Equal Pressure

System Description

Descripton
The equal pressure system is used in houses with exhaust through roof or wall, and air inlet through roof or from inner loft. The system operates independently of wind pressure, and the unique design of roof cowling is secured against entering of wild birds.

Components
- Exhaust Ø600 or Ø800 to install in the roof or the wall.
- The capacity of the fan (in the exhaust) depends on number of animals.
- Air inlet - Star diffuser Ø600 or Ø800 including fan in the air inlet. The fan size is calculated at request.
- Controller - PigCenter/PigMaster which is capable of controlling all kinds of pig houses.
- To control the dampers in the exhaust and the star diffusors in the inlet, a Linak actuator or a neptronic 2060/ 4060 is to be used.
- The star diffusors and the dampers are connected with stainless steel wire and piano string, which are very resistant to influence by heat and coldness.

Function
When the system is controlled by the Pig-Center/PigMaster all the fans will operate infinitely variable and will be single-phased, but the temperature and humidity will be regulated effectively with the Pig-Center/PigMaster.
The dampers in the exhaust and the star diffusors are each controlled by a damper motor to achieve the desired pressure, normally 0 Pa inside the house.

Advantages
- Exhaust with high capacity.
- Roof exhaust and air inlet in black or grey polypropylene. Air inlet with a diameter of 600 or 800 mm.
- Materials which are easy to clean, stands up to high pressure cleaning.
- Separate controlling of the dampers in the exhaust and the diffusors in the inlets.
- Separate control of fan revolutions in air inlet and exhaust.
- Emergency opening on all types.
- Operates independently of the wind pressure.

Air inlet

Exhaust

General fittings

Fan

Linak

Star diffuser with distribution plate

PigCenter/PigMaster

Functional Description

The system operates with 0 Pa calculated according to the size of the house and number of animals.

The air inlet is mounted close to the ceiling, presenting more advantages:

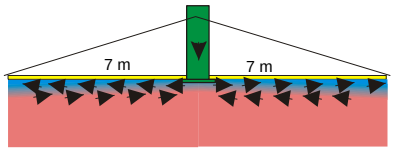
- The “adhesiveness” of the air is fully used and allowing a 41% increase in air travel before it drops from the ceiling
- Less material consumption
- Easier to clean

In cold conditions, due to the large diameter and upward curve of the bellmouth the air will be directed a long distance along the ceiling before starting to drop whilst being warmed by the heat inside the house.

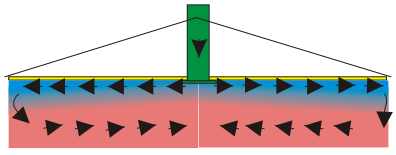
During normal and warm external conditions the star diffuser is automatically adjusted to direct the air in an increasing downward dirc-tion so that even in extreme external condi-tions good ventilation is achieved amongst the animals.

It is important that the house is airtight in order to build up a constant low pressure.

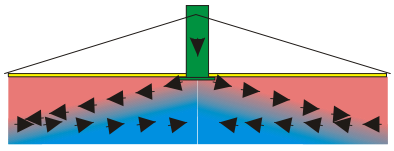
Schematic overview of the “adhesiveness” of the air



Effect of the adhesiveness of air at minimum opening - the air adheres to the ceiling.



Effect of the adhesiveness of air at 1/3 opening - the air is starting to drop off the ceiling.



Air distribution at full opening
the air is directed towards the floor

Placing: