

**Burger King**

A Mellifiq reference project



**Jernhusen cleans the  
extract air at Burger  
King with ozone**

**Built-in air purification keeps  
the duct channels clean**

**MELLIFIQ**

# Burger King, Stockholm, Sweden

*Jernhusen owns, develops and manages train stations, station areas, maintenance depots and freight and combination terminals along the Swedish railway. Jernhusen is a commercial real estate company founded in 2001 and owned by the Swedish state.*

*Burger King is a tenant in the Stockholm Central Station property. In all large kitchens, fat deposits are built up in the ducts which must be cleaned with high-pressure washer regularly to reduce the fire risk. Jernhusen wanted to reduce both the fire risk and the spread of cooking odors in the surrounding area and therefore chose to install an Ozonetech system for air treatment.*

## Facts

Name:	Burger King
Location:	Stockholm Central Station, Sweden
Industry:	Hamburger restaurant
Purpose:	Air purification and energy recovery
Flow:	15,000 m <sup>3</sup> /h

## Solution:

### **Ozonetech RENA high-performance ozone system**

Dimensions (HxWxD):	400 x 400 x 200 mm
Input power:	1 kW
Noise level:	49 dB

## The problem

Jernhusen needed to reduce the risk of a kitchen fire, and to be able to recycle the heat energy in the exhaust air. Jernhusen also saw an opportunity to avoid the costs of cleaning the ductwork.



Stockholm Central Station.

## The solution

A high-performance RENA Kitchen solutions was supplied to clean the entire airflow, from Burger King's two large kitchen hoods installed above fryers and grills. Concentrated ozone is injected directly into the kitchen ducts to effectively eliminate fat and odor particles. The ozone is produced on-site by an ozone generator which

allows ozone to be distributed to one or several hoods, giving great freedom to place the equipment. The system only requires electricity and oxygen from the ambient air to produce ozone. The process is fully automated, and nothing needs to be replenished regularly.

*"In addition to the standard mechanical grease filters in the exhaust hoods, Burger King had no exhaust air purification. The plate heat exchangers were quickly filled with grease, which consequently reduced their efficiency. We wanted to find a solution that reduced the fire risk, but also gave us the opportunity for more efficient energy recovery."*

Project manager at Jernhusen

## Evaluation

The Ozonetech air treatment system purifies the exhaust air from grease and thus normal buildup of grease on the ventilation duct walls are avoided. This reduces the risk of fire to a minimum and the need for manual cleaning of the duct walls is greatly reduced.

The purification system has also significantly reduced the odor problem. Ozone purification is a proven way to increase fire safety, reduce costs and avoid the spread of cooking odors. In addition, the opportunity is created to install heat exchangers and recover the heat energy in the heated air.

In addition to reducing the fire risk and the spread of cooking odors, the solution has also enabled efficient energy recovery. Large kitchens consume large amounts

of energy, they are real "energy thieves" and the heat energy in the extract air accounts for a large proportion of energy consumption. Today we have a plate heat exchanger in the flue which recycles about 65% of the heat energy in the air.

The benefits of installing ozone treatment in restaurant kitchens are many and an ozone system can save tens of thousands of dollars a year. Once the equipment is installed and in operation, which goes very quickly and smoothly, hardly any maintenance is required as the system is self-propelled and does not require operational personnel on-site.

# About Mellifiq

Mellifiq is a multi-awarded environmental service company group, that has since the early nineties evolved into a world leading system and solution provider with multiple groundbreaking applications for industrial, municipal, and real estate clients. We supply cutting-edge technologies to manage the most sophisticated air, water, and energy challenges.

Mellifiq offers a complete range of air and water treatment technologies and solutions across multiple industries such as processing industry, energy sector, food and beverage, pharmaceutical, wastewater treatment and commercial real estate.

Mellifiq offers strong and renowned brands, such as Ozonotech, Nodora and Water Maid, and world-class engineering services combined an excellent track record of more than 40 years of innovation. We help our clients achieve the most efficient and sustainable solutions while creating the maximum value for their businesses.

With several business units across Europe, Mellifiq is headquartered in Stockholm where research and development, production, QA and certification all take place. Our unique technology and our extensive expertise have made us the Center of Excellence for the world's most complex projects, and a global player with installations on all six continents.

Everyday millions of people rely on our solutions for ventilation, disinfection, sanitation, and odor control. We are committed to raising the bar for the concept of clean and the industry standard for engineering, technical services and general contracting.

For additional information, visit our website at [www.mellifiq.com](http://www.mellifiq.com)

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