

HOW TO APPLY fontan® ULV AEROSOL GENERATORS IN GREENHOUSES

fontan® Twinstar, fontan® Turbostar, fontan® Compactstar

1. The greenhouse has to be tightly closed during the application as well as for approx. 1 hour after application.
2. Ventilation fans in the greenhouse have to be switched off during application and for approx. one hour after application, so that the horizontal and vertical even droplet distribution which is established by the ventilator and the stator of the fontan® device is not disturbed.
Exceptions are specially installed additional fans for a good droplet distribution in large greenhouses (see attached sketches, page 9, two pages).
If it is possible the house should be kept closed and the ventilation stopped overnight.
3. Best time of application: late afternoon.
4. Before a thorough ventilation is made, the greenhouse must not be entered without wearing proper protection clothes, breathing mask and goggles.
5. Quantity to be applied:

We recommend 2 up to 6 litres total quantity of the fogging liquid for 1000 m².
The calculation is as follows:

Quantity of the chemical preparation according to the recommendation of the manufacturer of the chemical	=	x	grams or millilitres
+ Water	=	y	millilitres
+ Anti-evaporation agent (as for instance, agricultural spraying oils, emulsifiable with water or glycols)	=	10 %	of the total mixture

TOTAL MIXTURE	2, 3, 4, 5 or 6 litres for 1000 m²
----------------------	--

IMPORTANT NOTE

The addition of an anti-evaporation agent to water-based fogging liquids is necessary to prevent a too fast evaporation of the tiny fog droplets.
If the relative air humidity is higher than 90 %, there is no necessity to use an anti-evaporation agent.
If the air humidity is slightly below 90 %, use 5 %, if air humidity is much lower, use up to 10 % anti-evaporation agent.

You should always use the quantity of the chemical preparation which is recommended by the chemical manufacturer, calculated for a surface of 1000 m² respectively the quantity which is normally used to treat 1000 m². Almost all chemicals that can be applied with a sprayer can also be applied with a fontan® ULV aerosol generator. Always follow the local law and rules when selecting a chemical preparation.

Good results will be achieved in case a total mixture of approx. 3 up to 6 litres per 1000 m² will be applied. The quantity of the mixture must never be below 1 litre per 1000 m².

HOW TO APPLY fontan® ULV AEROSOL GENERATORS IN GREENHOUSES

- page 2 -

The following calculation is valid for a standard greenhouse of 40 x 60 m = 2400 m², applying a total mixture of 5 litres per 1000 m². Different greenhouse dimensions and quantities have to be calculated accordingly.

$$\begin{array}{lcl} \text{Calculation of the total mixture for a} & & 5 \text{ litres} \times 2400 \text{ m}^2 \\ \text{standard greenhouse with the dimensions} & = & \text{-----} \\ 40 \text{ m} \times 60 \text{ m} = 2400 \text{ m}^2 \text{ on base of 5 l for 1000 m}^2 & & 1000 \text{ m}^2 \end{array} = 12 \text{ litres for 2400 m}^2$$

6. Filling the spraying tank

There are two alternatives to apply the calculated total mixture with fontan® ULV aerosol generators:

- a) The mixture needed for one single greenhouse is filled into the spraying tank. The unit will switch off automatically after finishing the treatment.
- b) If several greenhouses have to be treated with the same spraying mixture subsequently, the spraying tank can be filled with the total quantity of spraying mixture for several greenhouses. The specific output quantity has then to be set for each house according to the instruction manual. The unit will automatically switch off after finishing the treatment and can then be moved to the next house for the subsequent application.

7. Treatment of greenhouses with low growing plants (flowers, pot plants, low growing vegetables)

The positioning of the unit should be effected according to the enclosed examples: If there is a main path in the middle of the house, this will be the most favourable positioning. If there is no main path in the middle, spraying has to be effected above the plants, positioning the fan at least 30 cm or, better, 50 cm above the plants, with a slight upward inclination of the fan tube.

8. Treatment of greenhouses with high growing plants and a dense vegetation (Tomatoes and cucumbers)

The fan has to be positioned at the lowest possible level with a slight upward inclination of the fan tube.

The application is effected at best along a middle main path – if this is not existing, the unit should be positioned between the middle rows of plants.

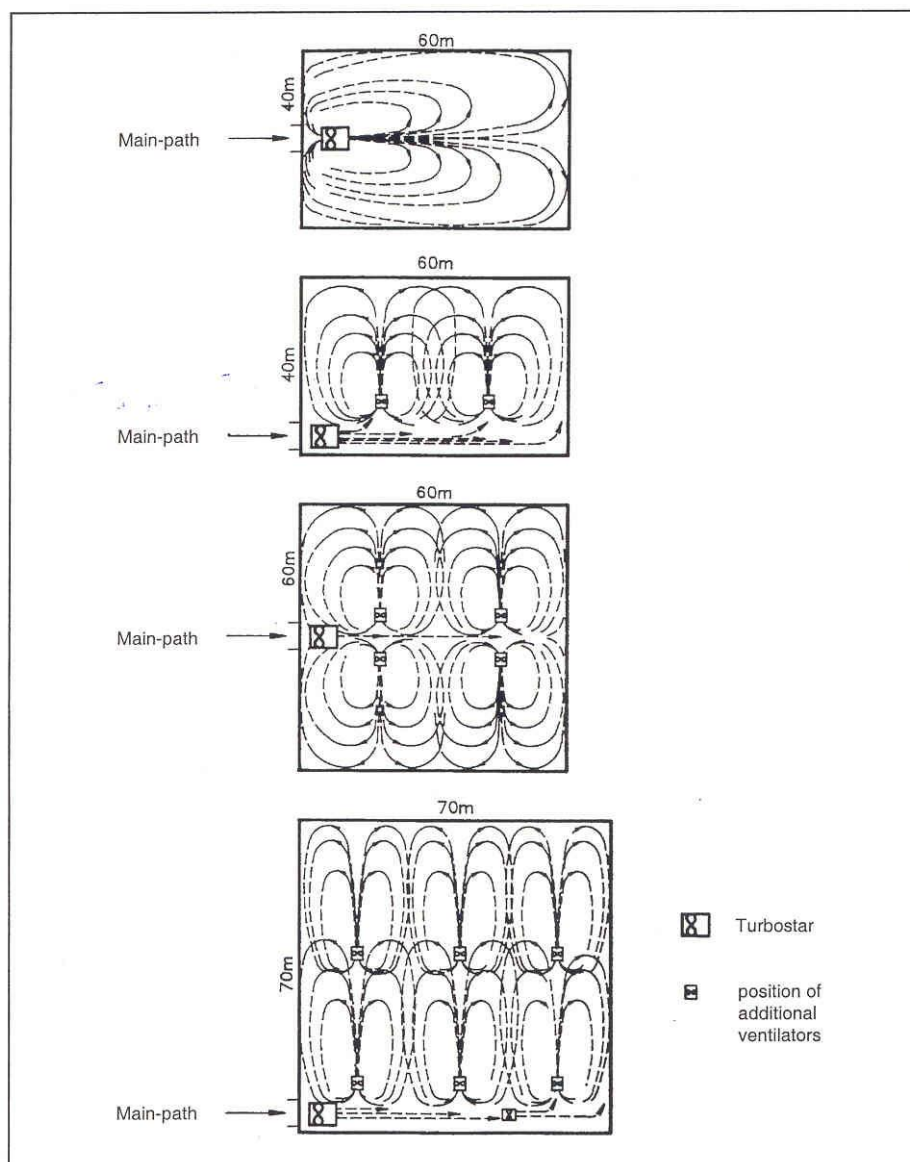
9. In both cases an even horizontal and vertical distribution of droplets is achieved

10. Greenhouse dimensions

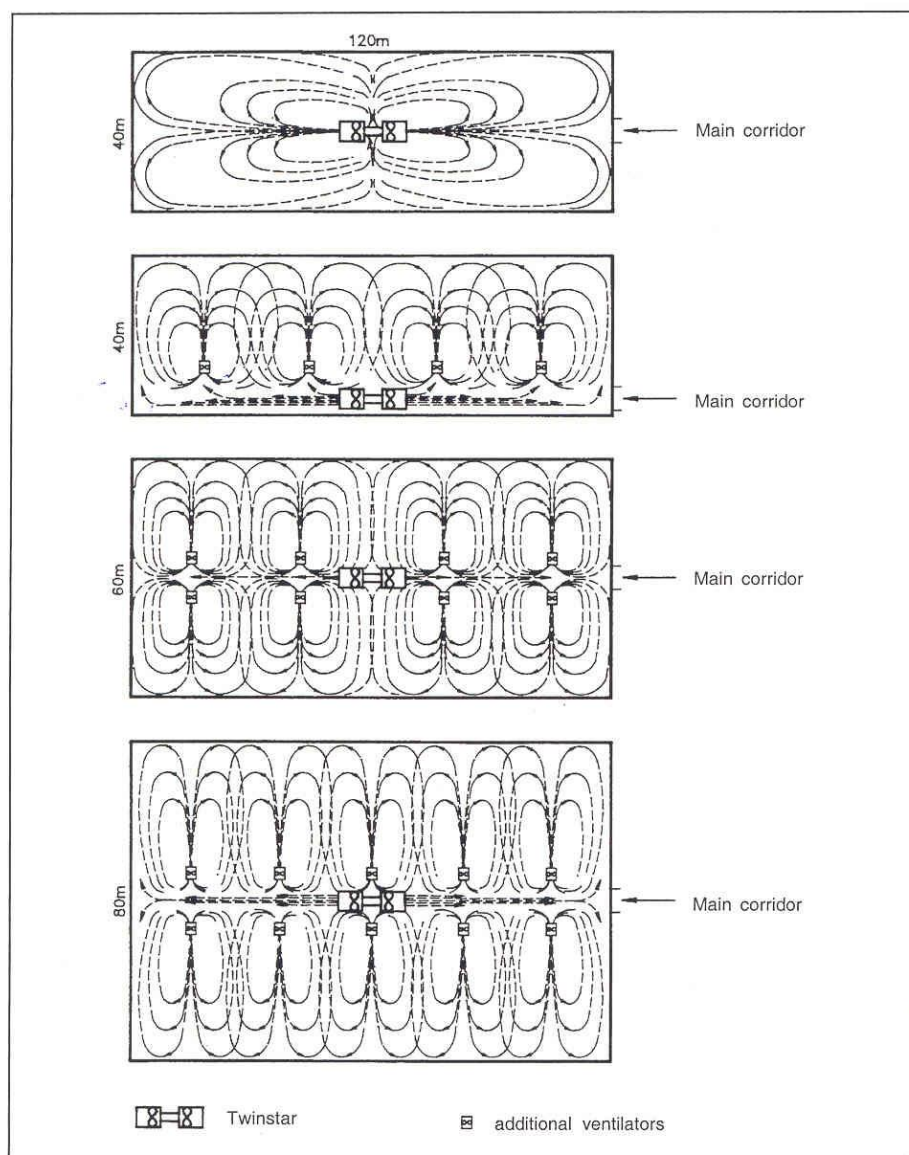
The ideal dimensions of greenhouses are up to 40 m x 60 m (w x l) for fontan® Turbostar and fontan® Compactstar respectively 40 m x 120 m (w x l) for fontan® Twinstar. It is also possible to treat considerably larger greenhouses with one unit from one working position in case additional commercial fans are installed for the distribution of the aerosol droplets (see the enclosed examples).

11. Safety precautions

It is essential that the safety precautions referred to in the instruction manual of the machine are always observed.



III. 2 Examples of machine position



III. 2 Examples of machine position