CHILLVENTA eSPECIAL

Refrigeration | AC & Ventilation | Heat Pumps

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EXPERT KNOWLEDGE September 2020

Changes in the maintenance of refrigeration and air conditioning units in the Covid-19 pandemic

The coronavirus pandemic continues to have us firmly in its grip and is having a significant impact on our day-to-day lives. This applies especially to the necessary hygiene and distancing rules and the wearing of face masks in enclosed spaces. The JOHNS HOPKINS UNIVERSITY website provides daily updates on the extent of the global catastrophe and the rising number of deaths worldwide. While our problem with having to cancel Chillventa in Nuremberg is a great pity, it pales into insignificance by comparison. NürnbergMesse is currently pulling out all the stops to prepare for the Chillventa eSpecial. From 13 to 15 October, this online event will be packed with professional expertise, dialogue, and innovations for the international refrigeration, AC, ventilation, and heat pump community. As always, participants will be able to make contacts, nurture their network, share knowledge, and discuss new products, projects and developments in the sector with one another. Alongside the opportunity to explore the profiles of exhibiting companies, the first day will be devoted to the Chillventa CONGRESS. On Days 2 and 3, the digital event will then focus on the highly professional, first-class programme of presentations by participating companies that will also explore issues relating to refrigeration and air conditioning systems. Get your ticket today.

What is the significance of air conditioning and refrigeration units in conjunction with the spread of the virus? System users and operators are unsettled by questions like: “Are AC units coronavirus super-spreaders?” or “Is it okay to run an air conditioning system in these times of coronavirus?”

Most of us are aware that terms like refrigeration unit, air conditioner, ventilation system, recirculating air and fresh air are not always used correctly in the media. This was very obviously the case during coverage of the recent problems in the meat processing industry. In this conjunction, the BDH (German Federation of the Heating Industry) issued a clarification: BDH Klarstellung.

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How is the SARS-CoV-2 coronavirus transmitted? “Based on current findings, the SARS-CoV-2 coronavirus is transmitted mainly from person to person during normal human interaction among the population, e.g. when talking, coughing or sneezing,” says the Robert-Koch-Institut (RKI). The virus can only attach to a suitable host. Letters and parcels, for example, cannot carry the virus. Likewise, a refrigeration or air conditioning unit is not a suitable host for the virus and is therefore not a carrier. Naturally, recirculating air in refrigeration or air conditioning systems can spread existing viruses around a room. Increasing the amount of fresh air coming in can substantially reduce the concentration of viruses in the room, as the laden air is then transported outside faster.

What role do air conditioning systems and units play in transmitting the SARS-CoV-2 coronavirus? “In the case of central ventilation and air conditioning systems, regular maintenance and inspections are extremely important to prevent extracted air flows from being misdirected. If the air flows are strictly separated, so that the air extracted in one room cannot reach other areas of a building, there is no risk of transmitting viruses. The use of high-efficiency particulate air filters (HEPA filters) can retain both coronaviruses and released droplets. Ventilation systems fitted with these kinds of HEPA filters are used above all in hospitals or certain industrial buildings, where there is a requirement for low levels of bacteria. According to the Robert Koch Institute, apart from regular airing, replacing the ambient air in AC and ventilation systems by introducing fresh air and/or using suitable filters can reduce aerosols in indoor spaces. The inherent design of distributed air conditioning systems, used for example only in individual rooms of an apartment, prevent viruses being spread to other areas of a building. The German Environment Agency therefore regards the operation of such AC systems as unproblematic in respect of the transmission of the SARS-CoV-2 coronavirus, says RKI and the UBA.

In the meantime, various organisations worldwide have commented on this issue. Here is a selection of resources:

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers): COVID-19 prevention tools
ASHRAE has developed guidelines to help dispel concerns about the operation and servicing of heating, ventilation and air conditioning systems. The ASHRAE website provides information for construction industry

professionals. The transmission of SARS-CoV-2 through the air is sufficiently likely that airborne exposure to the virus should be controlled. Changes to building operations, including the operation of heating, ventilating and air-conditioning systems, can reduce airborne exposures.

Eurovent: REHVA guidance document on Covid-19

In response to the coronavirus pandemic (COVID-19), Eurovent member association REHVA has produced guidelines and a directory of resources, complemented by a dedicated website, to provide advice to the industry on the outbreak of the virus. REHVA published its first COVID-19 guide in March 2020; this was followed by two updates in April and August 2020. The third version focuses on reopening and the safe use of buildings after lockdown, gives advice on specific components, building and room types, and suggests measures to limit damage. Updates are expected in the next few months, as soon as more scientific data is available.

BTGA, FGK, RLT

For the operators of many buildings, ventilation systems are an absolute prerequisite to ensure energy efficiency and hygiene. Against the backdrop of the current coronavirus pandemic, operators of ventilation systems are having to deal with questions about the handling of such systems. The BTGA (Federal Building Services Federation), FGK (Professional Association Building AC) and RLT (Federation of Ventilation System Manufacturers) have compiled and distributed the current recommendations based on the latest insights.

Quarks: Do air conditioning systems spread viruses?

Can air conditioning systems be dangerous because they spread coronaviruses in the room? Some inefficient solutions might do this, but the modern systems used in Germany may even reduce the risk of infection. As at 16.6.2020. Quarks by WDR Wissen: With the cooperation of C. Händel, FGK; Robert Koch Institute; Prof. Dirk Müller, RWTH Aachen and others.

Hermann Rietschel Institute SARS-CoV-2

There’s a proper way to ventilate. Rooms with ventilation systems often meet air quality standards better than rooms that use windows for ventilation. The AREA Technical Bulletin gives advice on the special measures to be taken in relation to COVID-19 when it comes to operating and servicing air conditioning systems.

Basic information (ín German)
WHO/Europe

RKI Aktueller Lage-/Situationsbericht des RKI zu COVID-19

RKI Dashboard

With its comprehensive range of professional content, the Chillventa eSpecial will provide an online platform that presents refrigeration and AC systems against the backdrop of the coronavirus pandemic from various perspectives, publicises the latest findings and looks at this latest challenge as an opportunity. Get your ticket now.

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