



PENDRED
Humidification & Water Systems



Natural rehydration of salad & fresh produce

Maximise pick weight
quality & shelf life by maintaining
or improving nature's freshness

You and your customers can see the benefits of Tru-fog™, maintaining nature's freshness and reducing wastage

- Tru-fog™ sustains life through natural hydration using ultra-pure water in the form of minute <5 microns particles, that float in the air
- Tru-fog™ is absorbed naturally, being smaller than the stomata in the leaves
- Tru-fog™ is too small to freeze and has no adverse effect on modern refrigeration
- Defrost cycles need not be increased
- Tru-fog™ promotes faster, more efficient cooling with less energy used
- Enables lower core temperatures to be achieved without detriment to the product
- The amount of energy used by the refrigeration to remove heat will be reduced through the evaporative effect of this cold-water humidification system
- Working visibility is maintained within the fog and does not affect forklift trucks or electrical equipment

For more information please contact: +44(0)20 8461 9380





Micro-fine droplets of purified water, small enough to be absorbed naturally during post-harvest cooling & storage



Turn your coldroom into a conditioning room

Crops harvested during dry weather or those delivered to the cold store, will contain a reduced level of moisture. When still 'fresh', leafy salad can rehydrate to maximum pick weight within a few hours by using our Tru-fog™ system.

Our unique system has been developed by working closely with major growers, packers and shippers in the UK. In large storage facilities, a combination of airspray humidification is used to provide humidity up to 85%^{rh}. Ultrasonics are automatically activated at 80%^{rh} to produce our unique Tru-fog™. By maintaining a light but visible fog in the atmosphere, leafy salad and vegetable crops rehydrate to maintain maximum pick weight, quality and shelf-life. Tru-fog™ gets everywhere and there is visible proof that it works - without wetting the produce or the floor. The system enables companies to maintain the quality of their product and maximise yield in a competitive market.

Tru-fog™ explained

Tru-fog™ is lighter than air and is made of visible droplets of ultra-pure, demineralised water suspended in the air like fog. Our Tru-fog™ system goes far beyond standard humidification. Ultrasound vibration is used to produce <5 micron droplets. When used in support of an existing high humidity cooling system or standard humidification system, temperature reduction throughout the crop is faster, more even and requires less refrigeration power to remove field heat.

Water purification

Immediately prior to use this softened, filtered and demineralised water passes through a micro-filter and activated charcoal filter, removing chlorine and other dissolved chemicals. After demineralisation it is radiated by a twin ultra violet radiation unit that treats the water with UVc radiation, destroying bacteria and viruses. In the event of lamp failure, the system will automatically shut down.

Air treatment

As with water, good quality clean air is the key to reliable and hygienic humidity performance. Chilled, clean air is drawn from the cold store pressurising our semi-sealed equipment container enveloping the fog generator with filtered, cool air preventing dust and dirt particles entering the fog generator and pipes.

Ultrasonic nebulisation

Ultrasonic sound waves are the only way to convert liquid water into a 100% Tru-fog™. Fog that is made up of <5 micron droplets of pure water is a Tru-fog™ and can be taken into the plant cells through the stomata in the leaves and stems, promoting genuine rehydration and full turgidity - just as nature intended.

We take a natural science and control it ... simply
... in the cold store or retail store



Natural absorption

Hydration occurs through the pores or stomata of plants, vegetables and soft fruits. Once picked, produce dries out very quickly in refrigeration! Tru-fog™ sustains life through natural hydration using ultra-pure water, in Tru-fog™ particles, which float in the air - reaching every part of the cold store.

Weight maximised

Maximise pick weight and yield by rehydration. Only Tru-fog™ can regenerate produce this effectively. Tru-fog™ only produces droplets <5 microns which is the maximum that plants can absorb.

Plump appearance

Both you and your customers can see Tru-fog™ and how it benefits the product, which remains in perfect condition.



Water pre-filtration

In large agricultural or food processing facilities, water quality can change each day, especially throughout the seasons. Large particles of sand and other particles can be delivered with the water and quickly clog the filtration system. In these large installations we recommend course pre-filtration to protect the fine water filtration system.

Water softening

Large installations require a significant quantity of water to be filtered and processed. Prior to use in the humidification and fogging system, water is softened to remove calcium and magnesium, that are exchanged for sodium salts through a process called 'ion exchange'. The water passes through a fine pre-filter to remove organics, dirt, rust and fine solids prior to softening.

Water demineralisation

Prior to fogging, water must be de-mineralised by the use of reverse osmosis to remove dissolved hardeners that would form scale in the fog generator, depositing lime-dust onto the product and the floor of the cold store.

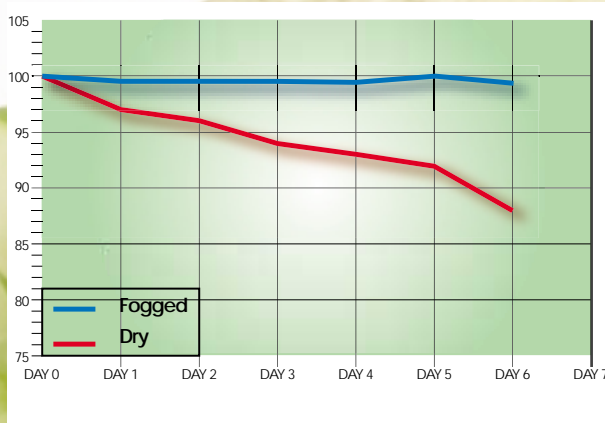
Tru-fog™ will only rehydrate produce through the stomata - a natural solution

Water alone cannot enter the stomata. When dehydration takes place, plant cells shrink and the stomata closes to reduce vapour loss. In a Tru-fog™ environment the stomata will open to absorb moisture if needed. During rehydration only our Tru-fog™ of <5 microns can be absorbed by the stomata, because only Tru-fog™ can produce 100% droplets that are smaller in size than the stomata.



Tru-fog™ hydration maintains turgidity and prevents dehydration in refrigerated storage or display

Results carried out by at FR-PERC, Bristol University.



The Tru-fog™ results show that cauliflowers reduce weight loss by over 80%. Leafy salads can rehydrate to maximum pick weight - and in fact gain weight through natural hydration after harvest.

over 80% weight loss reduction.

Pendred systems are in use by the following UK companies:

Tru-fog™ crop hydration systems

- Vitacress Salads Ltd - Hampshire
- PDM Produce (UK) Ltd - Shropshire
- Robert Montgomery Ltd - Kent
- Tio Produce - Scotland
- T H Clements & Son Ltd - Lincolnshire
- T A Smith & Co - Lincolnshire
- Maurice Crouch (Growers) Ltd - Cambridgeshire
- Intercrop Ltd - Kent
- Staples Vegetables Ltd - Lincolnshire
- Global Salads/J Pao & Co Ltd - London
- J E Piccaver & Co - Lincolnshire
- Alresford Salads (Geest) - Hampshire
- Gomez & Co Ltd (Produce) - Kent
- Chicory Crops Ltd - Herefordshire
- Choice Organics - London
- Greencell Ltd - Lincolnshire
- Greenfield Produce - Yorkshire
- Manor Fresh Ltd - Lincolnshire
- Frank P Matthews Ltd - Worcestershire
- A E Roberts Nurseries Ltd - Hampshire
- The Watercress Company - Dorset

Retail display moisture maintenance systems

- Waitrose Supermarkets
- Harrods (Knightsbridge) - London

For more information please contact
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