on the air conditioner shell with wet cloth without dripping water.

③. Open the cover plate according to the instructions of the air conditioner, remove the filter screen, rinse the dust on the filter screen with tap water, and dry in the air or wipe it with dry cloth.

④. Install the filter screen and close the cover plate.

⑤. Connect the power supply and turn on the air-conditioning refrigeration mode to check whether the air-conditioning can operate normally.

(2) Management and maintenance during the operation

①. Before using the split-type air conditioner every day, open the doors and windows to ventilate for 20-30 minutes, and then turn on the air conditioner. It is recommended to adjust the maximum air volume to run for more than 5-10 minutes before closing the doors and windows. After the split-type air conditioner is turned off, open the doors and windows to ventilate again.

②. If the split-type air conditioner is used for a long time in a crowded place (such as a conference room), the place must be ventilated for about 20-30 minutes every 2-3 hours of air conditioning operation.

③. It is recommended that the indoor temperature should not be lower than 26 °C. If it can meet the requirements of indoor temperature regulation, it is suggested that the doors and windows should not be completely closed when the air conditioner is running.

5. Fan coil units without fresh air systems and VRF systems

For related operation and management requirements, please refer to the split-type air conditioner.

6. The shutdown of the air conditioning system

When confirmed cases and suspected cases of COVID-19 are found in the venue, the following measures shall be taken:

①. Immediately shut down the central air-conditioning and ventilation system corresponding to the active areas of confirmed cases and suspected cases.

②. Under the guidance of the local disease control departments, the central air conditioning and ventilation system in the above areas shall be forcibly disinfected and cleaned immediately, and can only be re-activated after passing the hygiene inspection and evaluation.

③. The cleaning and disinfection of the central air conditioning and ventilation system should meet the requirements of the *Code for the Cleaning and Disinfection of Central Air Conditioning and Ventilation Systems in Public Places* (WS 396-2012).