



# Big Dutchman®



## **135***pro* & **235***pro*

Climate computers for optimum climate control  
in every pig house

# 135pro or 235pro in combination with BigFarmNet hardware



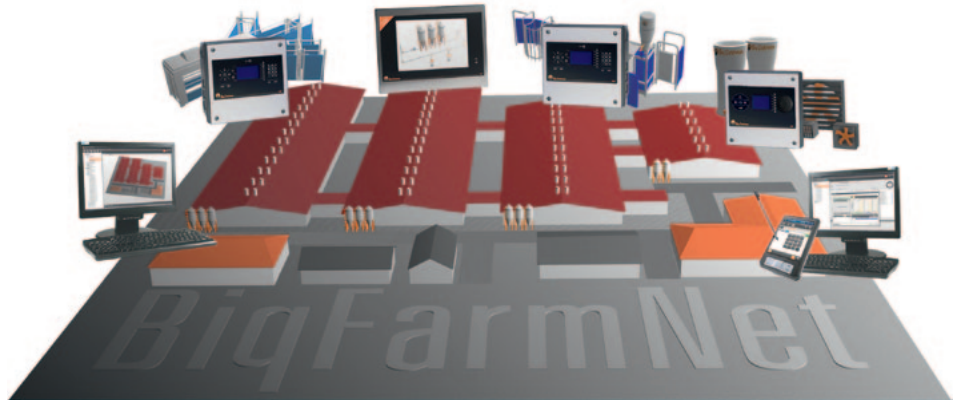
Big Dutchman's new climate computers **135pro** and **235pro** are an important prerequisite for a reliably working ventilation system in your pig house, no matter whether this concerns sows, piglets or finishing pigs. Both computers are available for one or two house compartments, the only difference is that the **235pro** provides more functions. Precise control, functional reliability and user-friendliness are, of course, important characteristics of both computers. In addition to temperature and humidity control, the functional range also includes heating, cooling and wetting. There are also several pause functions available, such as soaking for example.

The most important advantages at a glance:

- ✓ **PID climate computers:** The temperature in the house is regulated quickly and precisely to the desired level.
- ✓ **USB flash drive:** For easy installation of new programs and customised configurations, it also allows the farm manager to



**BigFarmNet** is a new control and management system developed by Big Dutchman which can be used for all types of pig production. The software itself is very user-friendly and has very similar easy-to-use applications no matter whether it concerns climate control, feeding or data processing. BigFarmNet allows you to manage the house climate, the computer-controlled feeding system and create all administrative evaluations for the sow barn and/or piglet and finishing barn with one single software solution. All computers used for these tasks are



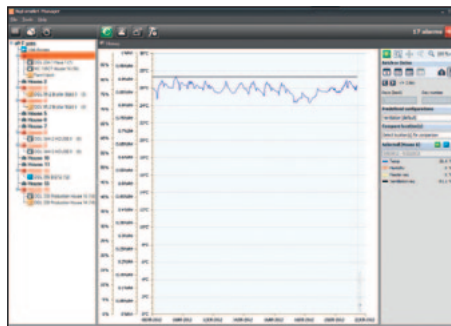
The best prerequisite for a cost-efficient and successful production is one single all-in-one software solution for all tasks on your farm – no matter whether it concerns sow management and/or finishing houses, whether it is used for one house or an entire farm complex, in one location or spread over several locations.

connected with each other by means of a network. This means all data is always synchronised and available from any computer no matter whether the computer is located inside the farm office or in the barn.

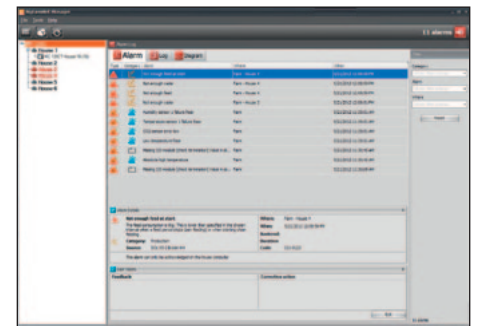
The **BigFarmNet-Manager** PC program allows you to visualise, analyse and steer the entire house climate, as well as all production data comfortably from an office PC. Settings in regard to feed, water and light can be made and will



Current climate situation



Climate overview



Alarm overview

# and the BigFarmNet-Manager software

create a backup copy with the individual settings of his climate computer.

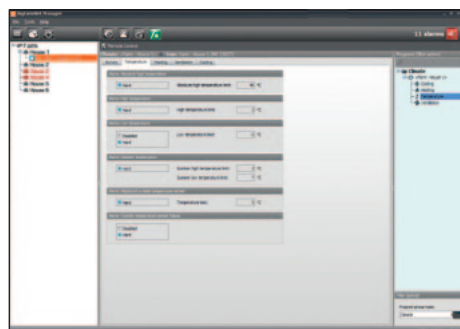
- ✓ **Display:** graphically displays any relevant curve progression. Functions that are used on a daily basis are immediately available in the menu → easy to operate.
- ✓ **Different user levels:** The user levels are password protected, non-authorized persons cannot change the computer settings.
- ✓ **Modular hardware:** Easy to extend when new functions have to be implemented.



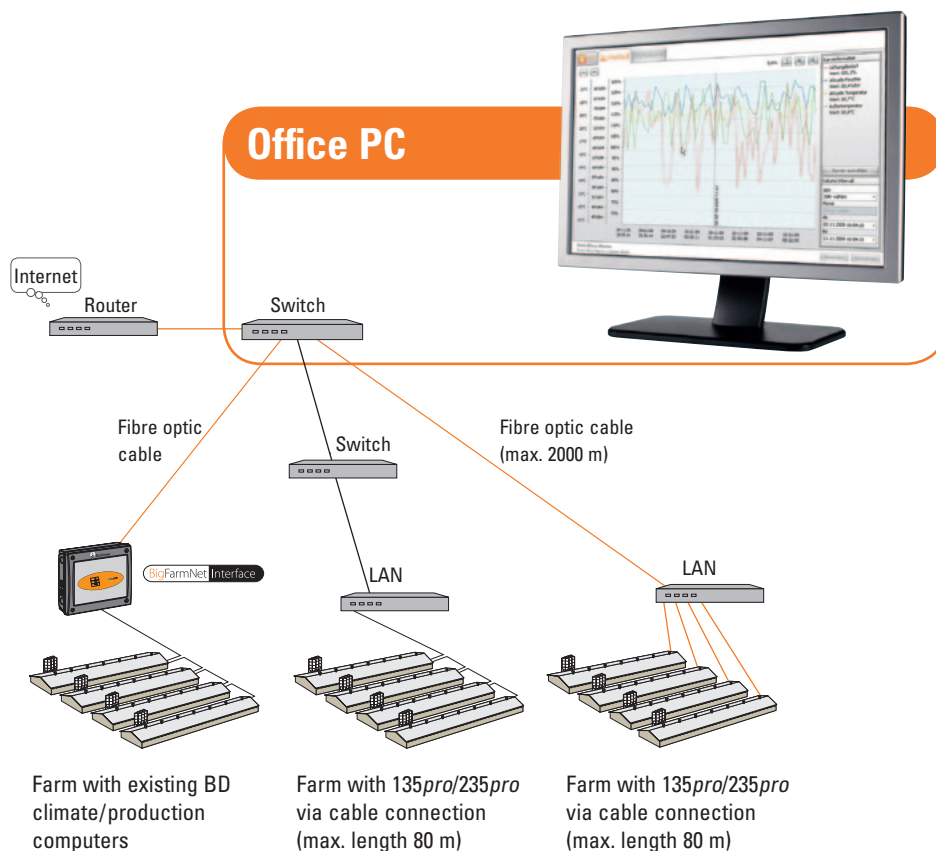
## Advantages

- ✓ the software uses simple, easy-to-understand symbols;
- ✓ quick data overview, both as graphs and as lists;
- ✓ detailed alarm protocol, history and analysis;
- ✓ fast connection to the office PC via LAN Ethernet in combination with fibre optic cables;
- ✓ communication with existing computers via BigFarmNet interface;
- ✓ utilisation of standard IT components;
- ✓ remote data access via network.

automatically be transferred to other houses that are running in the same production mode. This creates the best possible conditions to fully utilise the genetic potential of the animals, save costs and run a steady and profitable operation.

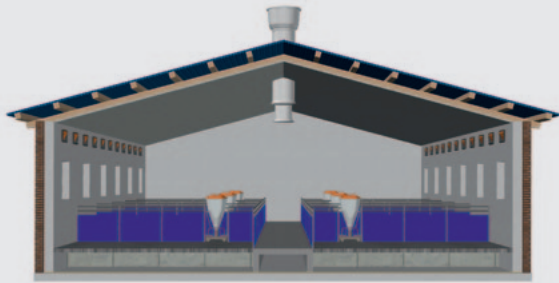


Data remote access

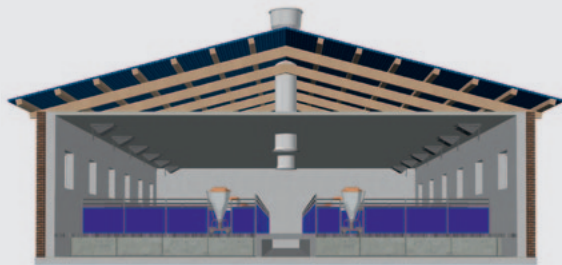


# Ideal climate in the pig house - an ideal ventilation solution

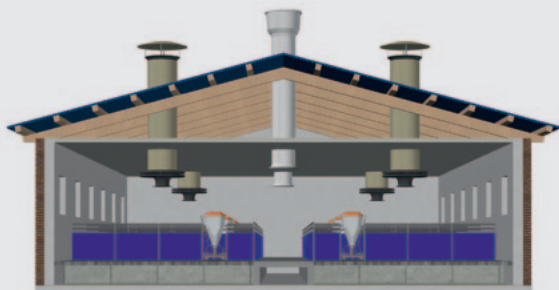
## Components for high-velocity ventilation:



High-velocity ventilation over wall inlets and exhaust air chimneys



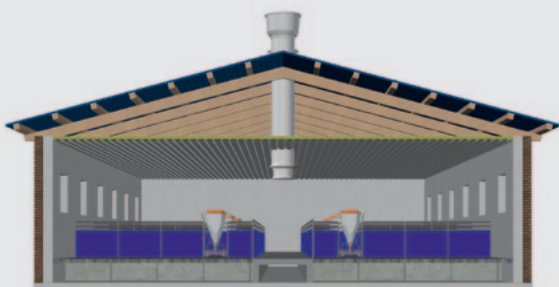
High-velocity ventilation by means of ceiling inlets and exhaust air chimneys and wall fans



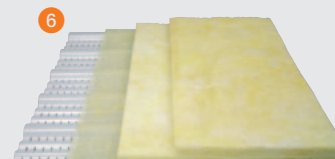
High-velocity ventilation by means of fresh air chimneys and exhaust air chimneys and wall fans



## Components for diffuse fresh air supply:



Diffuse fresh air supply by means of DiffAir ceiling and exhaust air chimneys





# for every customer

## Fresh and exhaust air

For the creation of a stable negative pressure ventilation, respective fresh air and exhaust air units are required. Big Dutchman can offer you suitable components for any type of ventilation system.

### 1 Servo motor CL 75

- ✓ regulates the flap position of wall and ceiling inlets as well as the FAC fresh air chimney
- ✓ compact design, robust and maintenance-free
- ✓ standard version with one steel cable and two lines; extendible
- ✓ relay-controlled and available for 24 V DC as well as 230 V AC
- ✓ electric switch for manual operation inclusive

### 2 Wall inlets CL 1211 F or CL 1200

- ✓ optimal fresh air supply → air can enter the house from one side or from both sides
- ✓ available as flange inlet or for incorporation in a wall
- ✓ seals the house air-tight
- ✓ can be opened either all at once or individually

### 3 Ceiling inlet CL 1500

- ✓ optimal fresh air supply → the air is always guided along the ceiling, prevents draught air
- ✓ inlet flap opens through downward pull
- ✓ can be opened either all at once or individually

### 4 Ceiling inlet ZED 5000

- ✓ high air rate → optimal for additional ventilation in the summer time in combination with DiffAir spray-cooling ceiling
- ✓ can also be used as aisle ventilation above the feed aisle or as fresh air opening for central aisles
- ✓ can be opened all at once

### 5 Fresh air chimney FAC

- ✓ fresh air is guided into the house by means of the roof
- ✓ rugged pipe, GRP-coated on the inside and on the outside, with 30 mm strong insulation made of polyurethane
- ✓ recirculation unit ensures a uniform, draught-free distribution of fresh air, even in case of low outside temperatures
- ✓ fresh air distributor with an 8-pocket structure → stable air jet, even in case of minimum ventilation
- ✓ can be controlled centrally or locally

### 6 DiffAir spray-cooling ceiling

- ✓ the fresh air is supplied uniformly over the entire ceiling → homogeneous distribution of fresh air
- ✓ also acts as economic ceiling insulation
- ✓ consists of trapezoidal plates (GRP or aluminium) and a two-ply layer of special mineral wool

### 7 Exhaust air chimneys CL 600 and CL 920

- ✓ large air capacity
- ✓ the CL 600 consists of polypropylene and has a smooth, dirt-repellent surface
- ✓ the self-supporting roof plate construction renders additional suspension unnecessary
- ✓ corresponding pipe fan is easy to install and available in different sizes
- ✓ two diameters (650/920 mm) are available

### 8 BD exhaust air chimney VC

- ✓ consists of 30 mm thick polyurethane pipes
- ✓ stable coating – inside and outside – with smooth, glass-fibre reinforced polyester
- ✓ simple assembly of the pipe fans
- ✓ intake nozzle and diffuser permit an improved intake and exhaust flow of air
- ✓ depending on the required air rates available in different sizes (Ø 370 bis 1270 mm)

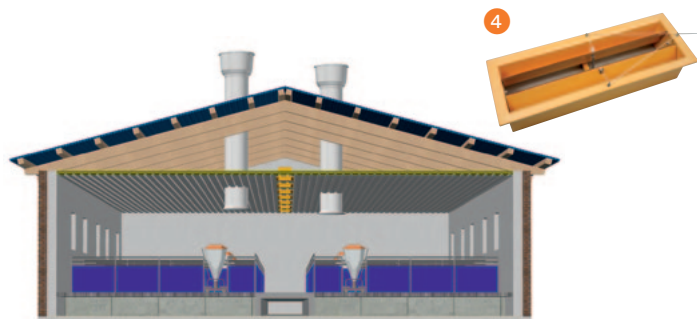
### 9 Axial fan with frame

- ✓ the blades are made of aluminium die-casting → long service life
- ✓ high air rate at a low energy consumption
- ✓ easily controllable, low sound level
- ✓ for incorporation in a wall
- ✓ the frame has an aerodynamic shape and is made of high-quality steel casting
- ✓ available with diameters from 350 to 920 mm

## CombiDiffuse ventilation

This is a combination of two ventilation systems. In case of low outside temperatures, fresh air is supplied by means of the DiffAir ceiling.

In case of high outside temperatures, the climate computer additionally opens ZED 5000 ceiling inlets in order to create a cooling effect by means of the higher air speed.



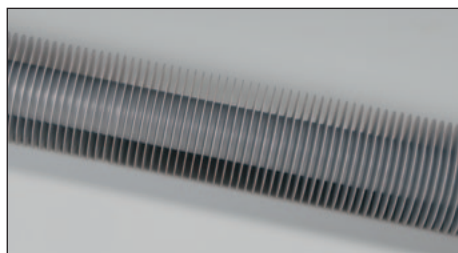
# Heating

Optimal house temperatures have a decisive influence on health and performance of your livestock. The following heating systems are available:



## 1. Twin or Delta pipes

- ✓ warm water heating
- ✓ are particularly well suited for diffuse fresh air supply (DiffAir, spray-cooling channel, below-floor ventilation)
- ✓ are made of aluminium and therefore have a very good thermal conductivity (180-200 Watt/m) at a low weight
- ✓ easy to assemble



## 2. Ribbed heating pipe

- ✓ warm water heating
- ✓ high heat output thanks to large surface area → up to 600 Watt/m
- ✓ made of galvanized iron pipe or of aluminium
- ✓ can be ideally used in combination with wall or ceiling inlets
- ✓ easy to install



## 3. JetMaster, RGA or gas-powered fan heaters

- ✓ without or with flue gas exhaust (RGA)
- ✓ for operation with natural gas or propane
- ✓ temperature-sensitive control
- ✓ flame guard
- ✓ built-in fan with large throwing range → good distribution of warm air
- ✓ the heat generated is 100% beneficial to the animals → no heat loss
- ✓ JetMaster does not require a chimney connection

# Cooling

Keeping the temperature at a comfortable level even on hot summer days, is as much part of climate control in modern pig management as heating in the winter time. There are several different cooling systems available.



## 1. CombiCool

- ✓ high-pressure fogging system, especially developed for compartmentalised houses
- ✓ efficient cooling on hot summer days thus maintaining comfort temperatures
- ✓ can also be used to humidify the house air thus maintaining optimum humidity
- ✓ reduced dust problems
- ✓ special nozzles made of stainless steel with a very low passage rate but an extremely high passage speed → very fine aerosol fog that is distributed evenly all over the compartment



## 2. CoolBox

- ✓ local cooling system with high cooling efficiency
- ✓ high-quality plastic pads are resistant to poor quality water
- ✓ available in different sizes and with different air capacities
- ✓ CoolBox is delivered ready-mounted
- no time-consuming assembly required



### 3. RainMaker

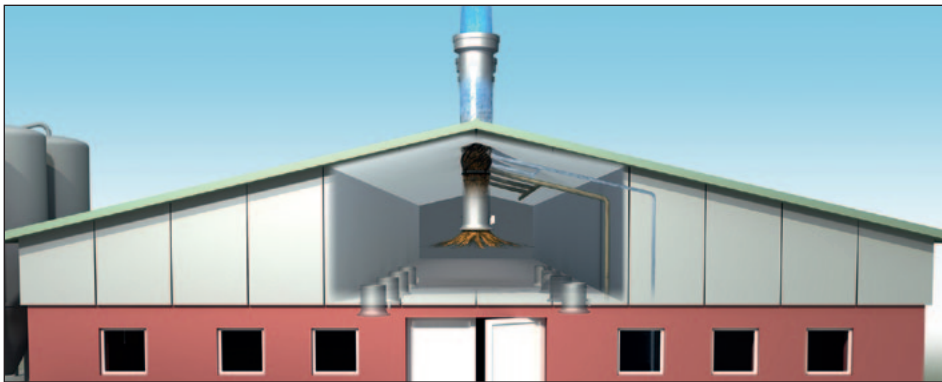
- ✓ cooling system on the basis of evaporation
- ✓ is mainly used in climatic regions with hot and dry summers
- ✓ can also be installed in the roof truss to cool down the air if a DiffAir ceiling is used
- ✓ use of special plastic pads with a long service life and for easy cleaning with a high-pressure cleaner



### Temperature-controlled emergency opening system 378 T

Special attention must be paid to the operational reliability of the ventilation system. Therefore a fail-safe emergency opening system should be installed. The temperature-controlled emergency opening system 378 T helps to ensure survival of the livestock in case of power failure or technical breakdowns. The system comprises a 24 V DC power supply unit with built-in maintenance-free battery and charger and a separate temperature probe.

The temperature at which the emergency opening function is to be activated can be set manually at the 378 T. In case of an emergency the air inlets and outlets will be controlled based on the temperature. The emergency function itself is integrated in the 135/235pro. This means the climate computer monitors the 378 T and will trigger an alarm, if for instance, the temperature limit for the emergency opening function is set too high.



### Central extraction

With this type of exhaust air removal, the exhaust air chimneys are either all located at one gable or they are placed centrally on the roof. The concept of central extraction is also used if an exhaust air washer (HelixX or MagixX) is installed.

### Important functions of the 135pro/235pro at a glance:

- ✓ control of up to 8 MultiStep®-groups → minimum power consumption;
- ✓ DynamicAir → optimises the air exchange in the house by precise recording of the volume flow in the exhaust air chimney;
- ✓ control of different heating systems on/off or steplessly in case of warm water heating systems;
- ✓ display of exhaust air volume in m³/h;
- ✓ control of cooling and humidification;
- ✓ cycle ventilation during minimum ventilation;
- ✓ CombiDiffus-ventilation → combination of two different ventilation systems during high/low outside temperatures;
- ✓ humidity control with/without heating;
- ✓ extended control based on pre-set curves (temperature, heat, humidity, underfloor heating, minimum and maximum ventilation);
- ✓ registration of consumption rates of up to 4 water meters;
- ✓ water alarm in case of over- or under supply as compared to the previous day;
- ✓ sequential control of 2 stepless fan groups;
- ✓ control of up to 4 timers for light/feeding;
- ✓ trend curves;
- ✓ pause function (wetting, washing, drying);
- ✓ anti-freeze protection when the house is empty;
- ✓ ice protection → prevents freezing of the air inlets;
- ✓ active control of minimum ventilation by means of a CO<sub>2</sub>-sensor;
- ✓ environment function → temperature or ventilation in the house can be increased temporarily during inspection rounds;
- ✓ log file for alarm and operation;
- ✓ access code;
- ✓ connection to the BigFarmNet Manager PC program.

## 135pro and 235pro are available with different extension stages

Type		135-S	135-L	235-S*	235-L	235-XL
Air supply:	Air inlet 1	✓	✓	✓	✓	✓
	Air inlet 2	-	-	✓	✓	✓
	Fresh air fan 1	-	-	✓	✓	✓
	Fresh air fan 2	-	-	✓	✓	✓
	CombiDiffus	✓	✓	✓	✓	✓
Exhaust air:	Exhaust air chimney 1	✓	✓	✓	✓	✓
	Exhaust air chimney 2	-	-	✓	✓	✓
	Speed control exhaust air 1	✓	✓	✓	✓	✓
	Speed control exhaust air 2	-	-	✓	✓	✓
	No. of MultiStep groups	-	1	2	4	8
	DynamicAir	✓	✓	✓	✓	✓
Central extraction:	Control of a central extraction system	-	✓	✓	✓	✓
Emergency opening:	Temperature-controlled emergency opening	✓	✓	✓	✓	✓
	Emergency air supply	✓	✓	✓	✓	✓
Heating:	Space heating	✓	✓	✓	✓	✓
	Floor heating	-	✓	✓	✓	✓
Soaking:		✓	✓	✓	✓	✓
Cooling, humidifying:		-	✓	✓	✓	✓
Ice protection:		✓	✓	✓	✓	✓
Sensors:	Temperature-sensor space	✓	✓	✓	✓	✓
	Temperature-sensor floor	-	✓	✓	✓	✓
	Humidity sensor space	-	✓	✓	✓	✓
	Differential pressure sensor	-	✓	✓	✓	✓
	CO <sub>2</sub> -sensor for minimum ventilation	-	✓	✓	✓	✓
	other sensors	-		✓	✓	✓
Timer:		-	✓	✓	✓	✓
Water meter:	Pulse counter	-	-	✓	✓	✓
BFN-Manager:		✓	✓	✓	✓	✓

\* in the basic version, 135-S and 235-S are equipped with 6 relays per compartment. Therefore not all listed functions are available at the same time.

## New CO<sub>2</sub>-sensor and new combi sensor for temperature and humidity



CO<sub>2</sub>-sensor

The CO<sub>2</sub>-sensor is equipped with a high-quality infrared measuring cell which is able to detect CO<sub>2</sub> in a range from 0 to 10000 ppm and can therefore control the minimum ventilation based on the concentration of CO<sub>2</sub> inside the compartment. This saves heating costs and makes for an improved house climate.

The DOL 114 is a climate sensor which measures the relative air humidity and temperature inside the house. It has two analogue 0-10 V outputs and can be installed in a fixed position inside the house as it does not have to be removed during cleaning. A two-colour LED indicates operating status and error diagnosis.



DOL 114 – Combi-sensor



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