

*Mobile, organic fumigation of***Dates/Dried Fruit**

Easy, quick &amp; mobile

After harvest of dried fruit, such as dates or figs, fumigation is traditionally done in a central location, close to where the commodities are stored and/or processed. This poses limitations/challenges like:

- ✓ *How to avoid infestation of the storage & processing area?*
- ✓ *Chemical fumigations require strict regulations & certification to be met*
- ✓ *Human and environmental hazards of (storage of) chemicals*
- ✓ *Logistical limitations of incoming harvest at the processing plant*
- ✓ *Increasing resistance of insects to chemical fumigants*
- ✓ *Expensive infrastructure needs to be in place for safe & effective treatment*

The Pallet Cover system of vQm, makes fumigation of dried fruit possible, immediately after harvest once it is put in a crate: simple, quick, mobile and suitable for organic products. Due to the mobility of the system, fumigation in the orchard itself is possible.

The pallet cover consists of two parts:

- i) Bottom part, which is placed on top of a pallet & carton sheet (max. pallet circumference is 440cm). The crates with product are placed on top.
- ii) The top part of the pallet cover goes over the stack of crates and is hermetically closed with an impulse seal. In the top part, the special vQm valve is sealed.



After the hermetic closure of the pallet cover, the vQm unit (connected to a CO2 gas bottle), is activated to suck residual air (to create a slight under pressure) and inject CO2. This cycle is repeated twice, and creates a high CO2 concentration (>35%) in the most efficient way possible.

Depending on the product temperature, the pallet cover is kept closed until the treatment is completed. Meanwhile the pallet can be moved safely, while the fumigation process continues, and poses no risk for contamination or re-infestation.

The pallet cover is made from an extreme gas barrier film, that will keep the elevated CO2 levels for a prolonged period. Standard dimension of the cover allows a stacking height of the crates of up to 200cm. To bring the pallet cover under high CO2 condition, takes around 5 minutes. If the cover is carefully opened, by cutting just underneath the seal, it can be reused up to 3 times.

#### **What is needed and what does it cost?**

- Pallet covers @ **€27,-** per set
- Impulse sealer with extra wide (650mm) seal tong @ **€898,-** including a set of two (2) spare heating ribbons
- vQm conditioning unit @ **€12.500**
- sensor to be able to check the CO2 concentration at any point, e.g. the Oxybaby M+ O2/CO2 from Witt Gas @ **€3.144,-**
- CO2 gas supply @ 6 bar (purchased locally). The local branch of our preferred supplier, Linde Gas may support you to get the proper set-up



Alternative for the pallet covers are bulk-bin liners or wrapping liners:

