



Big Dutchman®



Fresh Air Filtration

PRRS fresh air filters to meet highest pig health requirements

Fresh Air Filtration

Fresh air filtration to prevent introduction of the PRRS virus

Helping you maintain healthy stock is important to Big Dutchman. Our experts have therefore developed fresh air filters that reliably prevent the PRRS virus from entering your barn with the fresh air.

PRRS: Porcine Reproductive and Respiratory Syndrome – negatively affecting the pig, its fertility and respiration.

Caused by a virus that enters the pigs through their lungs, PRRS leads to fertility issues in sows as well as respiratory diseases, mostly in piglets and finishing pigs. Breeding companies, multipliers and centres for artificial insemination in particular must therefore make sure that they maintain a negative PRRS status. Breeders producing larger numbers of piglets also decisively

benefit from the filtration because piglets not infected with PRRS fetch higher prices when sold.

Big Dutchman offers effective fresh air filters that efficiently reduce the introduction of the PRRS virus.

Depending on the method of fresh air distribution, there are different models available: FAF 1500 and APT 20000.

Structure and functional principle

FAF 1500 and APT 20000 are mechanical filter systems that are installed in front of a fresh air inlet. They filter dust particles that may be contaminated with the virus. A fan pushes the filtered fresh air into the barn (positive

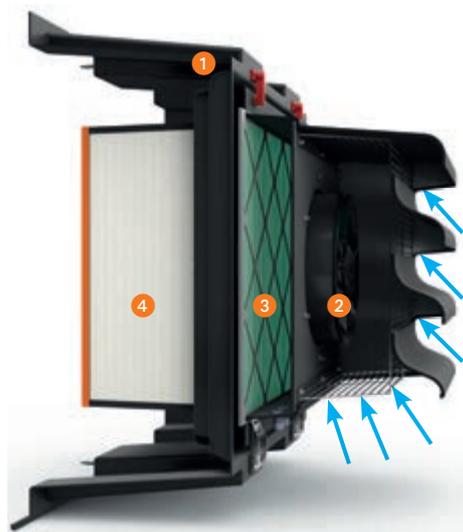
pressure ventilation). In addition to PRRS viruses, other airborne aerosols (influenza viruses and mycoplasmas) are also filtered efficiently from the fresh air. This considerably reduces the risk of infections and reinfections

with the PRRS virus.

Big Dutchman offers different versions of the filter systems: for decentralised and for central fresh air distribution.

FAF 1500

For decentralised fresh air distribution



FAF 1500: air entering the filter



FAF 1500: main filter



Functional diagram

The FAF 1500 filter unit was developed specifically for use in combination with the wall inlets of the Big Dutchman CL 1200 series. The air flow rate of FAF 1500 (max. 1750 m³/h at 0 Pa) corresponds to the air flow rate of the inlets. The filter unit can easily be retrofitted for existing wall inlets.

FAF 1500 consists of the following main parts:

- 1 Housing: made of plastic
- 2 Energy-saving fan: can be controlled between 0 V and 10 V
- 3 Prefilter, class Coarse 65 % according to ISO 16890: made of synthetic material

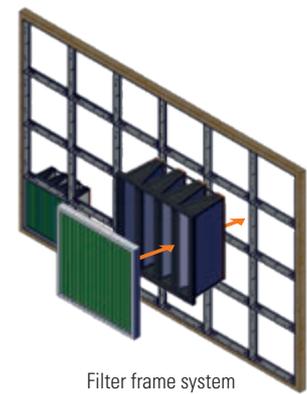
and used to separate coarse dust particles. Depending on the degree of contamination, the prefilter should be replaced every six to twelve months.

- 4 Main filter, class ePM1 80 % according to ISO16890: filters fine particles up to a size of 0.3 µm and any PRRS viruses adhering to them. This filter is made of glass fibre and has been rated as energy efficiency class A according to the Eurovent energy classification. Depending on its contamination, the main filter should be exchanged every three years.

Apart from our standard filters, Big Dutchman can supply filters of other classes upon request.

Big Dutchman also offers ideal solutions for tunnel ventilation systems as well as the use of ceiling inlets. In these cases, one option is installing a filter frame in front of the fresh air inlets, either before or after the pad cooling system. Alternatively, the fresh air can be pushed through the filter bank and into an "antechamber." From this chamber, the filtered fresh air flows into the attic and then enters the barn compartments through ceiling inlets.

The prefilters and main filters can easily be clicked into spring plates without tools. This efficient snap-in system significantly reduces maintenance work. The system is modular, i.e. the size of the required filter banks is very flexible and can be adjusted for barns of any size.



Filter frame system

APT 20000

For central fresh air distribution with positive or equal pressure ventilation systems

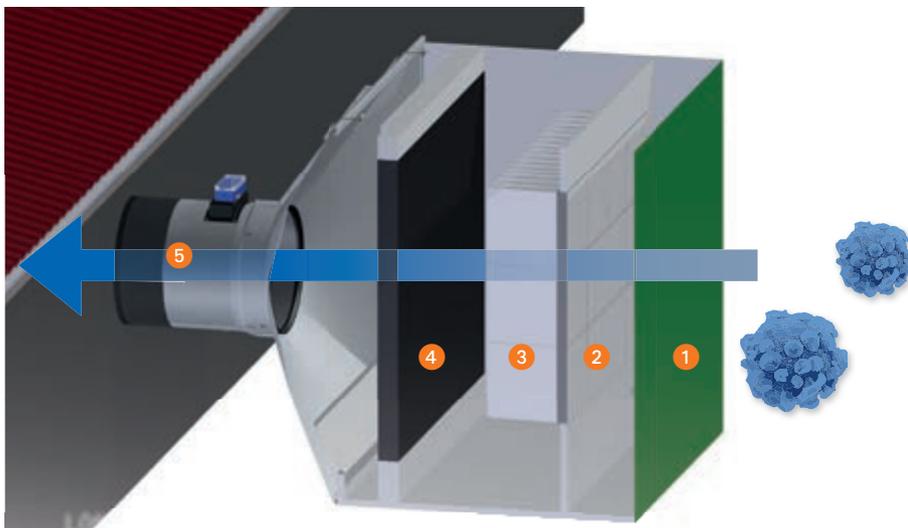


Installation for central fresh air distribution



Use in a grandparent sow house

If the fresh air enters the barn centrally, the filtered air is pushed into a central air channel and can also be cooled, if necessary. From this channel, the air reaches the individual compartments and the pigs through perforated air channels, ceiling inlets or FAC fresh air distributors. Due to the positive pressure ventilation system, the requirements regarding the building's air-tightness are not as exacting.



Functional diagram of the PRRS filtration system APT 20000 for central fresh air distribution

APT 20000 consists of the following five main parts:

- 1 Wind protection netting: prevents the entry of foreign objects and coarse dirt particles
- 2 Prefilter, class G4 according to EN779: separates coarse dust particles and any adhering PRRS viruses
- 3 Main filter, class ePM1 80 % according to ISO16890: filters fine particles and any adhering PRRS viruses
- 4 Cooling module: simultaneously cools the fresh air, if required
- 5 Ventilation pipe with fan and shutter

The advantages at a glance

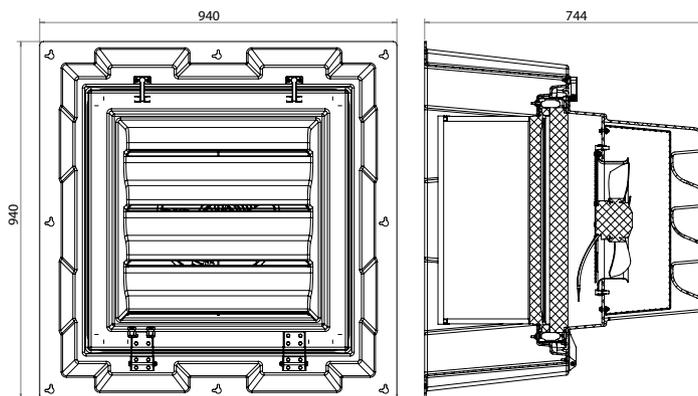
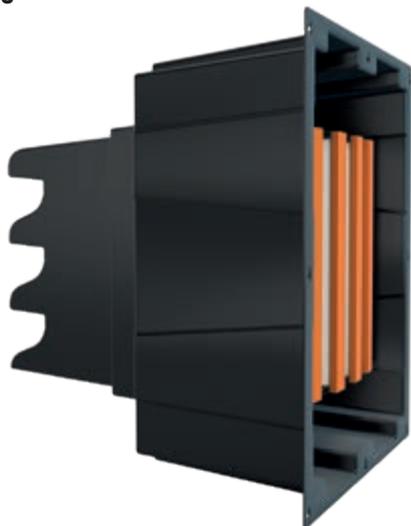
- ✓ introduction of the PRRS virus via the fresh air is reduced very efficiently;
- ✓ livestock not infected with PRRS show a better biological performance;
- ✓ fewer secondary infections in piglets and finishers reduce the amount of required medication;
- ✓ different models are available, depending on the type of fresh air supply;
- ✓ if requested, the fresh air can be cooled simultaneously (only available for APT 20000);
- ✓ the main filter has energy efficiency class A and maintains it for the entire service life;
- ✓ the filter cartridges for prefilter and main filter are easy to exchange;
- ✓ low maintenance requirements.

Technical data and dimensions

Type		FAF 1500	APT 20 000
Air flow rate*	m ³ /h	1750	20000
Fresh air distribution		decentralised	central
Positive pressure ventilation		yes	yes
Cooling		no	yes
Dimensions (L x W x H)	mm	744 x 940 x 940	3220 x 2800 x 2400

* The indicated air flow rates were determined with clean filters and fully opened fresh air inlets.

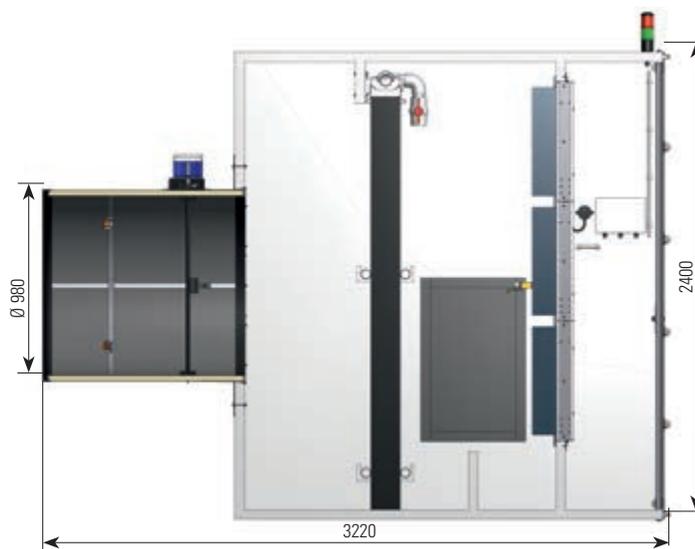
FAF 1500



Air flow rate*

Positive pressure	Fan speed (m ³ /h)		
	Pa	100 %	80 %
0	1750	1650	1200
+10	1650	1550	1050
+20	1600	1500	1000

APT 20000



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