



Horticultural fans

Description

The fan systems most in use are installed high and only move the air horizontally and do not create any downwards air movement.

The purpose of the Verti-Fan® system is to create vertical air movement without causing a lot of air movement over the plants. Too much air movement could prove to be harmful to the crop. The vertical air movement is achieved by using a fan high up in the greenhouse, with a plastic hose attached to it that transports the air downwards in a controlled way. The air that exits the hose under the crop will spread out over the ground and slowly stream upwards through the crop.

The excess heat that often remains at the top of the greenhouse is then used beneath the crop, possibly resulting in significant energy savings. The upward air movement between the crop activates the plants through improved CO₂ intake. Also the humidity is lowered in between the plants, thereby reducing the risk of fungal diseases. Verti-Fan can also be installed to move cold air away from the air vents and to cool the crop.

The fan is mounted to the base of the truss with the stainless steel brackets provided or between the trusses with the supplied suspension materials. The hose can be fitted with a specially designed mounting ring, that can be

mounted to the fan very easily. The hose will release the air just below the ground. If desired, a stainless steel ring can be attached to the end of the hose, making it more stable. If there are a lot of obstacles at ground level, preventing the proper distribution of the air, a guide can be mounted to this stainless steel ring.

The fans are specially intended for a vertical arrangement. This type of fan has been customised and this is largely to do with the position of the blades. Furthermore, the housing of the fan is designed in such a way that it can blow through a hose with the smallest possible loss of capacity.

The Verti-Fan® can be used in the cultivation of most vegetables and ornamental plants. A patent has been granted to the system.

Advantages

- o better temperature distribution
- o limited variations in vertical temperatures
- o better distribution of the CO₂
- o better distribution of humidity
- o savings on gas because the minimum pipes need to be used less frequently

Technical details

- o Fan:
 - 230 Volt 50 Hz, 0,20 kW – 0,90 A – 1380 rpm, capacity 3600 m³/h
 - 230 Volt 60 Hz, 0,31 kW – 1,4 A – 1420 rpm, capacity 4100 m³/h
 - built-in thermal protection
 - length of cable: 5 meters
- o Available for the North American market on request (cURus)
- o Dimensions:
 - 485 × 485 mm
 - bell mouth: ø 388 mm, height 183 mm
- o Plastic hose:
 - hose 200 µ (anti crack)
 - ø 388 mm
- o Mounting materials:
 - stainless steel mounting brackets for the truss
 - stainless steel mounting brackets (long type)
 - stainless steel cable 3 mm with clamps
 - stainless steel nuts and bolts
 - stainless steel hose clamp
 - stainless steel ring for hose

There are three methods to fit the fan in the greenhouse, although the hose will be hung in the crop or in the path:

- o Straight mounting brackets
the fan will hang flush to the rafter
- o Lower type mounting brackets
the fan will hang about 30 cm under the rafter
The carefully thought out construction with the oblique lips makes it possible for the lip to raise the awning slightly and fit it flush against the rafter
- o Stainless steel cable
The fan will hang between two rafters. In this case the fan will not suck the cold air when the screen opens



Straight mounting brackets



Lower type mounting brackets



Stainless steel cable





Hose in the path



Hose between the crop

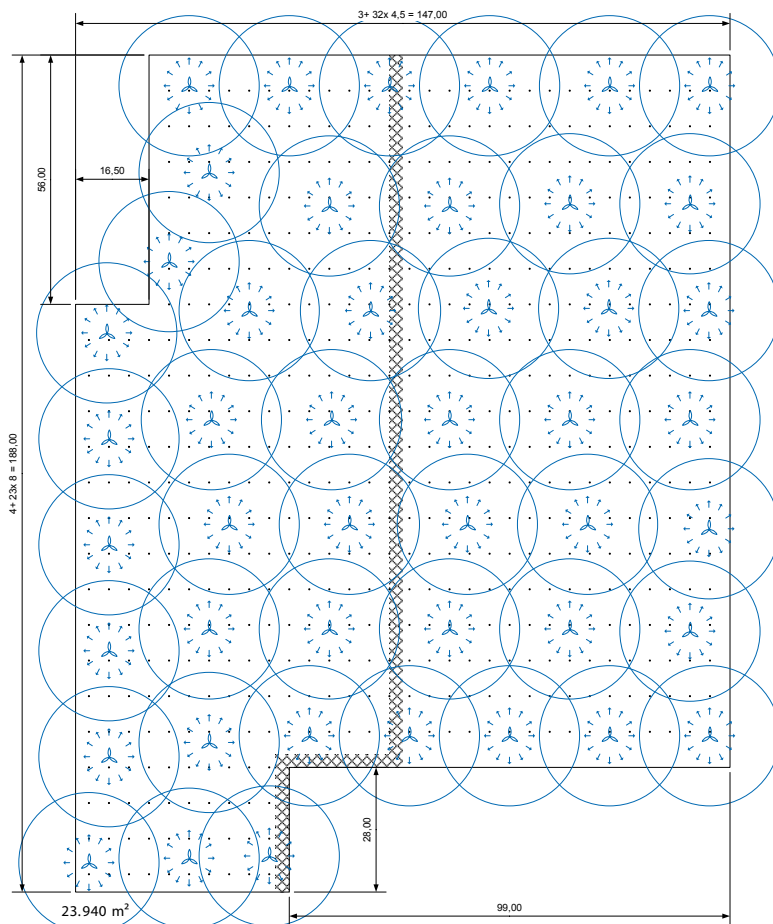
Coupling ring

With the newly developed coupling ring, fitting the ducting to the fan has become really simple. The made to measure ducting pipe is first fitted to the coupling ring – thanks to the accuracy of the dimensions, the ducting fits perfectly around the ring. A s/s hose clamp is used to secure the pipe to the ring. The ring – complete with fitted ducting – then simply click-fits to the fan by means of the assembly pins.

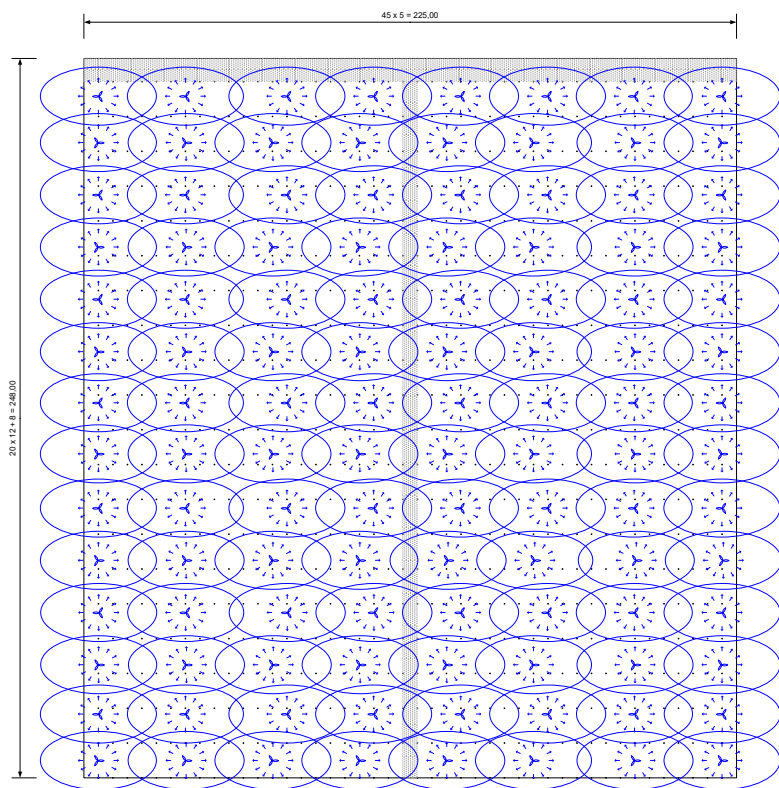


Coupling ring for Verti-Fan®

Sample of Verti-Fan® dividing in strawberries



Sample of Verti-Fan® dividing in tomatoes



Air movement of the Verti-Fan®

