



Can We Breathe Freely?

Air Quality in the Gasteig

As far as air quality is concerned, visitors, employees and artists at the Gasteig can breathe easy. Our effective, modern ventilation systems ensures an excellent air quality and combats infectious agents in the air, including the coronavirus SARS-CoV-2.

Ventilation in the Philharmonic Hall and Carl Orff Hall

The Philharmonic Hall and Carl Orff Halls as well as their foyers are equipped with modern ventilation systems that work with heat recovery and can operate with 100% outdoor air even in winter. The air in the halls is fully exchanged about four times per hour using the vertical ventilation principle: the conditioned outside air is supplied through openings in the floor while the room air is extracted through outlets in the ceiling area. The fresh air and extract air ducts are strictly separated, so that the used room air cannot mix with the supply air during the exchange. Respiratory droplets, called aerosols, in the air are extracted upwards and channelled outside the building together with the extract air, effectively preventing their build-up in these indoor areas.

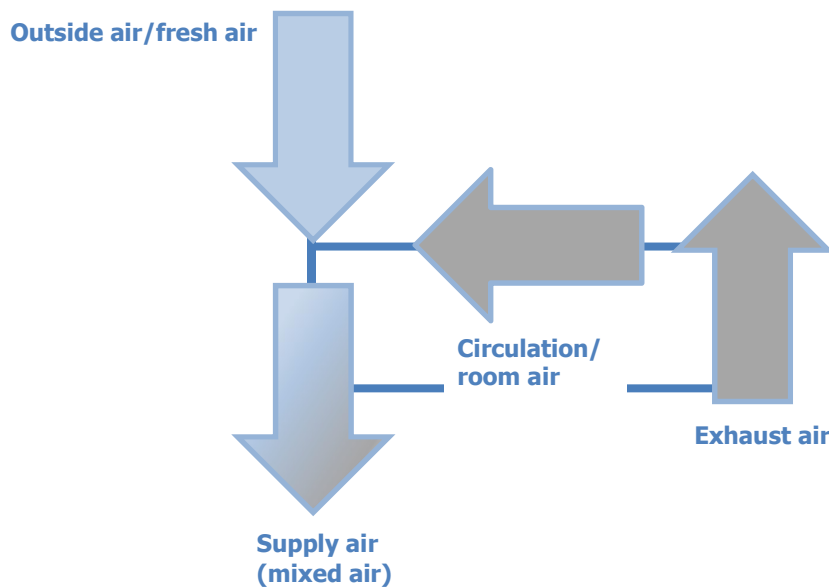
Ventilation in the Munich City Library, Münchner Volkshochschule, University of Music and Performing Arts and Gasteig München GmbH

At outdoor temperatures above 10 °C, these areas of the Gasteig also receive 100% fresh air. When it is colder outside and the heating system can no longer heat the fresh air to a comfortable room temperature, some of the extracted, warm indoor air must be recirculated and mixed with the outside air. The amount of recirculation air added to the outdoor air depends on the outside air temperature: the colder it is, the more is added, but never more than 50%. This means that, in deep mid-winter, the supply air consists of about 50% recirculation air and 50% fresh outside air. This does mean that not all moisture droplets in the room are fully discharged to the outside.

However:

- Overall, the air exchange rates in the Gasteig are well above the required standards.
- The proportion of recirculated air in these areas of the building never exceeds 50%, so that the recirculated air is greatly diluted by fresh air. And we have taken effective additional measures to keep the concentration of aerosols and any viruses they contain as low as possible:
- The supply air passes through F9 filters, which remove most viruses from the air. F9 is the highest available solids filter class for room ventilation systems. The ventilation systems are serviced and the filters replaced regularly.

- A new UV-C disinfection system has been installed in the Gasteig's ventilation ductwork, as planned in time for the onset of winter. UV-C – ultraviolet light of a particular wavelength – is highly effective against viruses and bacteria, as it destroys their genetic so that they become harmless and can no longer reproduce. UV-C is currently the most effective disinfection method for retrofitting in ventilation systems. As the ultraviolet light cannot escape the ventilation ducts, it presents no danger to people in the Gasteig. Inside the ducts, the recirculated air that is mixed with fresh air from outside in winter is channelled past the newly installed UV-C lamps.



Additional measures to improve air quality and general hygiene

- CO₂ sensors have been installed at various locations in the Gasteig to monitor air quality. A high proportion of carbon dioxide in the air indicates a possibly insufficient extraction of breathing air, and the CO₂ meters help us identify any areas in which corrective action may be necessary. In some rooms, the sensors are also used signal the need to let in fresh air.
- Regular (cross) ventilation where possible.
- The Gasteig has a comprehensive hygiene concept, which, among other things, defines separate entrances and exits as well as guidance systems, regulates behaviour in the lift, stairways and toilets and of course requires a distance of 1.5 metres to be kept from others and mouth-and-nose covering to be worn throughout the building.

You can find our hygiene and safety regulations at www.gasteig.de.

If you still have questions on the topic, please contact us at communications@gasteig.de.