DOL 32T Tunnel Computer

Climate Control in Tunnel Livestock Houses


SKOV

Climate for Growth

DOL 32T - Advanced but simple

Climate Control

DOL 32T Tunnel computer is specially designed for controlling indoor climate in livestock houses with high set point accuracy. It continuously monitors and controls the indoor temperature and humidity and calculates air velocity as well as water consumption required for the cooling.

Single and double Tunnel

DOL 32T can operate single tunnel ventilated houses as well as double tunnel ventilated houses if required. All measured data and settings are displayed in codes and figures. Therefore it is very easy for the operator to manage the key parameters accurately and quickly. Codes can easily be translated into any local dialect or language used by the farm personnel.

Working Principle

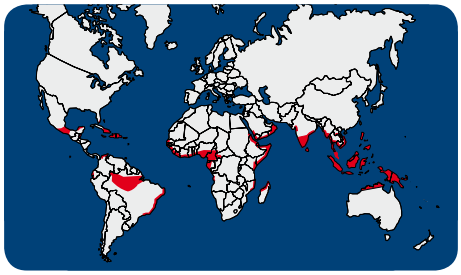
When the cooling starts and the indoor temperature drops, the ventilation automatically decreases. Hence, the effective indoor temperature is still maintained at the set point.

Thanks to this control principle, it is no longer necessary to engage and disengage the cooling system repeatedly. Thus, the service life of the evaporative cooling pads is significantly extended. Electrical wires for the fans, heaters and pumps are connected with the climate controller through power contactors placed inside the modular wiring boxes.

The DOL 32T controller software is based on the 'real air' principle (the minimum ventilation requirements per animal are entered into the DOL 32T in m^3/h/animal).

The DOL 32T is then constantly adjusting the indoor temperature according to the temperature felt by the animals (i.e. actual indoor temperature less the chilling effect of the moving air inside the house). Temperature sensors installed inside and outside the tunnel house and the humidity sensor inside the house constantly provide the climate controller with necessary data. Based on these data, the climate controller calculates the optimum ventilation and humidification rates and regulates the indoor climate accordingly.

The climate controller contains several pre-set programs for optimum cooling and humidity control (heating is optional). This assures the best indoor climate conditions for any kind of livestock during its entire life.



Key Functions

Cooling

The cooling management system ensures that there are always combined parallel set points of both humidity and temperature, utilizing the measurement of ambient climate condition. If the humidity level is too high, the system automatically stops the water pumps.

Below the most important facilities are listed:

- MultiStep® fan control
- Control according to "real air"
- Calculates the amount of evaporated water in the cooling system
- Handles long houses where double tunnel is required, meaning fans in both house ends
- Displays inside air velocity in m/sec. or f/m
- Displays chill effect and effective temperature in display
- Possible to use password
- Humidity control with/without heat
- Control of cooling and humidification
- Extensive alarm functions
- Curve control of temperature, humidity and ventilation
- Water meter possibility for monitoring drinking pattern

Key Functions

Pad Temperature Sensor

Temperature sensors installed behind the pad wall constantly monitor and calculate the water consumption of the evaporative cooling pads. They also send an alarm alert in case of malfunction of the evaporative cooling pads or water pumps.

Humidity Control

DOL 32T is designed to control the indoor air humidity. If the humidity level is too high, the controller automatically lowers the temperature set point by 0.1–2° C and thereby increases the ventilation in order to remove the excess humidity.

Analogically, if the indoor air humidity is too low, the controller activates water pumps and thus starts the humidification process. The ventilation decreases.

Heating – optional

DOL 32T can activate any method of house heating, from steam and water coils, to gas and light-oil heaters.

Alarm Functions

Alarm functions monitor and signal system faults as well as equipment breakdowns, thus facilitating the problem detection and repair. A fully programmable alarm output is available for system faults and equipment breakdowns with ready interface to any GSM dial-up equipment or any other communication device.

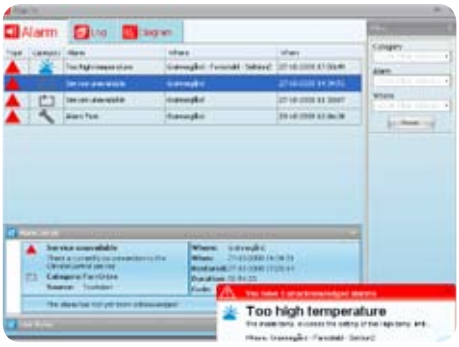
Data Reading

Data management features inside air velocity; chill effect and effective temperature are displayed directly on the screen of the controller.

FarmOnline Management

FarmOnline is a management tool, which SKOV has developed for use by the ever-larger pig and poultry farms. The advantages of FarmOnline are as follows:

- Remote configuration of house computers
- Optimised user interface integrating use of icons and graphical elements
- Live connection to the house computers - via 100 Mb LAN Ethernet
- Communication via FarmOnline® WebLink to older house computers
- Fast data overview – graphically or in tabular form
- Detailed alarm log, history and analysis
- Common IT standard - warrants communication with other systems



Alarm survey with pop-up.

SKOV supply climate and production management systems for animal production the world over. Our solutions are technologically advanced, user friendly and individually adapted to meet the needs of our customers.

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