

## Effective air exchange in your coach

Current findings on the importance of air conditioning systems in times of the corona pandemic





Passenger health is a top priority for coach companies and vehicle manufacturers alike. This is especially true in the event of a global pandemic such as Covid-19.

According to current findings, a strong air exchange significantly reduces the risk of spreading viruses via the air. Therefore, ventilation and air conditioning systems are currently of particular importance when travelling by coach.

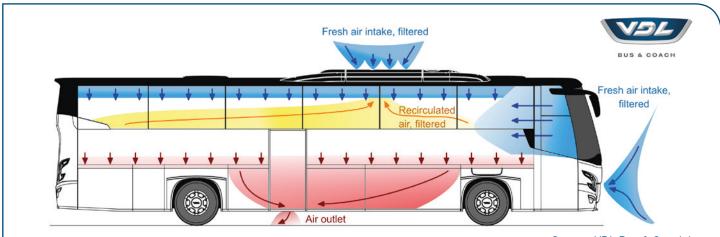
The ventilation and air conditioning systems installed in coach have been continuously developed and now meet the highest technological standards.

# High-performance air-conditioning systems ensure rapid air exchange

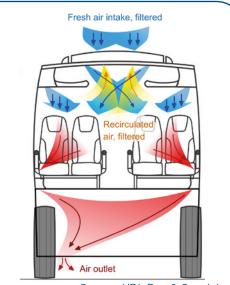
European coaches are equipped with very powerful air conditioning systems with ventilation ducts for high air flow, which develop their maximum efficiency in combination with closed doors and windows. The tempered air with a high proportion of fresh air is blown in from above and is transported out of the vehicle again via an efficient exhaust air system. Enormous air masses are moved here - up to 7,000 m<sup>3</sup>/h in a 12-meter coach and up to 13,000 m<sup>3</sup>/h in a double-decker coach.

To illustrate this: in a typical single-family home with 150 square meters and a room height of 2.5 meters there are 375 m<sup>3</sup> of air. Thus, the air volume of up to 35 single-family homes glides through a double-decker coach per hour.

This means that all the air inside a European coach is permanently exchanged: in ventilation mode, complete air exchange occurs more frequently than every minute, and at average temperatures in cooling mode every one to five minutes.



-Source: VDL Bus & Coach by-



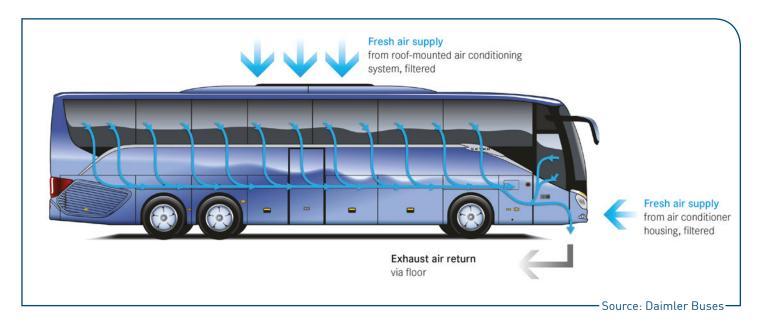
-Source: VDL Bus & Coach bv-

In addition, in a coach a manageable number of people are distributed over a comparatively large container: even in a coach with 51 people fully seated and occupied, there is still about 1.2m<sup>3</sup> of passenger space per person.

#### Fresh air is provided

In automatic mode, the air conditioning system always supplies the vehicle-specific maximum possible amount of fresh air under program control in order to achieve optimum climate comfort and energy efficiency.

At temperatures of around 23°C, the fresh air flap on European coaches is 100% open on a freeway reference route, although for technical reasons, between 1% and 15% recirculated air remains in most models.



#### Filters provide additional security

The fresh air taken in from outside and the circulating air remaining in the cooling mode on hot days is cleaned by highly efficient filters. These filters filter out particles as small as 0.5 micrometers. Droplets that harbour the virus or dust particles to which it adheres can thus be captured and filtered. These filters are replaced at least every six months.



### 🕨 YouTube

This video demonstrates how efficiently the permanent air exchange via air conditioning works.

