

ISH

ISH 2023: Ventilation with heat recovery – using heat energy efficiently

Frankfurt am Main, 06 December 2022. Demand-controlled ventilation systems with heat recovery can make a substantial contribution to efficient energy use. They cut ventilation heat losses by transferring a large proportion of the heat from the extraction side to the intake side. At ISH, manufacturers offer ventilation systems for all requirements.

One of the top themes of ISH 2023, the world's leading trade fair for HVAC and water, is energy efficiency and sustainability in buildings. In the heating sector, all existing options must be used to achieve the reduction in CO₂ emissions in buildings called for by the climate-protection law. An important lever in this connection is the efficient use of heating energy via heat recovery. At ISH in Frankfurt am Main from 13 to 17 March 2023, manufacturers present a wide range of central and decentral ventilation systems for rooms of all kinds in residential and non-residential buildings.

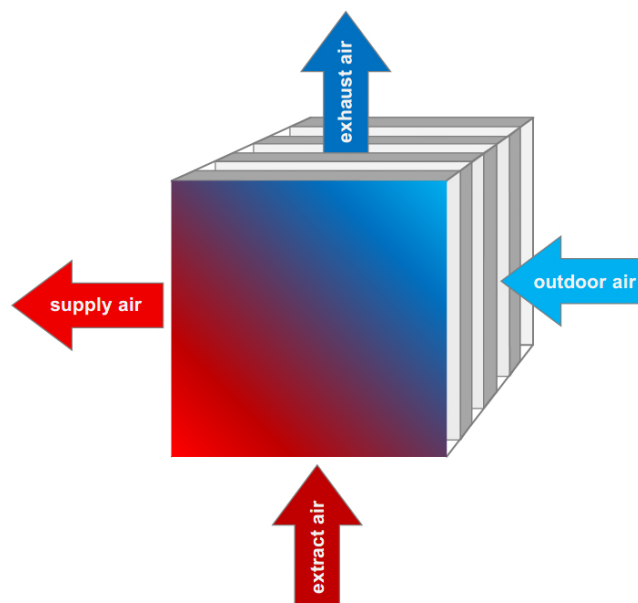


Diagram: Association of Air-Conditioning and Ventilation in Buildings

The current energy situation has led to a sharp increase in energy-saving measures. Besides the shift to renewable energies, the more efficient use of energy is a decisive factor in ensuring, inter alia, a reliable and affordable supply of heat for buildings. Demand-controlled ventilation systems with heat recovery can make a very substantial contribution to the efficient use of heating energy. They keep ventilation heat losses down

by transferring a large part of the extracted-air heat to the intake side. Thanks to a coefficient of performance (COP) of 10 to 20, heat recovery means that 10 to 20 kW of heat can be recovered using only one kilowatt (kW) of energy.

A study by the Environmental Campus Birkenfeld of the Trier University of Applied Sciences revealed the enormous potential of this technology. The analysis of the impact of heat recovery on the energy savings of central ventilation systems in non-residential buildings showed that, in 2021, the heat thus recovered amounted to a primary-energy saving of over 30 terawatt hours per year (TWh/a), a two-fold increase over 2011. It is safe to assume that this development will continue in the coming years as old installations are replaced by new, more efficient systems. In addition to greater energy efficiency, the continuous air circulation created by ventilation systems not only improves indoor-air quality by limiting CO₂ levels, but also causes pollutants and germs to be removed with the 'used' air. But that's not all: allergy sufferers benefit from air filtration while fitting humidification systems to the ventilation systems ensures the recommended minimum level of room humidity level (40 percent) can be reached even in winter.

In residential buildings, ventilation with heat recovery can also generate significant energy savings and this holds particularly true when it comes to low-energy houses. In this case, the heat loss through the building envelope is very low so that ventilation heat losses play a more important role. Such buildings are only energy efficient if they are equipped with a fan-aided ventilation system. Thus, demand-controlled ventilation with heat recovery can produce savings of 25 to 50 percent in terms of heating energy and a similar reduction in the level of CO₂ levels. At the same time, ventilation systems with heat recovery are a prerequisite for healthy air in energy-efficient buildings.

In Germany, the Building Energy Act is expected to call for newly installed heating systems to be operated with a minimum share of 65 percent renewable energies from 2024. Heat recovery can contribute to achieving this share in both residential and non-residential buildings.

The market offers the right solution for all needs and all applications. At ISH, manufacturers present a wide range of central and decentral ventilation systems for rooms of all kinds in residential and non-residential buildings.

Further information about the top themes at ISH 2023 can be found at:

www.ish.messefrankfurt.com/top-themes

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Background information on Messe Frankfurt

The Messe Frankfurt Group is one of the world's leading trade fair, congress and event organisers with their own exhibition grounds. With a workforce of 2,200 people at its headquarters in Frankfurt am Main and in 28 subsidiaries, it organises events around the world. As in the previous year, annual sales for 2021 were significantly lower owing to the COVID-19 pandemic: approximately €154 million compared with Group sales as high as €736 million in pre-pandemic 2019. We serve our customers' business interests efficiently within the framework of our Fairs & Events, Locations and Services business fields. Sustainable business practices are a central pillar in our corporate strategy and strike a healthy balance between ecological and economic interests, social responsibility and diversity. Another of Messe Frankfurt's strengths is its powerful and closely knit global sales network, which covers around 180 countries in all regions of the world. Our comprehensive range of services – both onsite and online – ensures that customers worldwide enjoy consistently high quality and flexibility when planning, organising and running their events. We are using our digital expertise to develop new business models. The wide range of services includes renting exhibition grounds, trade fair construction and marketing, personnel and food services.

With its headquarters in Frankfurt am Main, the company is owned by the City of Frankfurt (60 percent) and the State of Hesse (40 percent).

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