AirProTec®
PPRS fresh air filter for healthy stock
AirProTec® – the filter to prevent introduction of the PRRS virus

Helping you maintain healthy stock is important to Big Dutchman. Our experts have therefore collaborated with climate technology specialists and other experienced experts to develop a fresh air filter which reliably prevents PRRS viruses from entering the house via the fresh air. PRRS stands for Porcine Reproductive and Respiratory Syndrome – relating to the pig, to reproduction and respiration. It is a disease responsible for some of the highest economic losses in global pig production.

In particular, breeding companies, multipliers and centres for artificial insemination must make sure that they maintain a negative PRRS status. Breeders producing larger numbers of piglets will also benefit from the filter as piglets not infected with PRRS fetch higher prices when sold. In addition to a good hygiene on the farm, transmission between farms must be prevented. The virus is also transmitted via the air, which can cause problems particularly in regions with a large livestock density.

How AirProTec works

AirProTec® is a mechanical filtration system and installed in front of a corresponding fresh air inlet. It is thus able to filter dust particles which may be contaminated with the virus. The filtered fresh air is then pushed into the house by means of a fan (positive pressure ventilation). Apart from the PRRS viruses clinging to the dust particles, other airborne aerosols (influenza viruses and mycoplasmas) are also filtered efficiently from the fresh air. This considerably reduces the risk of infections and reinfections with the PRRS virus. AirProTec® is available in two versions: for central or decentralised distribution of the fresh air.

APT 20000 and APT 10000 – use for central fresh air distribution

If the fresh air enters centrally into the house, the filtered air is therefore channelled centrally and can also be cooled, if necessary. From here, it reaches the individual compartments and pigs via ceilings for spray cooling, ceiling inlets or FAC fresh air distributors. Due to the positive pressure ventilation system, there are no exacting requirements regarding the air-tightness of the building.

Both fresh air filters consist of the following main parts:

1. Wind protection netting – prevents the entry of foreign matter and coarse dirt particles
2. Pre-filter – filters particles with a diameter of 3 μm and any remaining PRRS viruses adhering to them
3. Main filter – filters fine particles up to a diameter of 0.3 μm and any remaining PRRS viruses adhering to them
4. Cooling module – the fresh air can be cooled simultaneously if required
5. Ventilation pipe with fan and cover flap
APT 1500 – the filter for decentralised distribution of the fresh air

APT 1500 was developed specifically for use in combination with the Big Dutchman wall inlets of the CL series. Its air capacity of approx. 1500 m³/h corresponds to the capacity of the inlets. An energy-saving fan, adjustable from 0 to 10 V, is used. The system can easily be retrofitted for existing wall inlets. APT 1500 consists of the following main parts:

1. Fan
2. Pre-filter – filters particles with a diameter of 3 μm and any remaining PRRS viruses adhering to them
3. Main filter – filters fine particles up to a diameter of 0.3 μm and any remaining PRRS viruses adhering to them

Special filter unit prevents the introduction of the PRRS virus

The filter unit consists of a combination of two separate filter inserts. The pre-filter cleans the fresh air by filtering particles with a diameter of up to 3.0 μm (MERV* 8). The main filter prevents fine particles with a diameter of up to 0.3 μm (MERV 16) from entering the house. All filters used are made of 100 percent synthetic material which repels moisture permanently and has a very low air resistance. Depending on its contamination, the pre-filter should be changed annually, the main filter every three years.

* MERV – measurement scale to rate the efficiency of air filters

The advantages at a glance

- Introduction of the PRRS virus via the fresh air can be reduced by up to 95 percent;
- Livestock not infected with PRRS show a better biological performance;
- Less secondary infections in piglet rearing and pig finishing reduce the amount of required medication;
- Different AirProTec models are available, depending on the conditions on the farm and the type of fresh air distribution system;
- If requested, the fresh air can be cooled simultaneously (only available for APT 20 000 and APT 10 000);
- Special developed filter cassettes are easy to replace;
- Low maintenance requirements.
## Technical specifications and dimensions of the AirProTec models

**Type APT 1500**

### Air capacity
- m³/h: 1500

### Dimensions:
- Length: 794 mm
- Width: 770 mm
- Height: 700 mm

### Positive pressure ventilation: yes
### Fresh air distribution: decentralised
### Cooling: no

**Type APT 10000, ATP 20000**

### Air capacity
- APT 10000: 10000 m³/h
- APT 20000: 20000 m³/h

### Dimensions:
- Length: 3220 mm
- Width: 1600 mm
- Height: 2400 mm

### Positive pressure ventilation: yes
### Fresh air distribution: centrally
### Cooling: yes