

## OVDMA CONTAINERISED FRESH PRODUCE DRYER



The driedfresh Osmotic Vacuum Drying in a Modified Atmosphere (OVDMA) system offers the world a unique technology to improve preservation of leafy greens and soft commodities

## Driedfresh Technology

driedfresh is a unique oxygen free, low temperature (<35c), medium to high vacuum drying process, perfect for fruit, leafy greens, emergency and ready meals, speciality ingredients, bulk dried food ingredients, nutraceuticals, medicinals, scientific research and document recovery.

driedfresh combines the best aspects of aseptic preservation methods such as canning (long shelf life, dry storage, ambient temp distribution) with the low weight of competing freeze/thermal dried products and the qualities of fresh food.

The underlying process is known as OVDMA – Osmotic Vacuum Drying in a Modified Atmosphere. It uses the plant's natural osmotic process to gently remove only moisture, without damaging the cell structure, thereby preventing the loss of vital flavonoids, phytochemicals and nutrients - enabling rehydration if required to a superior natural form compared to other drying methods.

## Application

Gentle drying at less than 35C in an oxygen free vacuum chamber suitable for the drying of fresh produce, meats or seafood.

- Drying foods at < 35c to preserve nutrients better than any other technology
- Drying in complete oxygen free environment to protect against oxidation. Nitrogen only.
- Drying without damaging produce structure or cell membrane, keep the produce intact natural and with very little volatile loss
- Drying at the farm and moving from crop to crop season to season. Shared or community owned

## Technical Data

Available drying area	35.2m2
Maximum power usage per hour	16.8kwh
Power type and size	3 ph 40amp max (80amp cable) solar/diesel options
Wet loading	1-340kg per drying run/batch
Drying times	5-24hrs (dependent on produce and outcome)
Batch reload time	5 minutes
Vacuum range	3-100 kPa Abs (29-1013 millibar)
Heating range	1c-40c
Nitrogen only	95-98% purity
Far infrared for roasting/cooking	0-300c
Remote connection	Internal cellular network twin SIM
Control	SCADA and HMI - Ignition edge
Commissioning time	1-2 hours
Reporting and alerts	SMS, Email, Client Apps



## Technology Comparison

driedfresh offers many unique advantages compared to the two primary drying technologies used today, improving cost, speed and end product quality.

Drying Method	Description	Cost	Speed	Quality
Thermal	High heat, using hot air into a chamber or on continuous belt	Low	Fast	Poor
Freeze Drying	Freeze and remove moisture via sublimation in large batches	High	Slow	Mid-Poor
driedfresh	Moderate heat in a vacuum atmosphere, gently removes moisture via natural osmotic process	Low	Med-Fast	High

Relative to Freeze Dried, driedfresh enjoys:

- Lower operating costs due to considerably lower energy intensity
- Lower labour and maintenance costs due to faster drying times, simpler changeovers and less complex equipment
- Higher yields
- Lower capital/lease costs due to less complex, more versatile and portable equipment
- Superior end product due to a gentler, more natural drying process in an oxygen free environment.
- An ability to dry high brix produce such as infused, crunchy snacking products
- New cooking option whilst in a drying recipe/protocol
- A portable dryer, easily transported where required

Relative to thermal (air) drying driedfresh enjoys:

- Lower operating costs, due to energy intensity of thermal drying and comparable capital costs
- Superior end product, due to the high heat with thermal drying technology plus oxidation of the nutrients, flavour, colour, texture, and plant chemicals or biologically active constituents.
- An ability to produce infused crunchy snacking products (with high Brix products thermal can only create leather style chewy fruit products)



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