VentiGel™

MADE IN FRANCE

The solution against frost

setag

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"Late frosts can be fatal for our vines."

VENTIGEL™ is an innovative crop protection system against spring frost episodes. It has been designed and developed by passionate and committed winemakers and industrialists to respond to this increasingly recurrent problem.

VENTIGEL™ combines strong ventilation and on-board heating to simply and effectively dry and heat your plots above critical thresholds. It is entirely manufactured and assembled in France by the POLYPOLES company (33), specialized for 30 years in aeraulic systems.

The advantages of VENTIGEL™

EFFICIENT: Efficient for 2 to 3 hectares, mobile as desired, easy to use.

ELECTRIC: Its high flow helicoid ventilation based on an electric motor is **easy to use and maintenance-free over time** (compared to expensive, polluting and complicated thermal motors).

INTEGRATED HEATING: Its 110 kW fuel oil heating system provides heat to the main air flow. Thanks to its flexible rotating duct, **100% of this energy is used**.

ECONOMICAL: The investment is much less expensive than existing systems and there is no civil engineering work. The installation costs are minimal and **the electricity consumption is only a few pounds per hour**.

ECOLOGICAL: The electric consumption is 12 kWh and **the heating backup consumes less than 11 L/h of fuel**. Once stored, it has no visual impact.

MOBILE: VENTIGEL™ is **less than 1 m wide** and can be placed between the rows of vines. It has its own 3-point hitch.

PRACTICAL: Assembly just requires a forklift and **less than 1/2 hour of work**. Compact, it can be stored on your property at the end of the frost period. VENTIGEL™ requires **very little annual maintenance**.

MADE IN FRANCE : VENTIGEL™ is patented. It is manufactured in France Le Haillan (33) with a group of local subcontractors.

« A dry plant resists frost for 40 minutes to 1 hour, however when wet resistance lasts no more than 10 minutes »
CTIFL publication.

How VENTIGEL™ works.

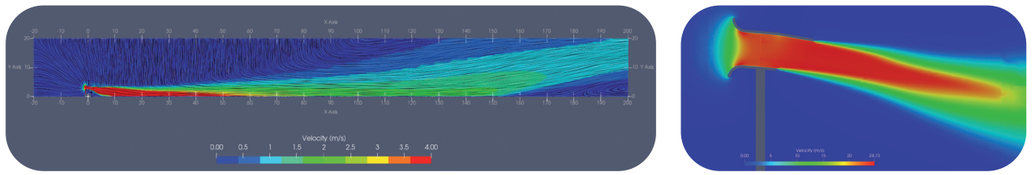
The **first objective** of VENTIGEL™ is to **ventilate early enough** with a powerful jet of forced air and thus dry out the plots and prevent the formation of condensation on the plants. It also allows for the redistribution of rising warm air during a radiation frost.

The **second objective** of VENTIGEL™ is to **provide heat** when temperatures continue to drop during the night.

Its concentric air stream at over 35 m/s (126 km/h) allows for long distances to be covered and still have air movement at 100 m (or 3.14 hectares).

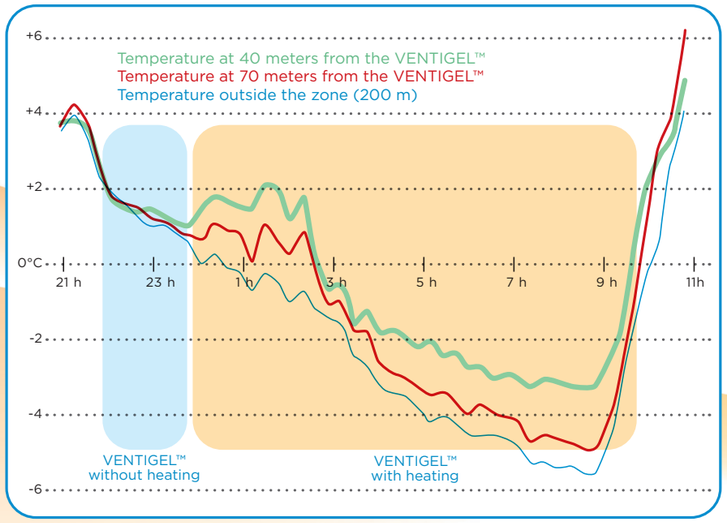
The adjustment of the VENTIGEL™'s inclination allows it to adapt to any type of terrain and its 1/2 cone shaped air outlet allows it to have a wider air jet and remain sufficiently pressed to the ground by the Coanda effect.

The vegetation is thus dried and the cooling by evaporation is limited. The air in the plot circulates. The low points of cold air accumulation are also eliminated.

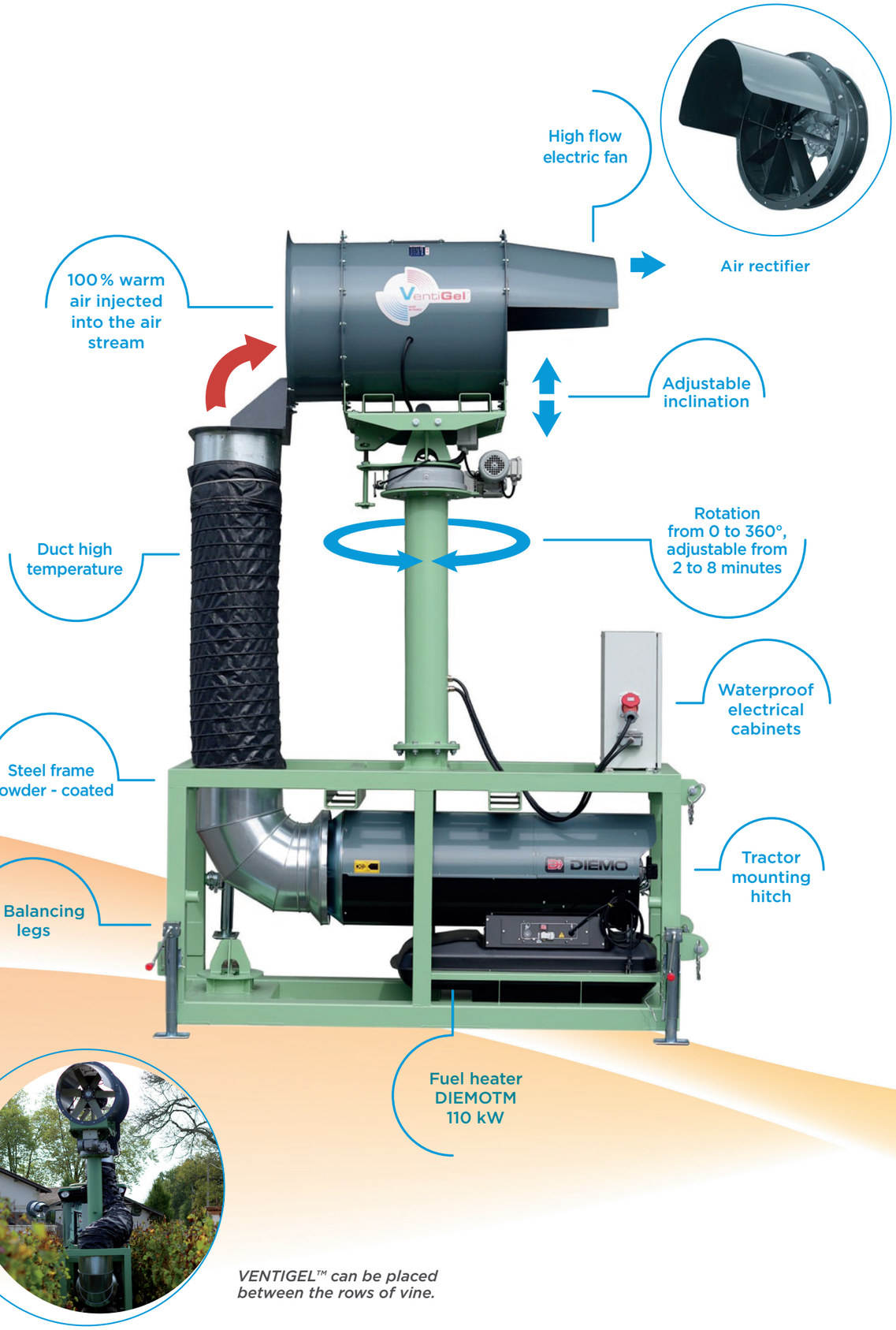


Numerical simulations of air velocities of models V3b

VENTIGEL™ is mobile thanks to its 3-point hitch and can also be easily mounted on an agricultural trailer.
Beware of power lines if you are driving on a road.



Temperature measurements during a night of freezing temperatures.
VENTIGEL™ without heating before sub-zero temperatures and with heating as soon as temperatures drop below 0°C



VENTIGEL™ can be placed between the rows of vine.

VENTIGEL™ electrical requirements : V3c 12 kW or 10.2kW depending on model

3 possible power sources :

Power supply via network : 3 phases + N + Ground
You can run **an extension cable up to 150 m** from your property with a **5G6 cable**
Alternatively, you can install an **individual electrical box** from a power line passing near the areas to be protected.

Generator* owned or rented by you.

Generator on tractor power take-off**

Due to the peak intensity of the electric engine 11 kW :
* New 40hVA or 45KVA recommended.
** New 35kVA minimum recommendation.

Fuel : fuel consumption < 11 liters/h

The on-board heater has an integrated tank of 105 liters. It is therefore designed to last at least one whole night. The admissible fuels are :
- Cold weather fuel oil, as well as diesel fuel.
- The GNR big cold, subject to a complete purge at the end of the season.
- Bio-fuel based on plant/animal mixtures.

Modèle	VENTIGEL™ V3c
Nominal fan diameter	Ø 900 mm
Fan nominal air flow	54 000 m³/h
Motor	9.2 kW - Aluminium or 11 kW - depending on model 1500 rpm
Power supply	TETRA400V-50Hz
Power consumption Amperage	10,2 kW – 21,6 A ou 12 kW - 26A depending on model
Oil heating power Fuel consumption	110 kW – 10,3 L/h
Air output - heating	3950 m³/h
Noise level at 100 m	54 dB(A)
Fuel tank capacity fuel / autonomy	105 litres / 10h
Recommended fuel	Low-temperature fuel / diesel / low-temperature GNR* / bio GNR
Dimensions (with feet)	235 x 96 x H
Height of the fan axis (optional)	3,20 m
Height of stored version	2,65 m
Empty weight	820 kg
Power supply	Three-phases 3P+N+E P17-Tetra 32A
Recommended Electrical potection	TETRA400V circuit breaker – CURVE D
Rotation time 360°	Adjustable from 2 to 8 minutes
Supply air rectifier	✓
Star-delta starting	✓

	VENTIGEL™	Candles	Windmill + Heating	Wind Tower Fuel - Gaz	Heating Wire Infrared
Labour	-	++	+	-	++
Cost	-	++	+++	+	+++
Civil Engineering	NON	NON	OUI	NON	NON
Mobility	++	+	--	+	-
Maintenance	-	--	++	+	+
Pollution	--	++	+	-	-
Origin	FR	?	USA/ESP/IT	NZ/TURQUIE	?

-- Very, very low - Very low + High ++ Very high

Château de Roquemont
Saint-Emilion appellation

« The choice of Ventigel was an easy one, because it's a mobile piece of equipment that can be installed wherever you want, quickly and easily.»

Yves Le Corre
Operations Manager

Château Haut-Reys
Graves appellation

« We were able to set up two Ventigels on our plots. Without them, we would have lost at least 30% of the harvest.»

Grégoire Gabin
Winegrower

Château l'Ermitage
Sauterne appellation

« I used Ventigel for 3 days and immediately noticed that I hadn't had any frost. I also noticed much less humidity on the ground and on the leaves, which immediately reassured me.»

Edouard Fontan
Winegrower

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VentiGel™
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is commercialized by

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