

# Calculation example 3 single-family homes

## General description

Family house with a ground floor and basement for share of the ground floor

The building is calculated as one zone.

## Construction Equipment

**Masonry** basement and ground floor of timber construction

Partition walls are gypsum board walls

Construction detail shown in drawings

Basement under a part of building complicates modeling of basement walls. In support of the assessments, you can put the whole underground model in the 3D function.

## Ventilation

Constant exhaust air flow 0.35 l/s m<sup>2</sup>.

Airing is simulated with a balanced ventilation 0,025 l/s m<sup>2</sup>.

The activity provides a moisture injection 1 mg/s, m<sup>2</sup>. With air flow 0.375 l/s m<sup>2</sup> or 0.45 g/s m<sup>2</sup> the moisture content of the room air increases by 2.2 g/kg. Moisture addition has impact on the exhaust air heat pump function.

## Heating and cooling

The lowest room temperature is 22 ° c.

Maximum room temperature can be set to 27 ° C to simulate window blinds, airing and other measures taken to reduce the room temperature.

As an alternative, you can add simulation of these measures under the Sun protection catalog.

Heat source is an exhaust air heat pump. The heat pump is working toward a smaller working tank that is parallel connected between the heat pump and the heating system.

Minimum operating time is set to 5 minutes.