Overheating of attic and loftspace areas during the summer

Each building faces extreme heat stress during the summer months. You can have a very good thermal insulation, yet it is only a matter of time when the heat goes into the house somewhere. Thermal insulation has the ability to dampen the heat and slow down its penetration into the building, but it certainly does not prevent 100% of heat penetration.

The most heat-stressed part of each building is the roof. The sun's rays hit a large area, and the heat gradually gets through the construction layers to the building where it is very unpleasant. In general, the attic areas are overheated and need ventilation. One option is the installation of air conditioning, which is very expensive for both acquisition and operation.

In doing so, it is necessary to apply the basic physical laws and to use simple principles of permanent ventilation.

Ventilation of attic space

The LOMANCO ventilation turbines are a very simple and effective solution. The primary task of the turbine installed in the roof is not to allow the roof construction to accumulate incoming heat to the structure, and if part of the heat passes, exhaust it as quickly as possible away from the building.

Although ventilation appears to be less effective in the summer, it is not true. Keep in mind that temperatures of 60°C may occur in the space under the roof/attic space, while the air temperature may be 35°C. If there is an air exchange, the temperature drops by 25°C, which is very positive for the overheated roof structure. This effect is then transferred to the insulated attic. The temperature drops there and the room temperature in the attic bedrooms drops by 2-3 ° C. Having a room temperature of 26°C or 29°C is a crucial difference.

At night, the importance of ventilation is even more significant, as there is a much higher temperature difference. Although it is cooled down to 20°C outside, in a closed attic or overheated roof space, a very high temperature of about 50°C would remain, which would gradually push into the room. This phenomenon is significantly avoided by the ventilation turbine, which by its permanent work ensures ventilation of overheated air and compares the temperature of the space under the roof with ambient temperature to 20-25°C, which will make the stay in the building much more pleasant.

LOMANCO set for pitched roofs is specially designed to ventilate the attic. It consists of a LOMANCO BIB12 or BIB14 ventilation turbine with an adjustable neck and special base for installation into roof tiles and slate. Turbines and bases are supplied in black, dark brown, or in the case of BIB12 even in the classic brick red color. The turbine in this set is easily fitted in the roofing and the installation will allow permanent ventilation of the loft and roof structure.

LOMANCO ENERGO EVL sets

For more effective ventilation, turbines with auxiliary ventilators built into the turbine can now be used. Auxiliary ventilators are used to guarantee or increase immediate performance of the turbine in case of long non-windy periods or at the request of the thermostat, when the control unit switch them on and ensure intense exhaust. ENERGO EVL sets are equipped with electrical box for easy installation and extra durable, externally braced turbine BEB14. The maximum volumetric flow rate is either 1400 m3/h or 3410 m3/h.

Ventilation of production plants

In case of ventilation of large buildings ENERGO turbines are usually used in combination with ordinary wind-powered turbines. An example of this is a large production hall with a length of 50m and a width of 25m, where 10 units of BIB14 turbines are used for normal ventilation, of which there are 4 units of turbine with auxiliary ventilator. In normal weather, the turbines ventilate sufficiently and, in the case of long-term non-windy weather, the auxiliary ventilators will be switched on as required or according to the setting of the control unit. These ventilators are very quiet and economical (max. 36W) and thanks to the intelligent control unit they can ventilate exactly as much air as required.

Ventilation of a detached house

In case of ventilation of a detached house, the situation is similar. If there is a family house of 8x12m size, we install two LOMANCO turbines along the roof ridge at equal spacing, one of which can be fitted with an auxiliary ventilator. Any Attic or under roof space will be protected against overheating over a long period of time, reducing the heat load not only for the building but also for its inhabitants, which is the most important benefit.

In addition, if air conditioning is installed in the house, it will reduce the demand on the turbine, paying dividends in the long term, paying for itself in a short space of time.