

VERIFICATION PROPOSAL

Product name: Agro Clima Unit 200, type 2.5

Verification body		Proposer	
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Date quick scan	21-06-2012		

Previous verification performed

Yes (note date)		No	X
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Description of technology – technical documentation

The potential ammonia emission reducing principle of the Agro Clima Unit is the drying of the manure layer caused by the heat exchanger and the in-house air circulation that is included in the system. The heated incoming air that has passed through the Agro Clima Unit is blown into the house at the top of the building. The system includes an internal mixing of in house air which potentially results in homogenisation of in-house temperatures and improved drying of the manure layer.

The Agro Clima Unit is normally situated next to the chicken house (See Figure 1 and Figure 2). Air is drawn through the Agro Clima Unit to the ridge of the chicken house and distributed to the front and back side of the building by means of four additional in-house supporting vents. This results in an improved distribution of the fresh air in the building. When air is drawn by ridge vents the in-coming air is mixed with the air from the Agro Clima Unit by means of circulation vents. The mixed air is pushed towards both ends of the building at the top of the house. The mixed air is then pushed back towards the centre of the pen above the chicken and the litter layer.

The ACU Clima⁺ 200, type 2.5 has a max air capacity of 22,300 m³ air h⁻¹. In the first weeks of the production cycle, when the need for heating is high and the need for air exchange is low, the air flow through the ACU was gradually increased from 8 to 100 % of the max air capacity of the ACU. In the last part of the production cycle, when the need for air exchange was higher than the max capacity of the ACU system, the ventilation was performed by both the ACU system and the ridge ventilation system. Three weeks after the introduction of the broilers to the housing section, when external heating of the broiler houses was no longer required, the air exchange through the ACU system was reduced to 75 % of its max air capacity.



Figure 1. Picture of the Agro Clima Unit situated outside a poultry house. Ventilation air to and from the poultry house are drawn through the Agro Clima Unit by a counter current principle to utilise the heat content of out flowing air to heat up inflowing air.

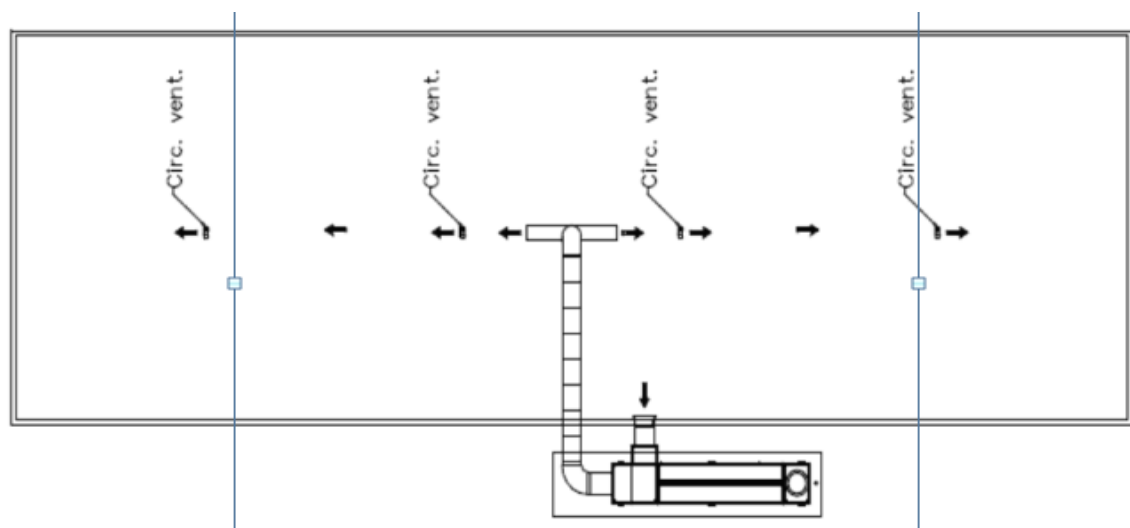


Figure 2. Drawing of the air circulation system inside the broiler house. Air is drawn through the Agro Clima Unit to the ridge of the broiler house and distributed to the front and back side of the building by means of four additional in-house supporting vents.

Intended application of the technology

The intended application of Agro Clima Unit is defined in terms of the matrix and the purpose of the technology. The matrix is the type of material that the technology is intended for. In the case of Agro Clima Unit the matrix is exhaust air from ventilation of poultry housing systems.

The purpose of a technology is defined in terms of what measurable properties that are affected by the technology and how these properties are affected. In the case of Agro Clima Unit the purpose is to reduce ammonia emission from poultry housing systems.

Initial performance claim:

Proposer claims a 30 % reduction in ammonia emission from broiler housing systems with Agro Clima Unit installed compared with similar broiler housing systems without Agro Clima Unit installed.

Description/principles clear?	Yes	X	No	
Declared performances described?	Yes	X	No	
Innovative technology?	Yes	X	No	
Ready to market?	Yes	X	No	
Prototype in advanced stage of development?	Yes	X	No	

Remarks out of quick scan to be considered:

A new test has to be planned and carried out to generate the necessary data for the verification since there are no existing test data available.

Verification body:

Date	Name	Signature
03-07-2012	Amparo Gomez Cortina	Original signed 03-07-2012