

OVERVIEW OF VARIOUS GUIDELINES ON COVID-19 PRECAUTION MEASURES FOR HVAC SYSTEMS

Item	CIBSE	FGK, BTGA,RLT	AGORIA	SNEFC	Rapporto ISS COVID-19 (Italy)	REVHA
Ventilation rate	Run your ventilation at higher volume flow rate; this may require changes to CO2 set points	do not reduce the outside air volume flows, but increase them if possible	use as much as possible fresh outside air and to limit the transit and recycling of indoor air where feasible		Ensure provision of fresh air	Secure ventilation of spaces with outdoor air
setting, ventilation time & CO2	Change the clock times of system timers to start ventilation at nominal speed at least 2 hours before the building usage time and switch to lower speed 2 hours after the building usage time in DCV change CO2 setpoint to 400 ppm keep ventilation 24/7 with lower rates when people are absent	If necessary, extend the operating hours of the plants before and after the regular time-of-use.	Maintain setpoints for heating, cooling and possible humidification Switch ventilation to design flow rate speed at least 2 hours before the building usage and switch to lower speed 2 hours after the building usage During unoccupied periods, such as at night and at weekends, do not switch off the ventilation system but operate at a lower flow rate	extend the operating time of the ventilation or air handling system and ideally keep it in continuous operation or extend the daily operating range (e.g. start 1 hour before and stop 1 hour after); increase the air flow rates for supply and/or extract air by giving priority to periods when the premises are unoccupied	keep the air inlet and extraction active 24 hours a day, 7 days a week (possibly with a decrease in ventilation rates during the night when the building is not in use (switch 2 hour before/after)	start ventilation at nominal speed at least 2 hours before the building usage as switch low lower speed 2 hours after COB. In DCV change setpoint to 400 ppm (CO2) keep ventilation 24/7 with lowered rates when people are absent Do not change heating, cooling and possible humidification setpoints
Recirculation	Avoid recirculation/transfer of air from one room to another unless this is the only way of providing adequately high ventilation to all occupied rooms Recirculation of air within a single room where this is complemented by an outdoor air supply is acceptable avoid central recirculation Using return air filters is not a reason to keep recirculation (unless HEPA)	Reduce the recirculating air, if present in the systems, in favour of the outdoor air	Switch circulation ventilation systems to 100% outside air where possible	It is preferable to operate with all fresh air to avoid recirculation of extract air	eliminating, where possible, the air recirculation function	is recommended to avoid central recirculation. Using return air filters is not a reason to keep recirculation (unless HEPA) Switch air handling units with recirculation to 100% outdoor air
Relative humidity	above 40% whenever possible	set to 40-60%	Maintain setpoints for heating, cooling and possible humidification			Do not change heating, cooling and possible humidification setpoints. the evidence does not support that moderate humidity (RH 40-60%) will be beneficial in reducing viability of SARS-CoV-2, thus the humidification is NOT a method to reduce the viability of SARS-CoV-2.
Rotor	If applicable enthalpy (thermal) wheels should be switched off , but the pressure difference will need to be maintained between supply and extract to minimise any leakage flow from the extract to supply side By-pass rotors. If not possible, turn off + increase ventilation as much as possible. Check and adjust pressure difference	adjust pressure	Check the operability of heat recovery systems regularly	check rotors for leaks to ensure there is no recirculation. If tightness is not guaranteed - stop rotor		inspect the heat recovery equipment including the pressure difference measurement and adjustment
supply air filters	not necessary to change existing outdoor air filters and replace them with other filter types	use ePm1 >60% (F7)		Based on current knowledge of the virus, no professional is in a position to make a commitment on the effectiveness of a filter specifically for COVID-19	recommend to use F7-F9	
Fan coil units	no or little ventilation - turn off. Can create air movement that spread viruses good ventilation - keep operating, its operation may de-stratify air and be beneficial	with secondary air only - if no connection to other zones - are safe and can operate. Adequate airing by windows necessary		If room ventilation is not possible then it is recommended to run the air conditioning system at low speed		If no significant cooling need - recommend to turn off. If not possible to turn off - operate continuously
OTHER				in the event of suspicion or a proven case of COVID-19, the HVAC systems must be shut down for disinfection by a professional		