



Big Dutchman®



AirProTec®

PRRS 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.

With AirProTec®, Big Dutchman offers an efficient fresh air filter which significantly reduces the introduction of PRRS viruses – by up to 95 percent! This is a major advantage. Depending on the method of fresh air distribution, there are several models available: APT 20000, APT 10000 and APT 1500.

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

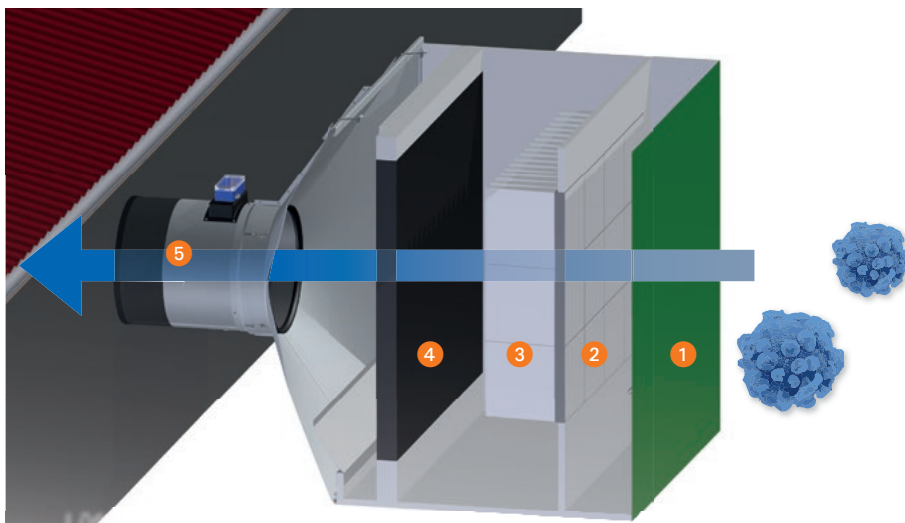


Installation for central fresh air distribution



Use in a grandparent sow house

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.



Functional diagram of the PRRS filtration system APT 20 000 for centrally guided fresh air

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



Functional diagram of the APT 1500 for decentralised fresh air guided by the CL 1200 fresh air inlet



APT 1500 – low maintenance requirements

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



Pre-filter (MERV 8)



Main filter (MERV 16)

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.

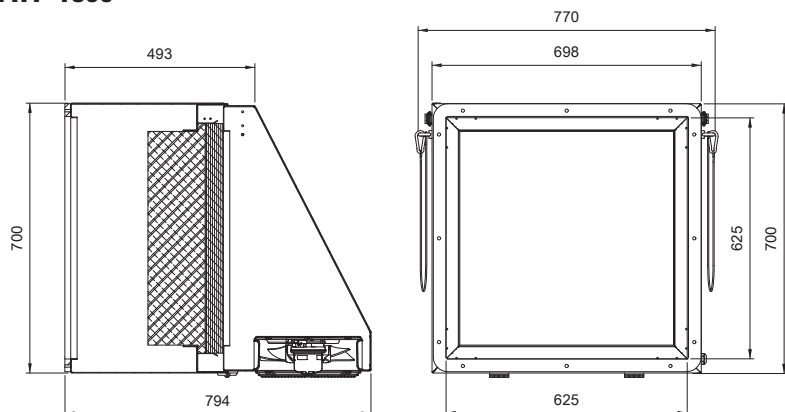
* MERV – measurement scale to rate the efficiency of air filters

The advantages at a glance

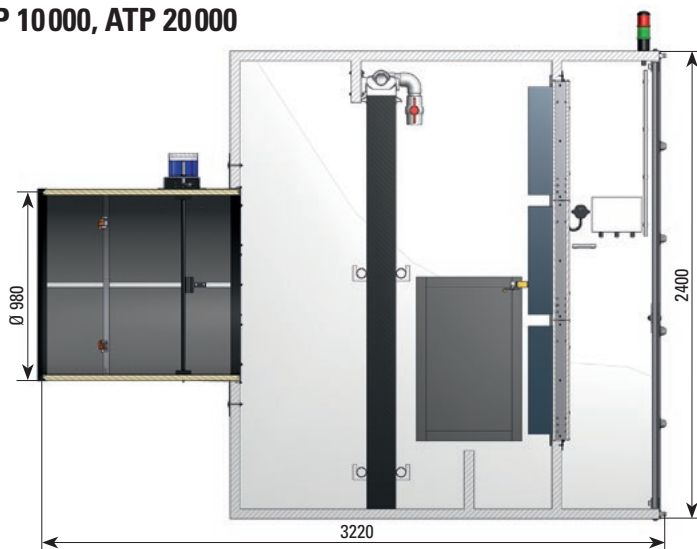
- ✓ introduction of the PRRS virus via the fresh air can be reduced by up to 95 percent;
- ✓ livestock not infected with PRRS show a better biological performance;
- ✓ less secondary infections in piglet rearing and pig finishing reduce the amount of required medication;
- ✓ different AirProTec models 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);
- ✓ specially developed filter cassettes are easy to replace;
- ✓ low maintenance requirements.

Technical specifications and dimensions of the AirProTec models

ATP 1500



ATP 10000, ATP 20000



Type		APT 1500	APT 10000	APT 20000
Air capacity	m ³ /h	1500	10000	20000
<i>Dimensions:</i>				
• Length	mm	794	3220	3220
• Width	mm	770	1600	2800
• Height	mm	700	2400	2400
Positive pressure ventilation		yes	yes	yes
Fresh air distribution		decentralised	centrally	centrally
Cooling		no	yes	yes



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