



humiSonic  
Ultrasonic humidifier for preservation  
and treatment of fresh food

# The best way to preserve the freshness of food.

Using humiSonic in showcases and display cabinets to preserve the freshness of fruit and vegetables, as well as in production processes that require the right level of humidity

- **Energy saving.**

Ultrasonic humidifiers consume 90% less energy than steam generators

- **Guaranteed hygiene.**

The unit can run on demineralised water produced by the CAREL WTS system, thus eliminating any mineral salts and bacteria present in the mains water.

- **Less waste due to better food preservation**

When storing foodstuffs, especially fruit and vegetables, air temperature and humidity control is needed to preserve the quality and freshness of the produce.

By controlling humidity in the environment, weight loss can be avoided and the appearance and fragrance of foodstuffs can be preserved. This can be done by installing ultrasonic humidifiers in the cold storage room, guaranteeing optimum relative humidity and thus ensuring best food preservation. Likewise, many food production processes also require precise control of air humidity. For example, best results for dough rising and fermentation require an ideal, controlled environment, with a temperature of 25° and a relative humidity around 75%. The temperature affects rising rate and the quantity of carbon dioxide produced.

Humidity, on the other hand, helps keep the dough elastic, improving the process and achieving a product that is lighter and more easily digestible.

Typical applications of humiSonic also include the production of pastries, where the humidifier is placed in the dough retarders or in the blast chillers, thus improving the quality of the products. The high frequency vibrations produced by the humiSonic piezoelectric oscillator (1.7 MHz) create very fine droplets of water, around 1-5 µm in diameter, which are absorbed quickly and in a short distance. This thus means high versatility in terms of installation and application. humiSonic is a stand-alone humidifier that can operate completely independently, and can communicate via Modbus or CAREL protocol. Finally, connecting a humidity probe, auxiliary card and display creates a complete and interfaceable solution.

## humiSonic is also suitable for other applications



museums, art works, antiques



tobacco storage



refrigerated showcases



### Energy saving

Ultrasonic humidification requires very low power consumption. humiSonic is a solution that satisfies the latest demands in terms of energy saving.



### Hygiene

One of the main strengths of humiSonic is its hygienic process, obtained by performing periodical washing cycles, completely emptying the tank at the end of the cycle, and with a 3% silver ion content in the plastic, making it bacteriostatic.



### Easy installation and maintenance

Its compact and ergonomic form make humiSonic easy to install and service

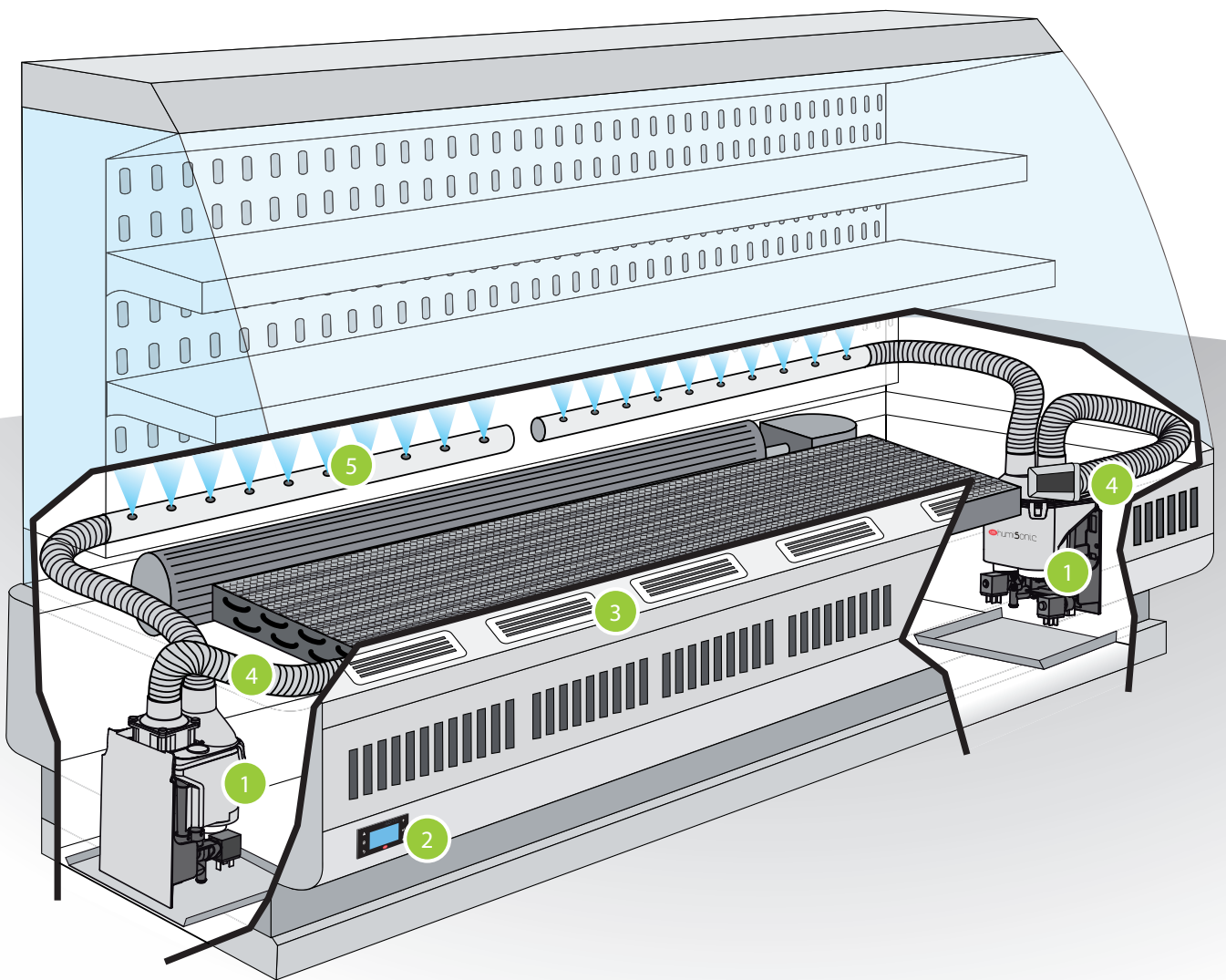
# Applications, technical aspects.

## Display cabinets

The combination of humiSonic and display cabinet is the ideal solution for food storage, especially pastries, chocolates, fruit, vegetables and fresh food in general. By producing very fine droplets that are quickly absorbed, even at low temperatures, humiSonic is the ideal

solution for these applications. Hygiene is guaranteed by the completely closed air recirculation system that avoids taking in impurities from the outside, and by the frequent washing cycles that humiSonic activates automatically; these cycles are moreover completely customisable to suit

all needs. The unity can be fitted with a dedicated humidity probe so as to adapt production based on actual requirements. The set point can be set according to the specific needs and features of each individual type of food.



1 humiSonic

3 Air intake, where the humidity level is measured

5 Stainless steel diffuser for uniform moisture distribution

2 User interface

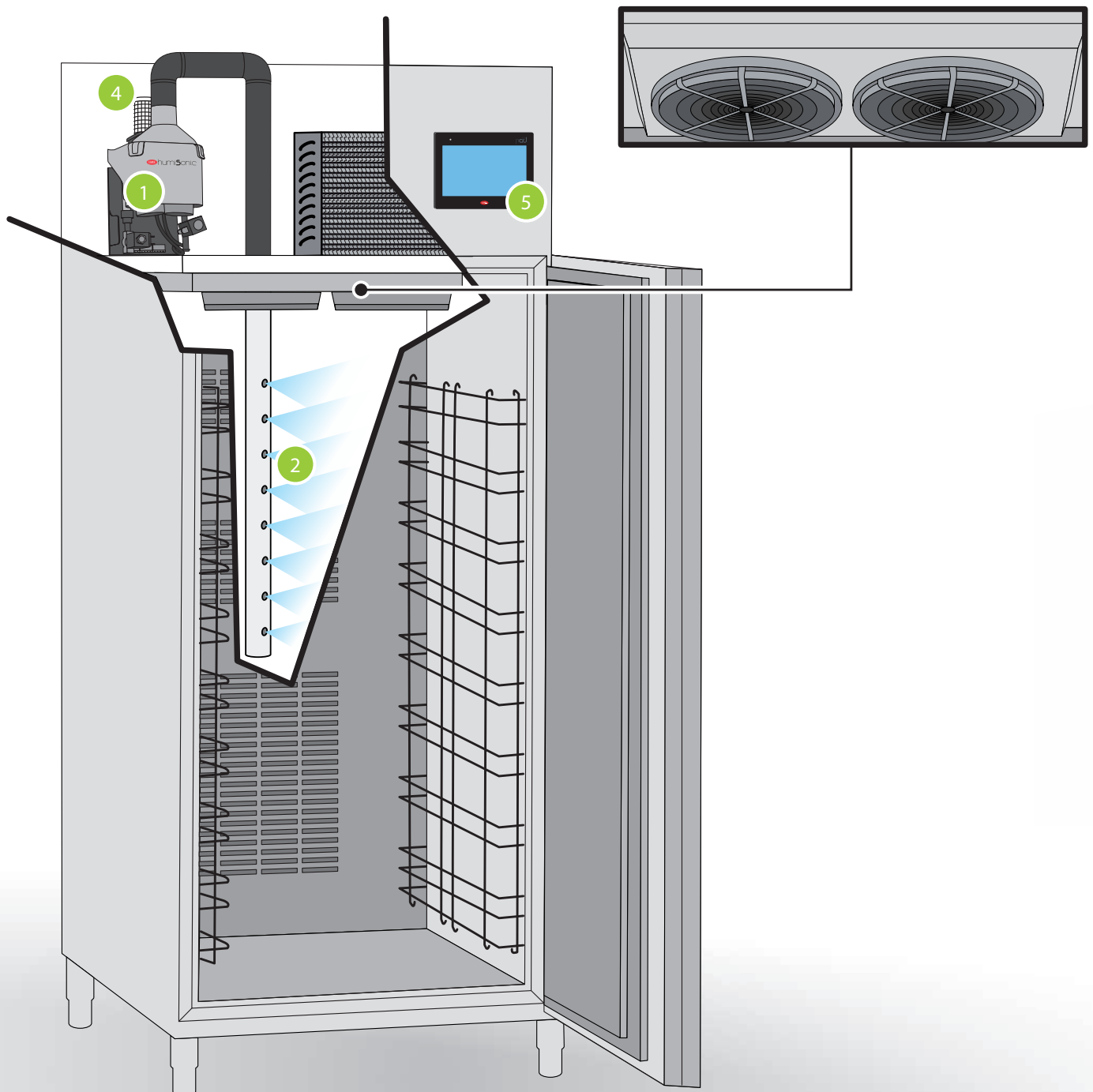
4 humiSonic air inlet with convector and spiral hose for air recirculation (closed system)

## Dough retarding

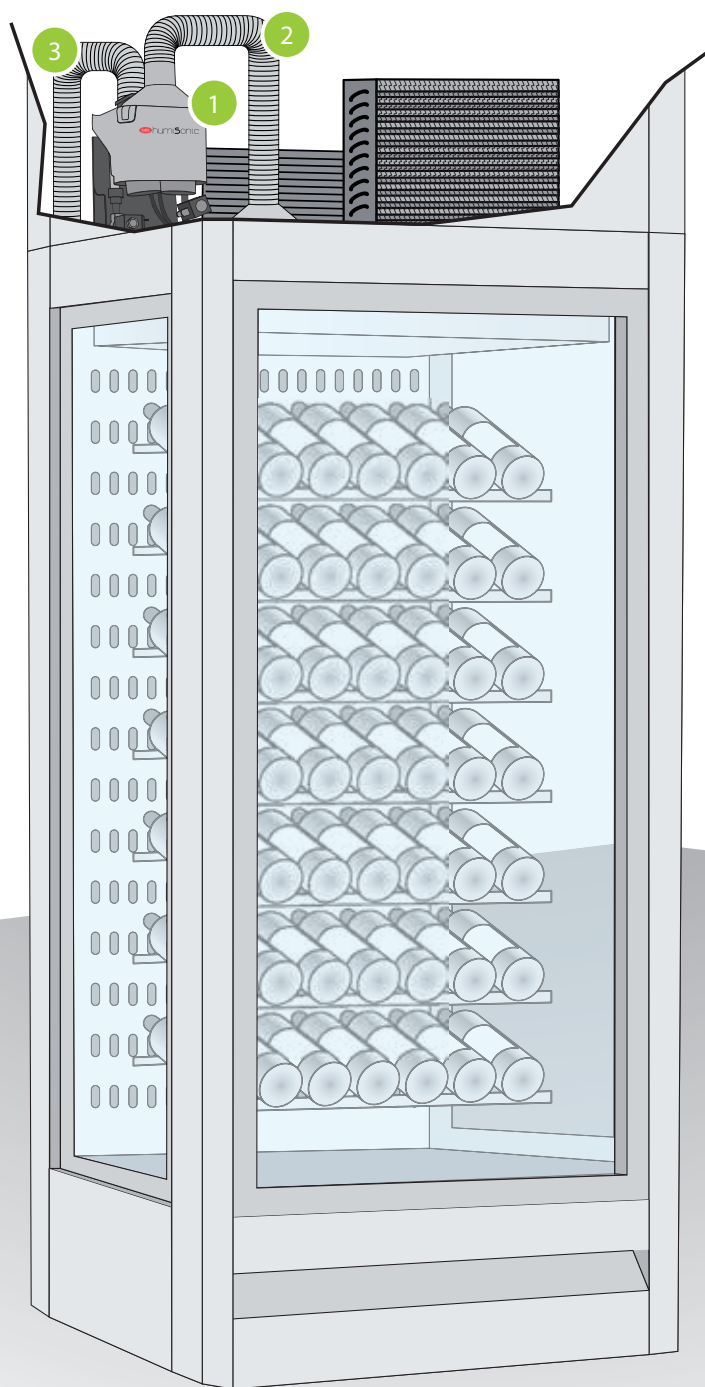
Fermentation and preservation are fundamental processes for maintaining and guaranteeing the quality of food. humiSonic provides humidity management in a compact solution with very low power consumption. The set points vary in relation to the food being processed or stored, in a range between 60/95% relative humidity, with 2%

precision, while operating temperature is between 2 and 35°C. For these applications, humiSonic comes with a 50 µm mesh filter, washable under running water, which guarantees product safety by preventing contact between the water and the dust present in the air, as well as flour in bakeries and the like. Hygiene is moreover guaranteed by the

washing cycles that humiSonic activates automatically, at intervals defined based on the environment and the food being processed, even when in standby.



- 1 *humiSonic*
- 2 *Spiral hose with convector for cabinet air flow inlet*
- 3 *humiSonic air inlet with convector and spiral hose for air recirculation (closed system)*
- 4 *50 µm air intake filter*
- 5 *User interface*



## Wine coolers

The exceptional properties of your best bottles of wine also greatly depend on correct humidity control.

A very dry environment will cause the cork to crack, while correct humidity ensure the cork stays moist and elastic, preventing oxygen from entering and thus maintain the wines' quality.

For these applications, Carel recommends humiSonic, fitted with a filter (50 µm mesh, washable under running water) that guarantees product safety by preventing contact between the water and dust, and a dedicated probe.

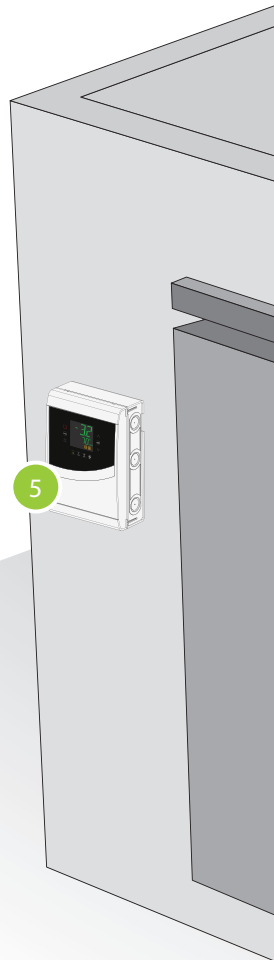
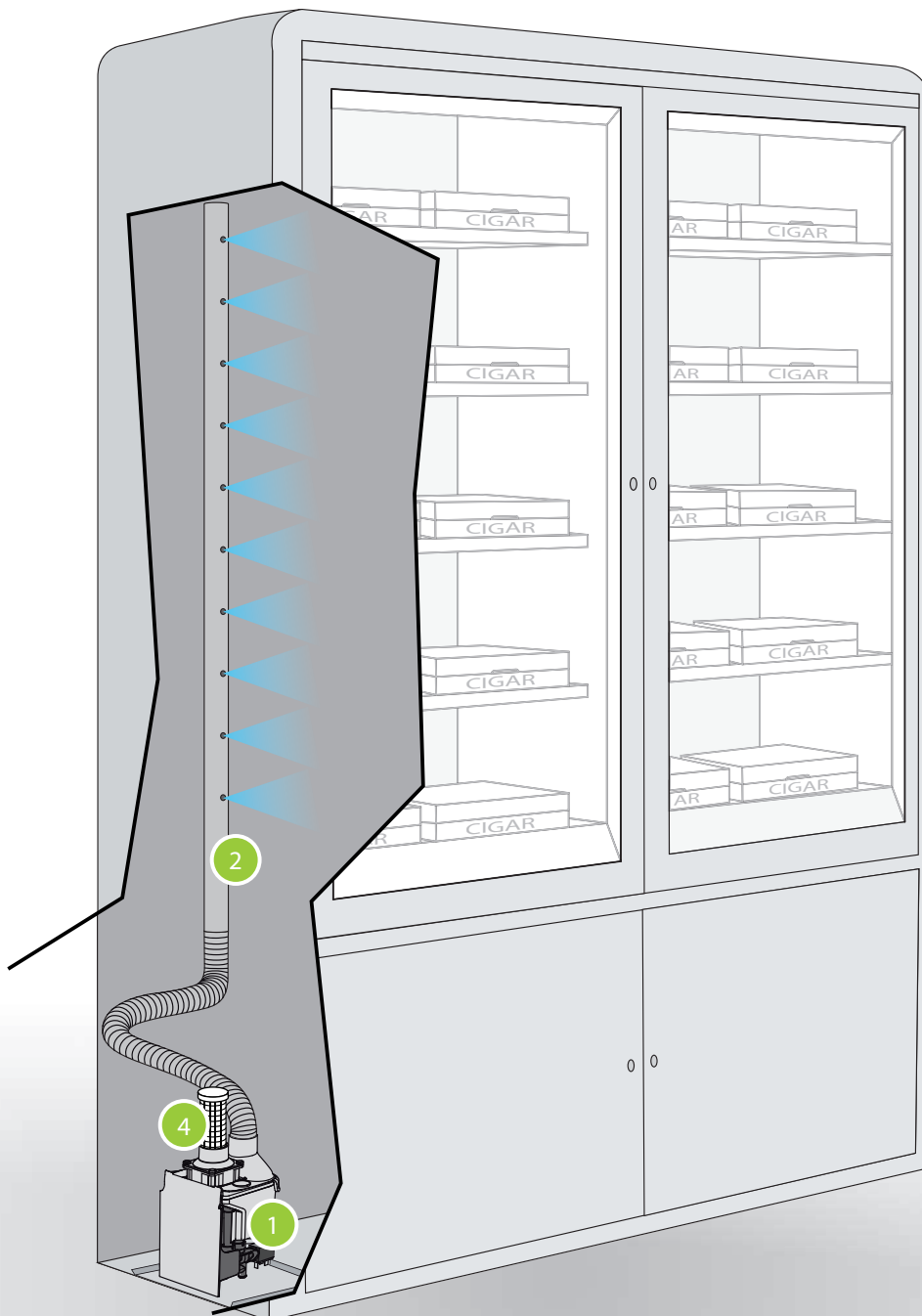
The humidity set point is between 65/70% RH, while the temperature may vary depending on the type of wine stored. It may also be worth considering the use of demineralised water.

## Cigar cabinets

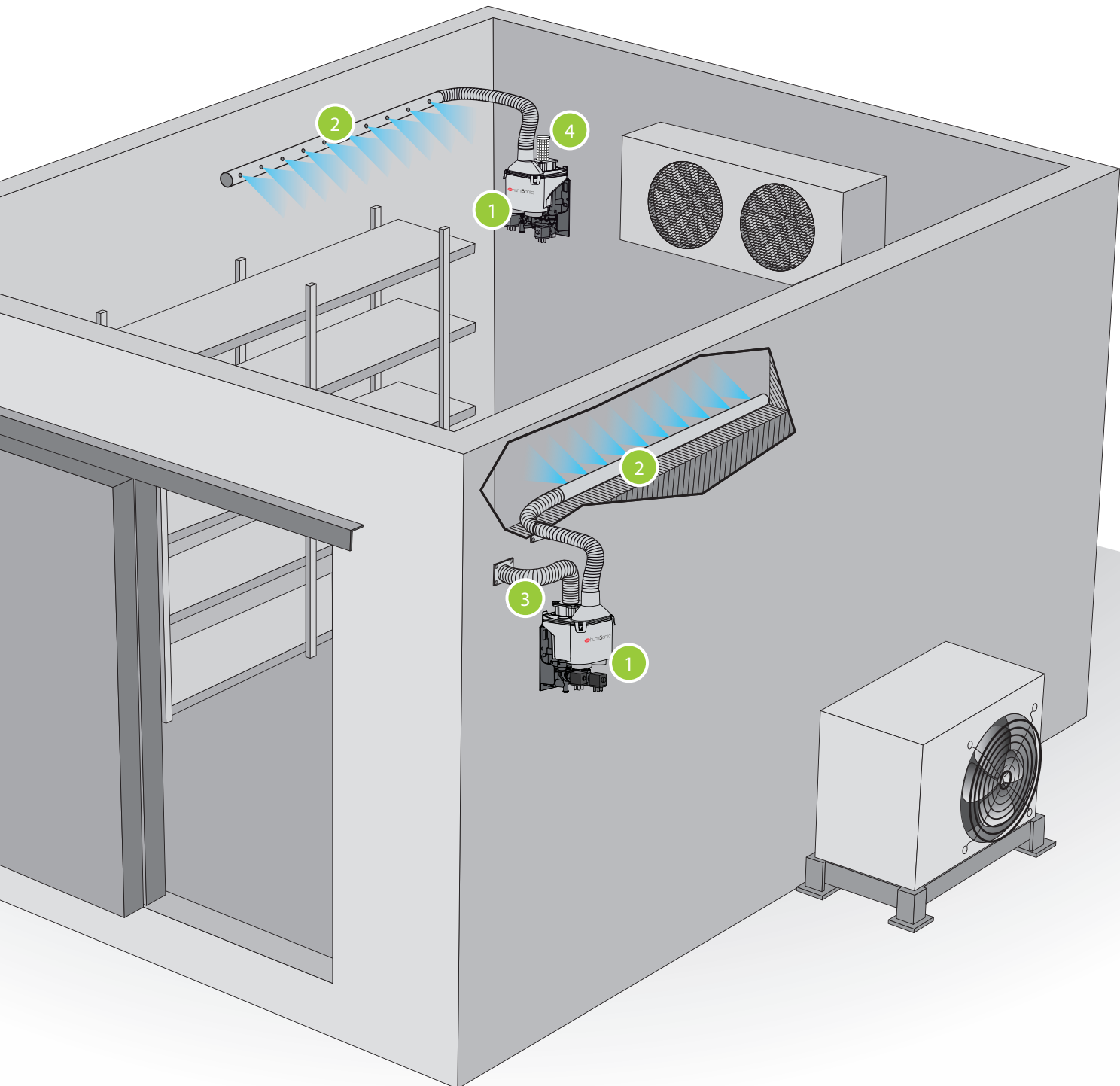
At the best and most exclusive clubs, the pleasure of an excellent cigar depends on the humidity it is stored at. This is due to the fact that tobacco has a high moisture content and consequently, when the air is too dry, it will expel moisture to the surrounding environment, thus irreversibly spoiling the cigar's taste and flavour.

The ideal storage temperature is around 18-22°C, with around 60% relative humidity. Guaranteeing these conditions means the cigars will preserve their quality and natural aromas.

Installing humiSonic in the cigar cabinet ensures these requirements are met, and consequently that the quality and flavour of the cigars will be maintained.



- 1 humiSonic
- 2 Stainless steel diffuser for uniform moisture distribution
- 3 humiSonic air inlet with convector and spiral hose for air recirculation (closed system)
- 4 50 µm air intake filter
- 5 User interface



## Cold rooms

The main purpose of a cold room is to keep fresh food refrigerated or frozen. The quality of the environment inside the cold room also depends on the amount of moisture in the air, as well as the temperature. Guaranteeing air quality not only helps maintain the food's organoleptic properties (flavour, texture, fragrance, appearance), but also ensures it remains healthy, from a bacteriological point of view. One of the main aims of correct food preservation is in fact to minimise the proliferation of bacteria. Humidity must be kept at the correct level,

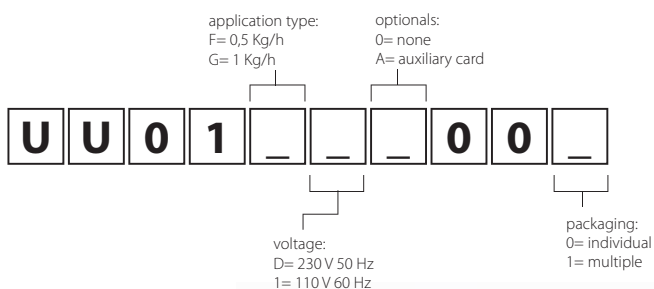
in relation to the specific types of food stored, in order to prevent dehydration (meaning weight loss and lower income from sales). Air flow-rate also needs to be kept at a suitable value, as correct air distribution helps ensure optimum refrigeration. Correct temperature and humidity management is particularly important for fruit and vegetables, as their metabolic processes still continue after picking or harvesting, and correct storage thus helps prevent deterioration. CAREL offers an integrated solution for temperature and humidity control in food

cold stores: UltraCella + HumiSonic. UltraCella, the latest generation electronic controller, guarantees the right temperature in the cold room and, based on the humidity measured inside, activates the HumiSonic ultrasonic humidifier when needed. HumiSonic guarantees a hygienic environment thanks to frequent automatic washing cycles, completely closed air recirculation that prevents the intake of impurities from the outside, and the filter supplied, which prevents contact with dust present in the air. HumiSonic can operate on mains or demineralised water.

# Technical specifications

Specifications	UU01F	UU01G
Atomised water production	0.5 kg/h – 1.1 lb/h	1.0 kg/h – 2.2 lb/h
Atomised water outlet	Ø=40 mm	
Feedwater inlet	G 1/8" F	
Feedwater temperature	From 1 to 40 °C – from 33.8 to 104 °F	
Feedwater pressure	From 1 to 6 bars – from 14.5 to 87 psi	
Feedwater flow-rate	1 l/m	
Feedwater	Demineralised water is recommended (humiSonic works perfectly well on mains water, nonetheless routine maintenance will be needed more frequently).	
Drain water outlet	10 mm	
Drain flow-rate	7 l/m	
Power	230 V 40 W 115 V 40 W	230 V 100 W 115 V 70 W
Power supply	230 V 50 Hz or 115 V 60 Hz	
Electric current	0.5 A	
Power cable size	1.5 mm <sup>2</sup>	
Dimensions	125x121x221 mm (4.92x4.76x8.70 inches)	125x183x216 mm (4.92x7.20x8.50 inches)
<b>Control signals</b>		
Enable ON/OFF		
HYHU000000 humidity probe (to be installed in the intake duct)		
UUKTA00000 flow sensor to be connected to the fan power cable neutral wire for interlocking		
BMS serial port (Carel or Modbus protocol)		
Signal from active probe (optional)		
External control signals (0 to 10 V, 4 to 20 mA) (optional)		

## Unit part numbers



Optional WTS system  
(P/N ROC0255000)

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