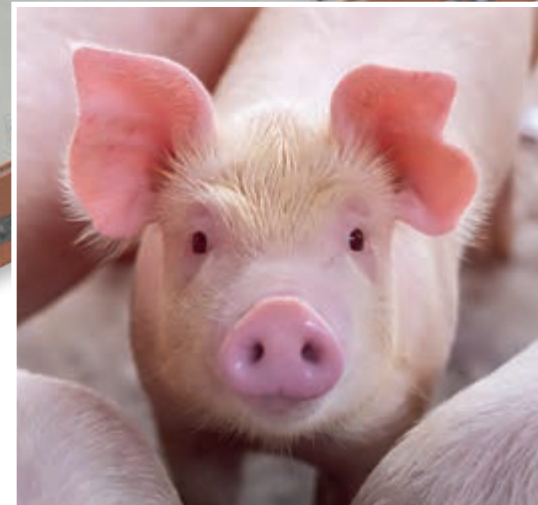
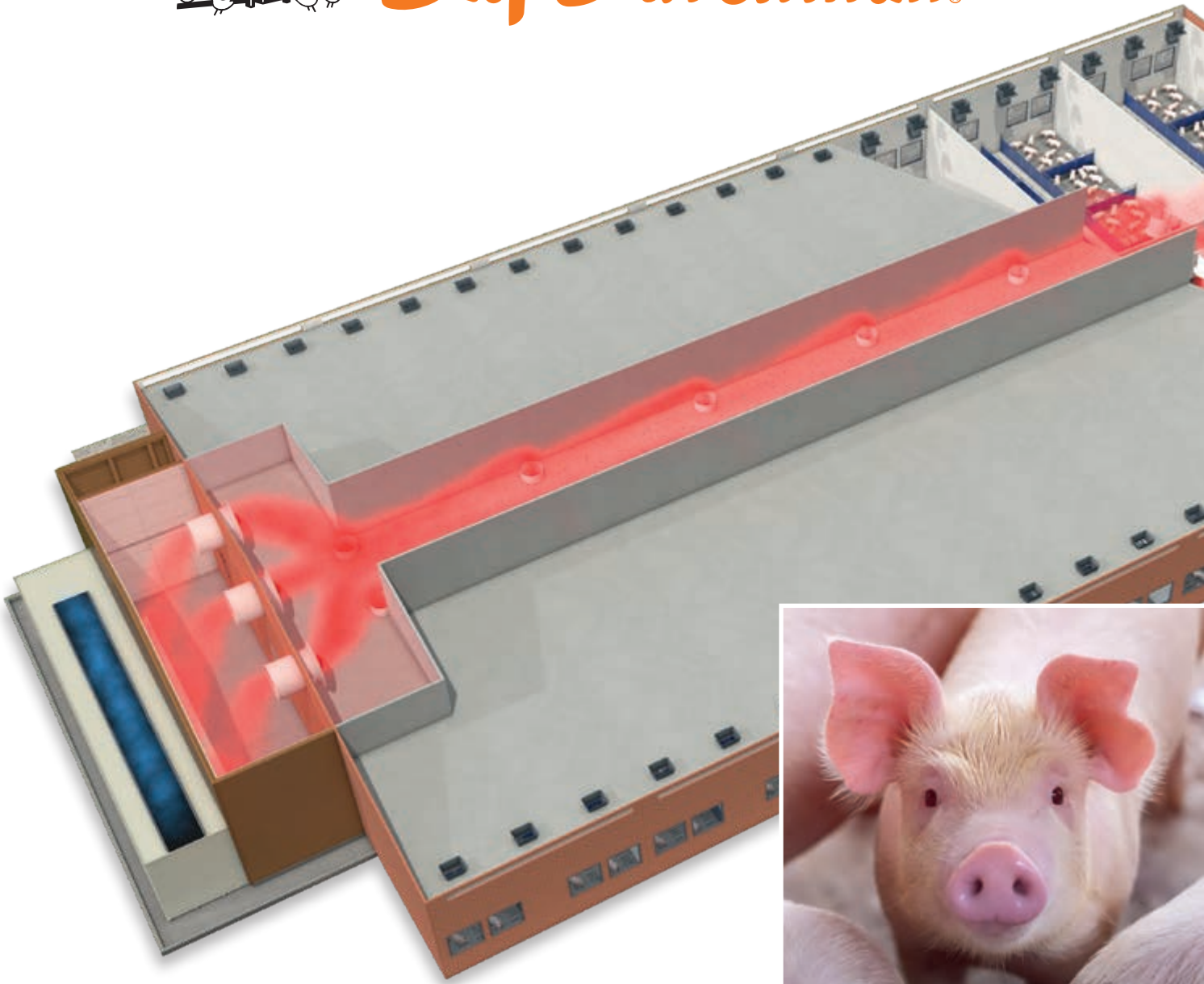




Big Dutchman®



Porcus

The air scrubber for effective reduction of emissions from pig housing

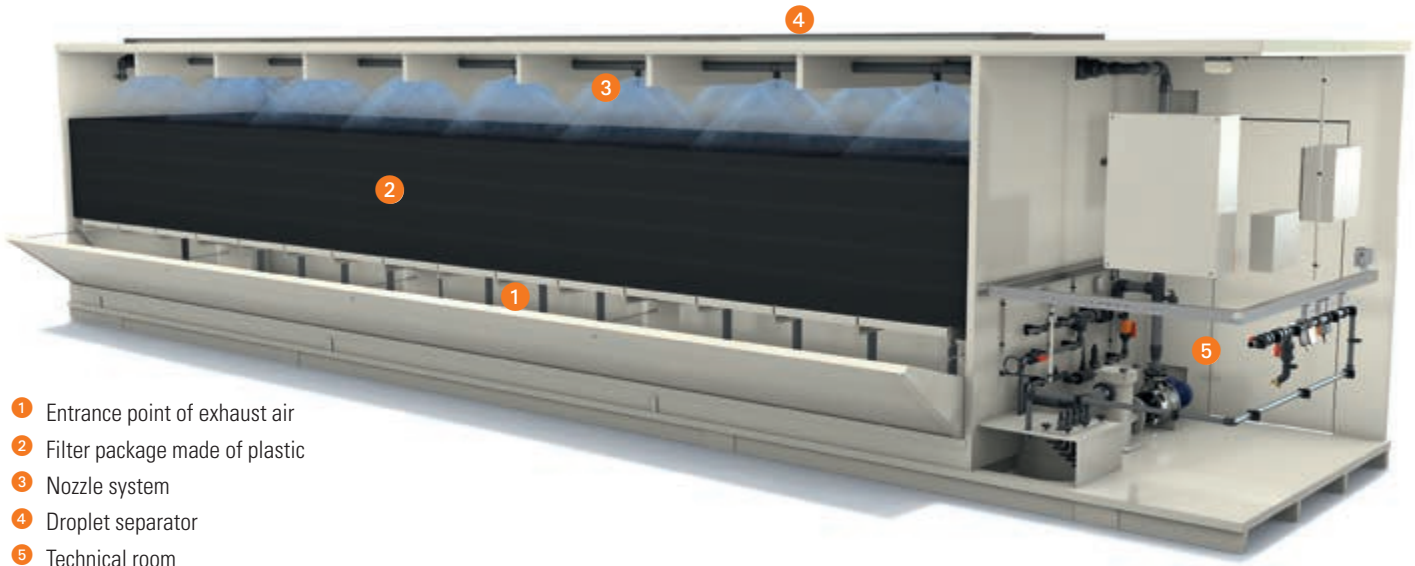
Porcus

Efficient separation of ammonia, dust and odours from pig housing air

Big Dutchman is your competent partner for expert planning and implementation of air cleaning systems. We have years of experience from several hundred completed

projects under our belt and use proven air scrubbing technology, supplying systems that come ready to be connected. Our air scrubbers sustainably reduce emissions from pig housing

to guarantee successful continuation of your pig production enterprise. Get in touch with our experts for a detailed consultation.



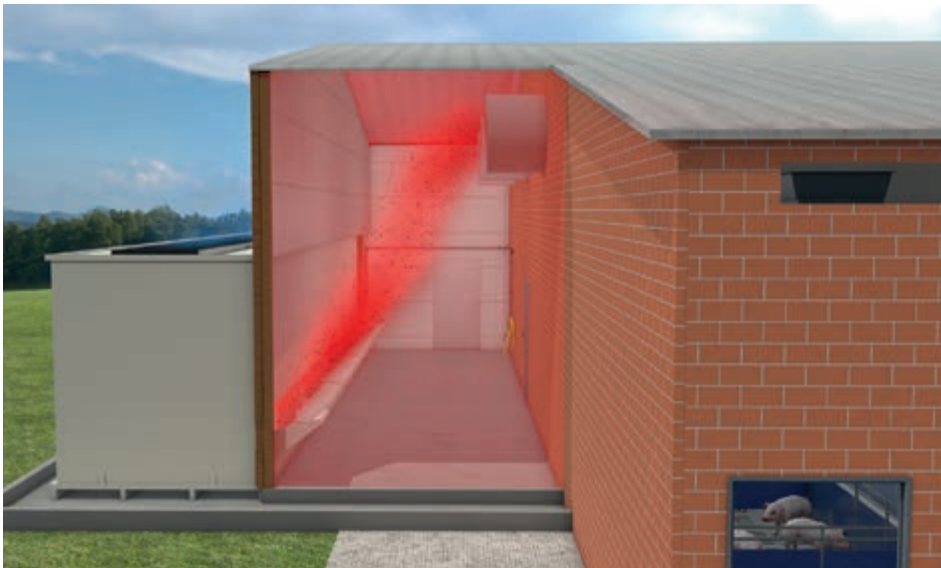
- 1 Entrance point of exhaust air
- 2 Filter package made of plastic
- 3 Nozzle system
- 4 Droplet separator
- 5 Technical room

How Porcus works

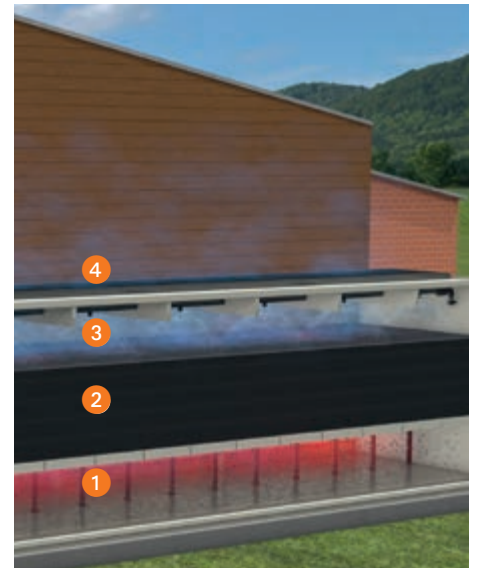
A pressure corridor, which must be provided by the customer, connects the Porcus air scrubber with the barn. Fans press the exhaust air into this corridor and then into the scrubber itself. In the scrubber, the air flows upwards through a horizontal filter bed. A nozzle system sprays the filter package with water from above. The filter package has a large surface area, which

ensures thorough cleaning of dust, ammonia and odours from the exhaust air. The process water recirculates until its contamination reaches a certain level. A sensor that measures the conductivity checks the nitrogen content in the process water. On reaching a specific concentration, some of the process water is drained into a desludge water

tank and replaced with fresh water. The pH value of the process water is also checked and controlled automatically. A droplet separator closes the cleaner at the top and prevents emission of aerosols.



View into the pressure corridor



Exhaust air flowing up through the filter package

Technical room and storage room for operating substances

An important advantage of Porcus' modular design is the technical room, which is optimally dimensioned to match scrubber capacity. The technical room is pre-installed by the manufacturer. All necessary components, such as the pH value sensor, the conductivity sensor, the meters for measuring fresh water and desludge water quantities, pumps, piping and the control box are cleverly installed for a good overview. The practical arrangement of the technology also makes maintenance easier.

Porcus is equipped with an internet-accessible data logging system. This system logs the vital parameters of the air scrubber and can show them in real time on a PC or mobile device. The data are also stored in the cloud for later evaluations.



Porcus: biological and chemical version available

Porcus can be operated as a biological or as a chemical air scrubber. The biological version is a very good choice when the most important goal is reducing odour emissions, in addition to separation of ammonia and dust. Naturally occurring bacteria grow on the filter material. In a nitrification process, these bacteria convert ammonia into ammonium nitrate. To maintain the ideal pH value, specific operating

substances such as acids or alkalis must be added.

Operating Porcus as a chemical air scrubber makes the use of sulfuric acid necessary. This lowers the pH value and then binds the nitrogen as ammonium sulfate. The amount of process water required is much lower, but it must be stored separately.

Separation rates biological scrubber:

- ammonia > 70 %
- dust 60 %
- odours 45 % to 70 %

Separation rates chemical scrubber:

- ammonia 70 % to 90 %
- dust 35 %
- odours 30 %



Porcus installed at the gable of a finishing house



Retrofitted Porcus air scrubber

The advantages at a glance

- ✓ individual planning with an expert;
- ✓ use of proven air scrubbing technology;
- ✓ supplied as a complete unit that is ready to be connected;
- ✓ available in different sizes for any barn and also in 40-foot containers: modular design (length x 2.40 m x 2.10 m);
- ✓ permanently high separation rates;
- ✓ easy-to-plan assembly times;
- ✓ low installation requirements;
- ✓ single-part plastic housing for reliable and long-term impermeability;
- ✓ easy handling;
- ✓ high functional and operational reliability;
- ✓ fully automatic process control;
- ✓ cost-efficient operation;
- ✓ well-suited for retrofitting.

Porcus: delivery of the air scrubber and construction of the pressure corridor



A crane lifts the Porcus air scrubber from the low loader



Porcus is placed on the concrete bottom plate



Pressure corridor



Porcus air scrubber in operation

Looking for a sustainable and uncomplicated way of reducing emissions from your barn?

Big Dutchman is the global market leader when it comes to equipment for intensive livestock production. We offer customised solutions to reduce ammonia, odour and fine dust emissions from your pig housing.

We are happy to put our experience to work for you.



Big Dutchman

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