DORSET GM
GREEN MACHINES

BIOLOGICAL AIR CLEANING SYSTEMS

FOR A FARM IN HARMONY WITH THE SURROUNDINGS

- Ammonia
- Odour
- Dust

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LICENCE TO PRODUCE

Local acceptance

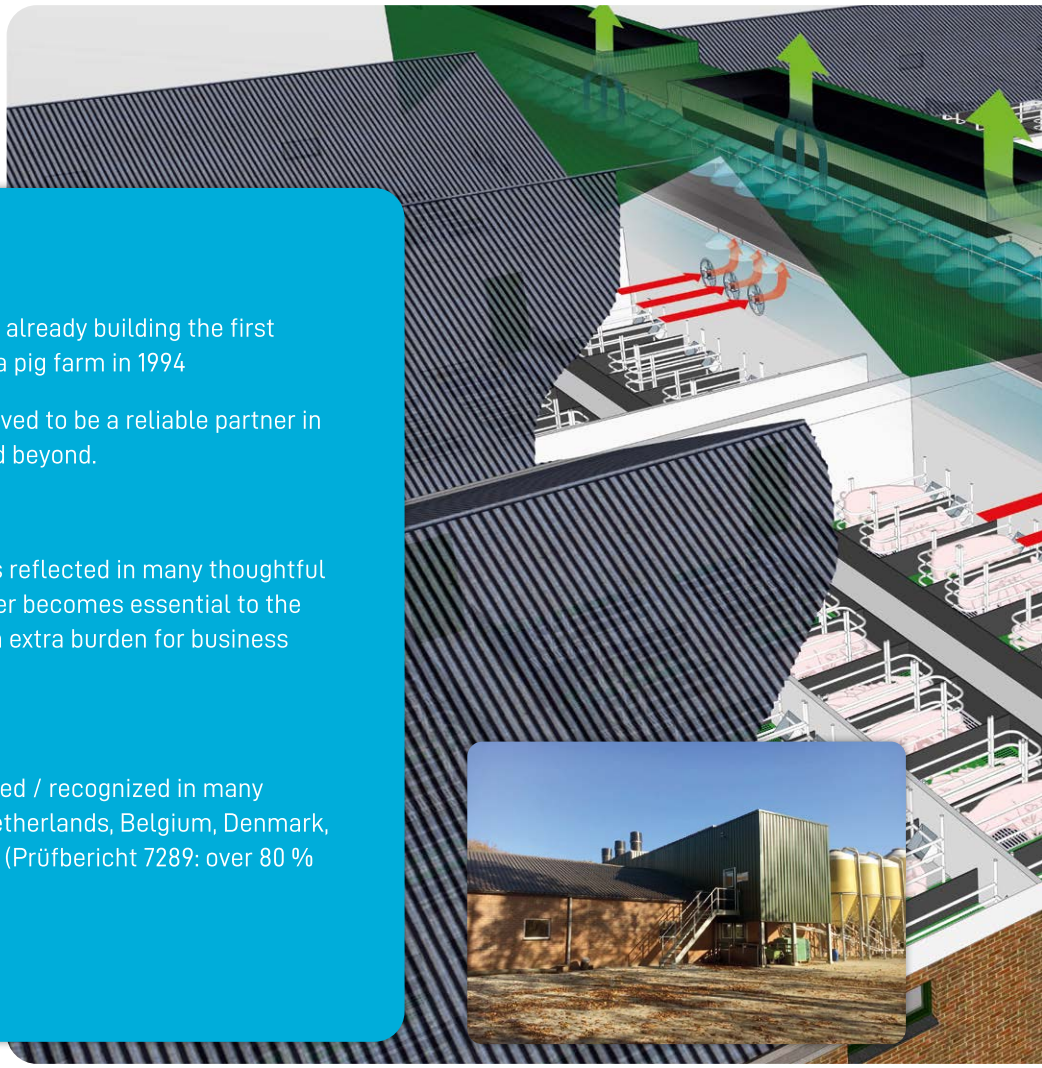
Just like other industries, animal husbandry must take into account the surroundings and the environment. Cleaning of animal house air is an essential part of this. Dust and odor removal provides the company acceptance by the local community.

Keep producing

This makes it possible to situate farms near villages and cities. Farms that are surrounded by urban expansion can also continue to produce at the same location without coming into conflict with their new neighbors.

Easiest way

A biological process is the easiest way to remove both odor and dust as well as ammonia from farm air.



Since 1994

Dorset Farm Systems was already building the first biological air cleaners on a pig farm in 1994

Since then, Dorset has proved to be a reliable partner in the agricultural sector and beyond.

Thoughtful details

Long-lasting experience is reflected in many thoughtful details. A Dorset air cleaner becomes essential to the company without being an extra burden for business operations.

Certified

The air cleaners are certified / recognized in many countries including the Netherlands, Belgium, Denmark, Switzerland and Germany. (Prüfbericht 7289: over 80 % reduction of ammonia).

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PRINCIPLE

Dissolve in water

The basis is always the direct contact between farm air and washing water in the filter package.

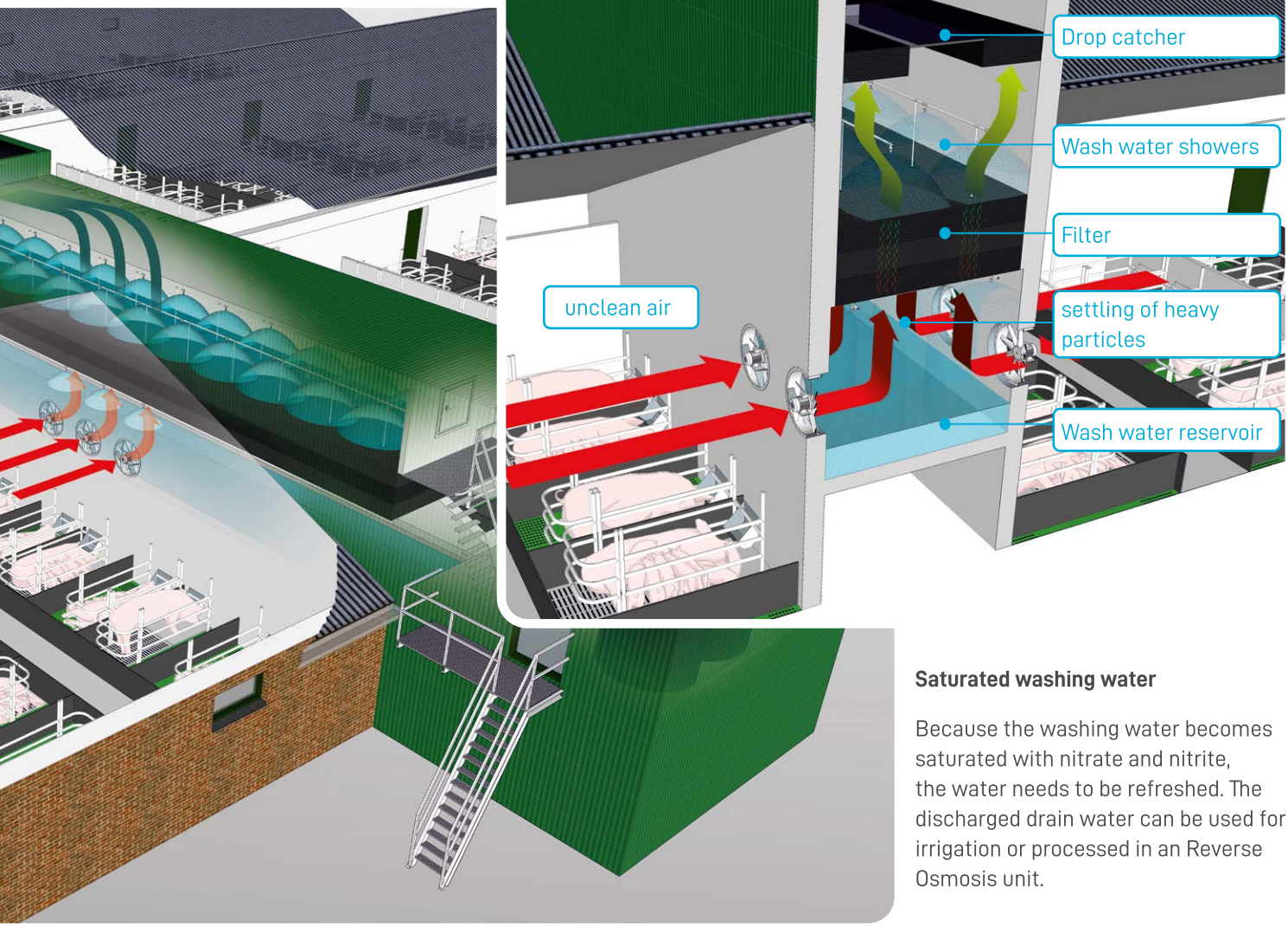
Dust, odor components and ammonia dissolve in the water. It then becomes food for the bacteria that grow on the filter surface.

Bacteria

These bacteria convert the substances into other water-soluble substances. Thus ammonia becomes nitrite and nitrate. These substances leave the the air cleaner via the discharged drain water when the washing water is being replaced.

Self-cleaning filter

The filter consists of a honeycomb-like plastic package. The filter package is designed to make it self-cleaning and therefore normally no manually cleaning will be required.



Saturated washing water

Because the washing water becomes saturated with nitrate and nitrite, the water needs to be refreshed. The discharged drain water can be used for irrigation or processed in an Reverse Osmosis unit.

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PRACTISE

Measurements

Typical dimensions for an air cleaner for 100,000 m3/h barn air: package height 90 cm and 50 m2 filter surface.

Construction options

The air washer can be supplied as a ready-to-use unit and as a assembly kit.

Larger scrubbers can be built-in on location as an integrated part of the barn.

Low variable costs

A biological washer requires a significant investment, but the variable costs are then extremely low.

The air resistance is very low, therefore the fans hardly have to supply more pressure and thus use hardly more power then before.

Maintenance requirements are limited to inspection of the nozzles and of the values on the control panel. The filter is designed to be self-cleaning and normally will not require any manual cleaning.

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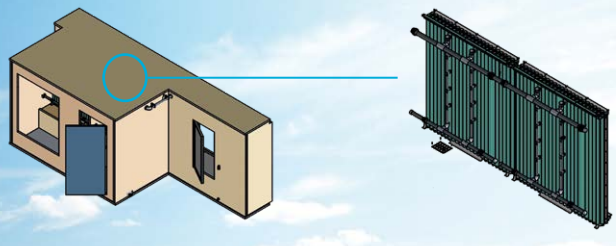
DUST WASHER FOR POULTRY FARMING



DUST WASHER

Dealing with dust is a problem when washing air from the poultry farm.

The dust washer by Dorset can be used independently to reduce dust emissions. Or it is combined with a bio washer to reduce ammonia and odor emissions as well.

HEAT RECOVERY

Dorset has several techniques available around the air scrubber.

- Air heat exchanger
- Tube changer
- Heat pump

Ask about the possibilities!

Dust washer in Switserland

Dust washer frontal view

Heat exchanger

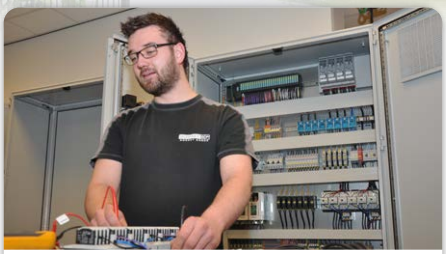
REVERSE OSMOSIS TECHNOLOGY

Nitrogen concentrate from wastewater / Reduction of water consumption

The water is fed batchwise through a reverse osmosis system until a nitrogen content of 2.5% is reached. The resulting concentrate is then discharged and pumped into a storage tank.

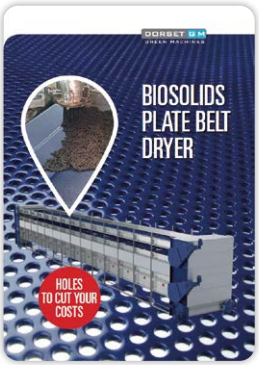
About 10% of the wastewater remains as nitrogen concentrate, 90% is returned to the air cleaning system as clean water, which will drastically reduce water consumption.

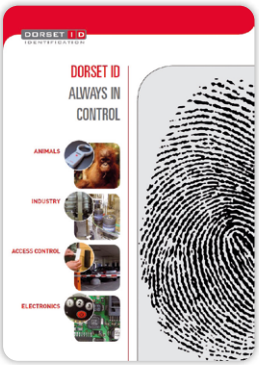
Inhouse manufacturing

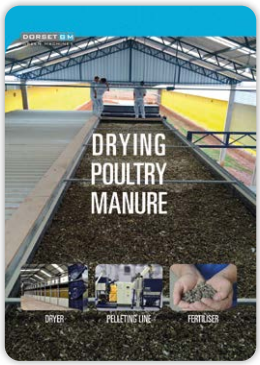


Control panel building

Service team







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