

# CASE STUDY

Food & Beverage Applications



**Client:**  
Food2Train

**Location:**  
Italy

**Sector:**  
Food & Beverage

## SAFE READY TO EAT MEALS

### MICROBIOLOGICAL REDUCTION IN FOOD PACKAGING AND COVID-19 RISK MITIGATION AT THIS F&B FACILITY

#### PROBLEM

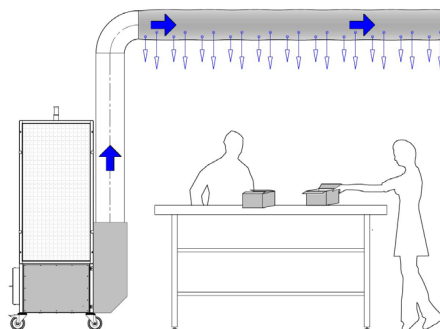
During packaging, food is subject to microbiological contamination that can lead to a proliferation of molds or bacteria that compromise its hygienic appearance and reduce its shelf life. The expiration date, in this case, can get discredited and the recall of the goods caused by non-compliance rises as one of the key factors that limit the saleability of a product. This further leads to a reduction in profit margins, heavy costs, and undesired charges, as well as can damage the reputation of the brand. With adequate air filtration inside the food packaging area, it is possible to reduce microbiological contaminants.

#### OBJECTIVE

Food2Train's goal is to ensure an optimal hygienic profile of its products and a consequent increase in shelf-life. With this motive, since the start of the plant, Food2Train is working on a concept of cleanroom based environment in the food production cycle. This environment is dedicated to the portioning and distribution of its products hygienically along with eliminating the number of airborne microorganisms from the process to ensure maximum protection of the product.

#### Design of the proposed solution:

Air Cleaner with fabric ducts (FDA - Food and Drug Administration - 21 CFR compliant) for uniform air distribution along the packaging line.



#### COMPANY PROFILE

Food2Train, Italy is a company in the food & beverage sector that provides healthy products, prepared with care and easily accessible to a clientele made up of athletes and people who are attentive to nutritional balance and physical fitness.

**FOOD2TRAIN**  
PREMIUM QUALITY

[www.food2train.com](http://www.food2train.com)

#### THE SOLUTION

The solution proposed by Camfil is the **Air Cleaner CC 6000 ProSafe with F7 + H14 filtration** and diffusion with double channeling through fabric sleeves (Compliant with FDA regulation - Food and Drug Administration - 21 CFR) suitable for the food environment above the packaging area.

Air Cleaner  
CC 6000 ProSafe



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## TESTING/SAMPLING DESCRIPTION

To test the effectiveness of the proposed solution, various samplings were carried out inside the room, the measurements were done before and after the purifier was switched on in two intervals of 15 minutes from each other. Using the TSI particle counter Aerotrak® (instrument owned by Camfil Italy suitably certified according to ISO 21501-4: 2007).

The TSI Aerotrak® particle counter used to monitor the amount of airborne contaminating particulate



The points taken into consideration are the following:



## FINAL CONSIDERATIONS

The particle measurements carried out show a reduction from 99.93% to 99.99% of the particulate matter from 0.3µm after only 30 minutes from turning on the Air Cleaner CC 6000 ProSafe with F7 + H14 filtration. The removal of the particulate also determines the removal of microbiological contaminants with the consequent extension of the shelf life of the product.

Airborne microorganisms such as viruses and bacteria adhere to larger particles and travel through them. Their average travel time increases according to the diameter of the particle to which they are attached, consequently increasing the risk of coming into contact with the staff present in the same room. Hence, it is crucial to reduce airborne particulate to obtain a substantial reduction in microbiological contamination through the use of high-efficiency filtration systems (HEPA) capable of retaining both microbiological contaminants even smaller than one micron, and particles of greater diameter to which they adhere.



"Thanks to Camfil, we are now utilizing an efficient air filtration system in our dedicated cleanroom to provide safe and healthy products."

Lorenzo Manzini, Product Manager Food2Train

## COVID-19 RISK REDUCTION

Although the reason that motivated the installation of the Air Cleaner CC 6000 was to protect the product from microbial contamination, given today's scenario due to COVID-19, Camfil's air filtration solutions also extend to the mitigation of the risk of the virus, for the benefit of the health of the staff working on the operations of the packaging department. The CC 6000 is equipped with HEPA filters in class H14, which use the same technology that protects the most sensitive operations and processes in the pharmaceutical, hospital, and food processing sectors when it is necessary to guarantee the absence of airborne pathogens.

Filters in **class H14 have an efficiency of 99.995% on MPPS** (Most Penetrating Particle Size), i.e. the particles on which the filter has the minimum efficiency according to EN1822. The size of the MPPS particles (0.1 - 0.25 microns) on which the efficiency of the filter is determined is comparable to those of the coronavirus (0.08 - 0.16 microns). From here it is clear that the CC 6000 air purifier is effective in mitigating the COVID-19 risk and can filter both airborne viruses and airborne dust or micro-droplets - on which the viruses adhere - emitted by an asymptomatic worker in a room where there are several other people.

**The use of our air purifier equipped with HEPA H14 filters can be considered an effective and simple system for reducing the risk of airborne contamination.**