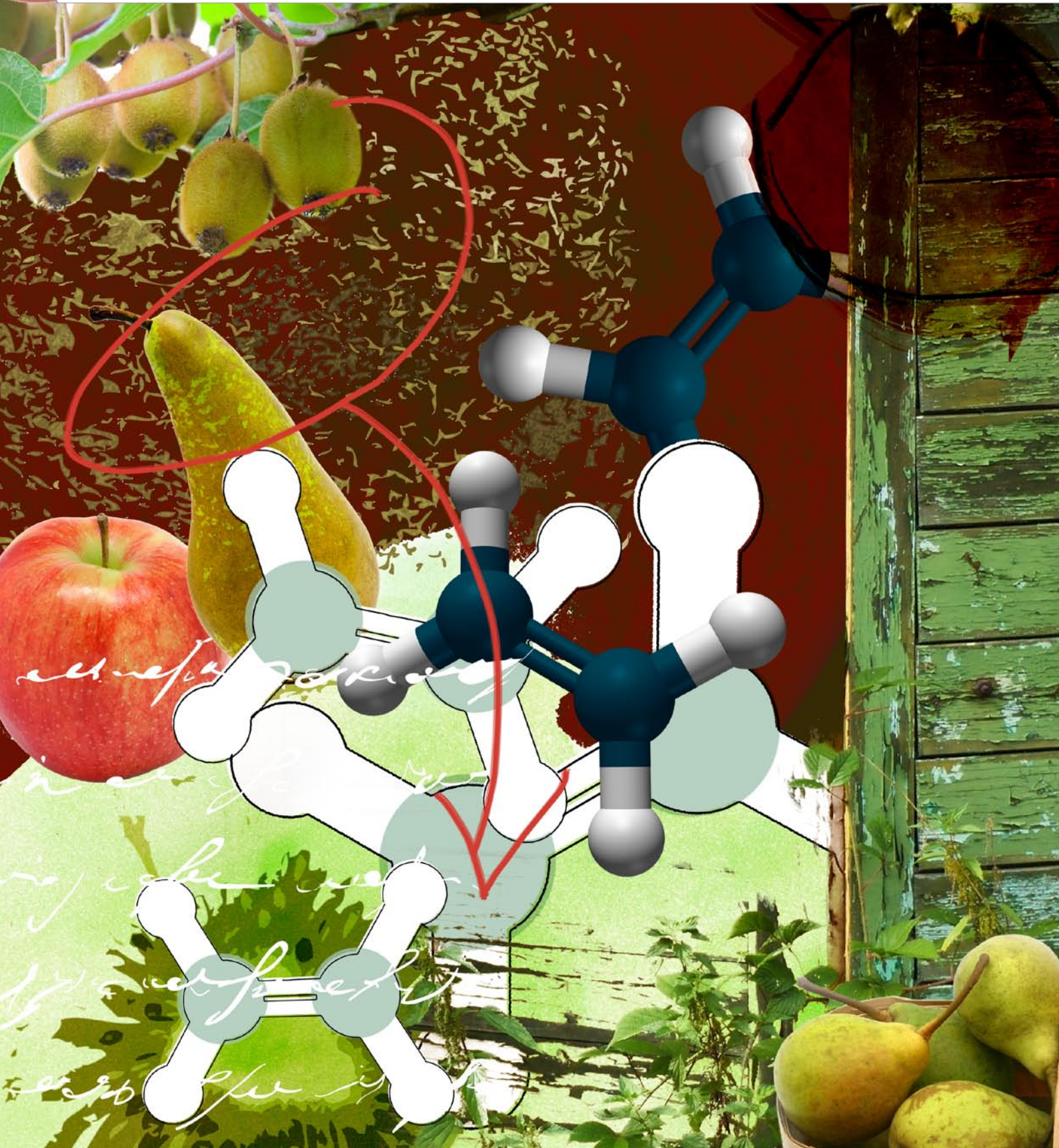


VA Ethylene Decomposer





The VA Ethylene Decomposer

The Van Amerongen ethylene decomposer removes ethylene from cold stores based on catalytic combustion. This enables ethylene to be kept at any level that may be required, both in the ppm and the ppb range. By using the so-called SwingTerm principle, actually a heat exchanger, the purified air is only heated to a minimum. An ethylene decomposer is essential for the long-term storage of kiwis. However, the maintenance of quality of many other fresh products can be improved through the control of ethylene levels. Using oxygen the ethylene decomposer combusts ethylene to form CO₂ and water, both inert substances.

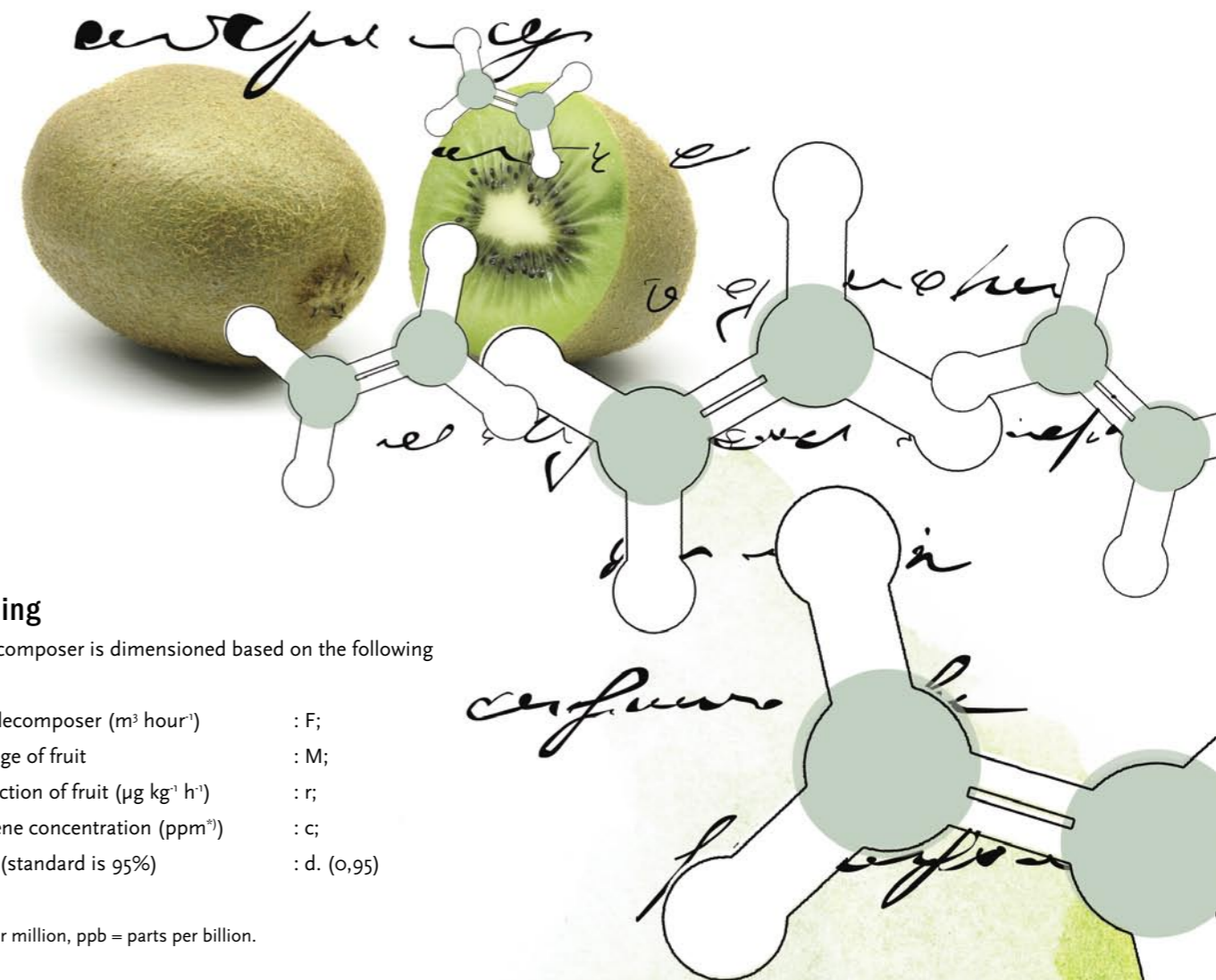
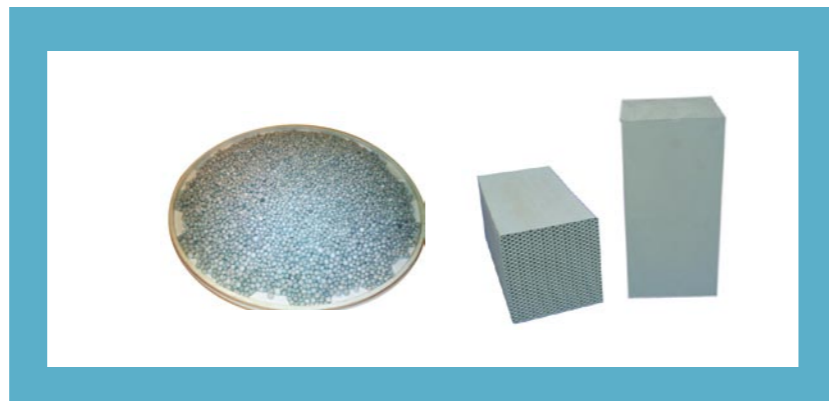
Our ethylene decomposer can be supplied as standard in three capacities (Table 1). Other capacities can be dimensioned upon request.

Plus points

- Maximum re-cooling of air through high-quality heat exchanger (*Porcelain honeycomb*);
- High catalytic level through high platinum level alumina granules (0.6 g kg⁻¹);
- Low optimal combustion temperature of 250°C;
- Can be combined with DCE: control based on ethylene levels (see DCE brochure).

The advantage of our *Porcelain Honeycomb* heat exchanger in comparison to ceramic balls or chips (split):

- Greater thermal efficiency;
- A lower pressure drop across the thermal bed;
- More rapid heat exchange;
- A lower weight.



Dimensioning

An ethylene decomposer is dimensioned based on the following parameters:

Output of the decomposer (m ³ hour ⁻¹)	: F;
The total tonnage of fruit	: M;
Ethylene production of fruit (µg kg ⁻¹ h ⁻¹)	: r;
Required ethylene concentration (ppm ^{*)})	: c;
Efficiency ratio (standard is 95%)	: d. (0,95)

^{*)} ppm = parts per million, ppb = parts per billion.

Dimensioning is subsequently calculated using the formula below:

$$F = \frac{r \cdot M}{c \cdot d}$$

Model	Specs	Dimensions	Weight	Connection	Power consumption	
	(Nm ³ h ⁻¹)	(L x W x H) (cm)	(kg)	(inch - mm)	(VAC)	(kW)
Do8ES0600	600	155 x 175 x 164	1050	160	380-400	7,2
Do8ES1200	1200	193 x 201 x 164	1600	160	380-400	17,5
Do8ES1800	1800	220 x 250 x 170	2200	160	380-400	17,5

Table 1. Available capacities

Product	Ethylene production	Ethylene level
	(µL kg ⁻¹ h ⁻¹)	ppb
Kiwi	0,1	<50
Conference pear	1.4	<25000
Jonagold apple	1,0	<25000

Table 2. Examples of ethylene production by fruit

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