



# SKOV International

## PIG EDITION

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## The function of minimum ventilation in a modern ventilation system

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In brief, the purpose of minimum ventilation is to remove moisture produced by the animals as well as moisture evaporating from moist surfaces. Minimum ventilation levels therefore depend on several factors such as:

- Scope of production
- Floor design
- Type of feeding system
- Water supply

This also means that the necessary minimum ventilation increases as the animals grow bigger; the level must therefore be adapted on a daily basis.

If minimum ventilation is not adjusted, air humidity as well CO<sub>2</sub> levels will increase to the detriment of production. If minimum ventilation is set too high, too much heat will be consumed resulting in too low air humidity levels which, in turn, may cause an increase in respiratory diseases.

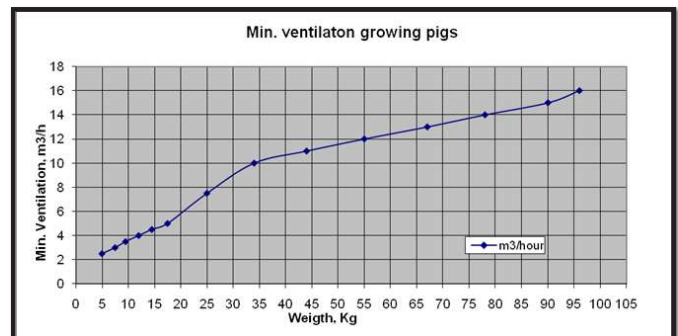
The minimum ventilation level should keep moisture and CO<sub>2</sub> at acceptable levels; however, evaporation from surfaces may cause an increase in relative air humidity.

On the other hand, minimum ventilation does not always prevent other harmful substances from being kept at acceptable levels. NH<sub>3</sub>, in particular, does not depend directly on production and may sometimes reach high concentration levels, even with correct minimum ventilation.

With SKOV climate controls, it is possible to set a minimum ventilation sequence during which ventilation increases as the animals grow bigger in relation to the day number. If batches of pigs of a similar age/weight are stocked, correct minimum ventilation will be ensured, irrespective of temperature conditions in the house. If the age/weight of the pigs varies from batch to batch, minimum ventilation must be adapted manually.

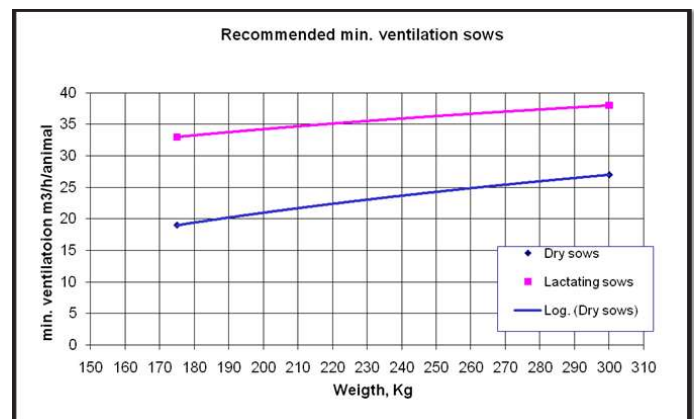
Minimum ventilation makes up from approx. 1.5% up to almost 20% of installed ventilation capacity, thus requiring efficient control of the system. Above all, it must be possible to regulate the outlet fans down to the required level. It is therefore important to know the actual outputs of the entire control range of the system in order to be able to ensure the correct level.

The following recommended values can be provided for minimum ventilation (pigs):



Minimum ventilation - recommended amount of air - pigs

The graphic illustration shows that the need for minimum ventilation increases relatively much from approx. 20 to 40 kg. The reason for this is increased feed intake.



Minimum ventilation - recommended values - sows