

# Safest office as a priority

# Professional solutions from Halton enable you to act responsibly and reduce the risk

## The link between indoor air and COVID-19

Close contact with others has been shown to expose you to COVID-19. Research published during the pandemic shows that COVID-19 can also be transmitted via aerosols in the air. Respiratory droplets remain in the air for so long that they can reach the airways of another person and can result in infection. WHO also considers the role of aerosols as significant in the transmission of the disease. Indirect exposure through air poses a risk, particularly indoors.

Ventilation has a crucial role now when people are returning to workplaces and schools. Studies show that increasing ventilation considerably lowers the risk of infection indoors. In practice, doubling the ventilation rate according to the Wells-Riley model reduces the risk of infection by half. Minimising the risk of infection shows responsibility and increases user confidence.



### Direct exposure:

When an infected person talks or coughs, respiratory droplets and aerosols travel directly to the breathing zones of other people, or fall on surfaces. Handwashing, surface cleaning, social distancing, plexiglass shields and masks help to minimise risks.

### Indirect airborne exposure:

Droplets, and particularly aerosols, are carried long distances by airflows and can end up in other people's breathing zones. The aim of ventilation is to dilute the impurities and spread the remaining particles evenly in the space. Air distribution affects the way impurities travel in the room. Increasing ventilation, using local air purification units, limiting the number of users and performing a risk analysis of air distribution in the premises are recommended for minimising the risk.



## Using ventilation to reduce the risk of infection

Increasing ventilation is the most important step in the efforts to minimise the risk of infection. Higher air exchange rates considerably dilute the virus concentration in indoor air during occupancy. In practice, this means using higher air volumes than required by the minimum airflow rates indicated in building codes. In new buildings, this can be attained by dimensioning the capacity of the ventilation system adequately, and by selecting the system based on needs. A demand-based system also saves energy efficiently even with high air volumes, as the spaces are ventilated according to occupancy.

In existing buildings, it is recommendable to increase ventilation. However, if the capacity of the ventilation system does not allow this, a professional local air purification unit can be used. It dilutes the virus concentration in indoor air to a fraction compared to basic ventilation systems and lowers the risk of infection by 20–90%, depending on space. The result is significant, because in a meeting room built according to the building code, even one infected person increases the risk of infection to other participants during a long meeting by over 90%.

Local air filtering offers a rapid way to improve the situation without extensive renovation of the system.

In addition, we recommend airing the meeting rooms between events. Ventilation can be boosted by opening windows when outdoor air quality permits. An efficient air purifier is also useful for this purpose and helps to rapidly lower the microbe concentration to an acceptable level.

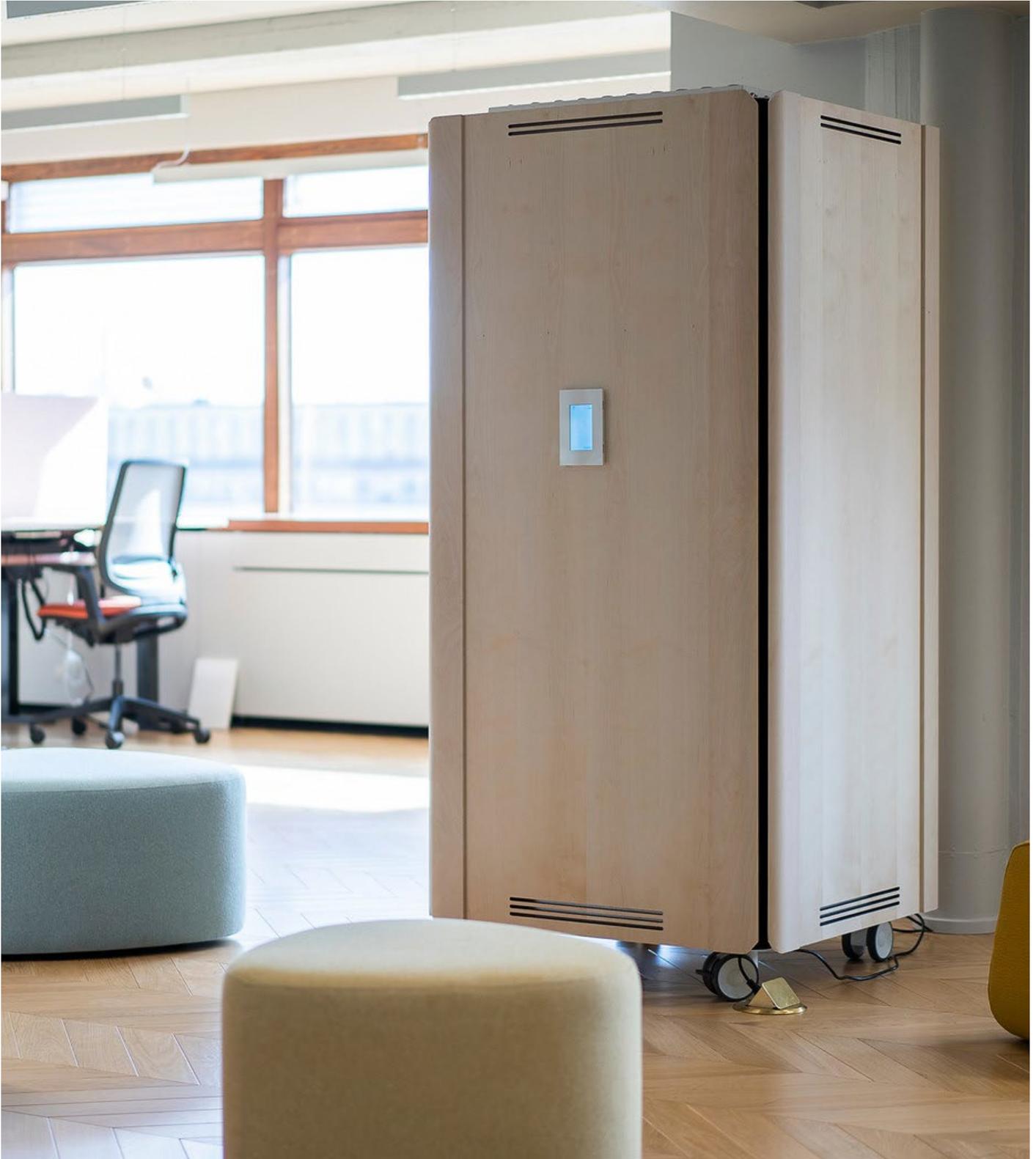
It is also recommendable to perform a risk analysis of air distribution in the premises. The analysis helps to ensure a supply of fresh air into the breathing zone, determine the seating arrangements, and identify possible changes needed in order to direct the exhalation of an infected person away from the faces of those nearby. The location of a mobile air purification unit should be determined so as to correctly direct the airflow and support the existing air distribution in order to keep the entire service area clean.

### List of suggested actions for premises

1. Increasing ventilation
2. Using air purifiers to clean indoor air locally with consideration of the effect on air distribution
3. Reviewing the distribution of airflow and performing a risk analysis in the premises
4. Airing the premises before each new event
5. Regularly inspecting the correct operation of ventilation machines

# A 100% Finnish innovation for the purification of indoor air

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The Halton VCR air purification unit was originally designed for improving air purity in demanding health care facilities. As a professional device, it is highly suitable for the efficient purification of air in offices, schools, hotels, restaurants and other similar indoor spaces.

Halton VCR can be used to continuously maintain cleanliness in a room – even a large one – or to quickly clean a space during a break in use. Rapid purification is

necessary, particularly in spaces where the ventilation cannot be sufficiently boosted. The product offers an efficient solution to ensure safe return to the premises.

When used at maximum capacity, Halton VCR dilutes the potential virus concentration in indoor air up to 10 times faster than with basic ventilation. Using the device in a cafe (with an area of 100 m<sup>2</sup>), for instance, the risk for infection is four times lower!

## Using Halton VCR

For open-plan offices, we recommend one unit per 150–200 m<sup>2</sup>

For meeting facilities, we recommend one unit per 100 m<sup>2</sup>

## Why choose Halton?

Halton is a leading company in the indoor climate business, with significant experience in the development of safe and healthy indoor air solutions that promote well-being. As a Finnish family-owned company, Halton's products are designed and, to a large extent, manufactured in Finland.

## Contact us

We'd be delighted to provide further information and analyse your situation.

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# About Us

Halton is the global technology leader in indoor air solutions for demanding spaces

Halton offers a globally unique range of indoor environment expertise and pioneering technology to enable indoor environments that are healthy, comfortable, productive and energy-efficient throughout their life cycle.

We provide solutions for commercial and public premises, healthcare institutions and laboratories, professional kitchens and restaurants as well as energy production environments and marine vessels.

[www.halton.com](http://www.halton.com)