

Heating, cooling and ventilation all in one

Two systems ensure pleasant room temperatures in summer: passive cooling station or controlled room ventilation in combination with a geothermal heat exchanger

Passive cooling station
Geothermal heat exchanger
with controlled room
ventilation
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Two new systems from Buderus ensure comfortable room temperatures in both summer and winter. In combination with the passive cooling station Logatherm PKSt, the brine/water heat pump Logatherm WPS produces heat and cold. The other system combines a geothermal heat exchanger with the controlled room ventilation system Logavent HR. Buderus, a brand of Bosch Thermotechnology is now offering two innovative solutions for heating, cooling and ventilation all in one.

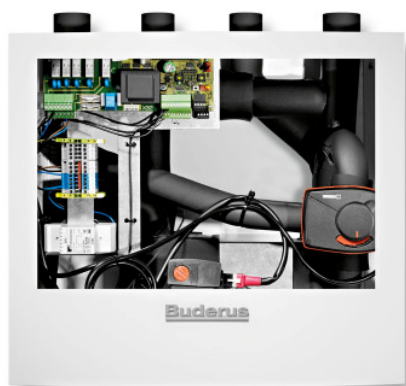
In the case of the brine/water heat pump combined with the passive cooling station, the room is cooled via the underfloor heating or a fan convactor. The compressor in the heat pump is switched off during operation and the temperature is lowered instead by the passive cooling station via the brine flow. Heat is extracted from the room via a cooling panel and discharged into the ground. The underfloor heating, for example, can be used as cooling panel. Every suitable heating circuit in the building can be used to lower the room temperature. In cooling mode, the room temperature is kept virtually constant by the system even as the outside temperature rises.

Installation is particularly simple as the passive cooling station is completely pre-assembled and all the required components integrated. With compact outside dimensions of 500 x 373 x 433 millimetres (width x height x depth) and a weight of just 32 kilograms, the Logatherm PKSt can even be installed in highly confined spaces. The enclosure of the passive cooling station from Buderus

accommodates the heat exchanger, circulation pump, mixer and a circuit board to control cooling operation and communicate with the controller of the Logatherm WPS heat pump.

Geothermal heat exchanger with controlled room ventilation

A mechanical ventilation system is required in the building in order to operate a geothermal heat exchanger (EWT). Logavent HRV from Buderus is an innovative room ventilation system for this purpose. The system automatically exchanges the spent air in the room, returning 91 percent of the heat contained in the room air to the rooms and saving heating energy. The system simultaneously creates a healthy and comfortable room climate. The geothermal heat exchanger supplements the central air-conditioning system, for it uses the ground as energy buffer to preheat the air in winter and to cool the air in summer. The geothermal heat exchanger system is made up of several components: an intake column for outdoor air, a geothermal collector pipe roughly 50 metres long and normally installed horizontally in the ground at a depth of 1.20 to 1.50 metres, and moulded elements to discharge condensation, for example. The filtered fresh air streams through this pipe and into the building via an air-conditioning system. The temperature difference between soil and outdoor air cools the air stream by up to 10 degrees C in summer. The system ensures a natural cooling effect and considerably more comfortable atmosphere inside the building.



Caption:

The new passive cooling station Logatherm PKSt produces cold – in combination with a Logatherm WPS heat pump from Buderus.

Source: Buderus



Caption:

In combination with a geothermal heat exchanger, the room ventilation system Logavent HRV (on the left) ensures a healthy and comfortable room climate both in summer and in winter.

Source: Buderus

For lists of manufacturers:

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