

Grease reduction with efficient UV-technology

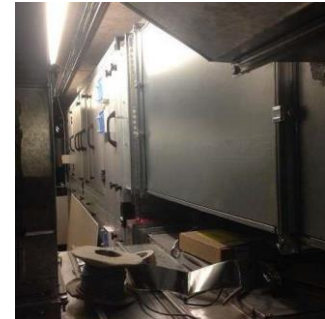
Jacobs Bond Pascoe Ltd.

Chinese Restaurants: a lot of grease production equals a lot of filter replacements

Jacobs Bond Pascoe, a large engineering group that designs and builds facilities of different types and infrastructure in Great Britain, is also a company offering building management services. They find compact solutions for complicated space conditions and have customers in the real estate, pharmaceutical and health industry. Especially the large kitchens in big shopping malls or office buildings require a good duct and filter system to keep the environment clean and hold odors back. In Chinese restaurants though, the grease pollution is high and the filters protecting the ventilation system of a real estate object in Birmingham had to be changed every week. These pricey filters made a lot of trouble. Therefore, Jacobs Bond searched for a solution with Excelitas.

Description of the initial situation

After the examination and explanation of the local situation, Jacobs Bond turned out that the main issue was the contamination of their filters in the exhaust air system. It was very high in similar installations and the main pollutant proved to be grease. The previous solution was a change of the preliminary filter every week, the bag filter every month, and the HEPA filter every 3 months. To save costs, time and disposal, Jacobs Bond searched for different new solutions for this case, trying to destroy the grease pollutants before they get into the filters and to extend the filter lifetime. However, Jacobs Bond was not very convinced about UV technology, since other restaurants in the building also had a UV system installed, without any measurable effect. Excelitas explained that the installed technology (a set of 4 lamps low pressure mercury lamps) is extremely inefficient at the high air temperatures produced by a wok frying pan and that they needed Excelitas High Power Amalgam Technology to be successful. Jacobs Bond was still skeptical. As a final argument, Excelitas offered a trial for 4 months with a symbolic monthly charge. If after those 4 months the UV system would not accomplish to reduce the grease in the ventilation system, Jacobs Bond would be sending the unit back to Germany without any additional charge. If the system worked as Excelitas proposed, the bill for the UV system would be sent.



Evaluation of the new kitchen and dimensioning of a UV system

The new kitchen had not been running until the installation. It was known that the ventilation system was designed to extract 8000 m³/h air from the kitchen and the space in the hood was extremely limited. Also, there was only one big extraction nozzle in the hood that was longer than the length of the Excelitas NIQ 200/120 lamps.

Knowing this, based on previous experience from similar Chinese kitchens, a system with 4x200W UV lamps was recommended. A special arrangement was obtained, in order to use the space in the kitchen hood optimally. The lamps, which had to be placed directly under the extraction nozzle, were arranged crosswise. Since the start of operation of the restaurant was planned for the first days of January, the lamps had to be delivered before the shutdown of operations in December: a challenging task.



Commissioning

Excelitas provided technical support on site a few hours before New Year's Eve. The kitchen and ventilation system were inspected and one Kitchen Control System 4.220 with 4 NIQ 200/120 lamps was installed by Jacobs Bond's personnel. The maintenance personnel reviewed the electrical connections, provided the required wiring, and installed the lamps and control system in the kitchen, following instructions of Excelitas. The kitchen went into operation and the restaurant was opened in January 2015.



Summary

After 4 months of operation, Jacobs Bond is very pleased. There were no complaints from the Chinese restaurant about the installed system and the filter lifetime was extended significantly according to Jacobs Bond who does the maintenance of the ventilation system. The effect of UV lamps from Excelitas has once more positively convinced the customer. Now, Jacobs Bond is saving time and money as well as increasing the fire safety in their ventilation system. They are interested in getting additional UV systems for similar cases, since other restaurants in the building are considering the retrofitting of the Kitchen Control System for their hoods as well.



Pump of the ventilation system has to stay clean.



Inner view of the kitchen hood without UV-system.



Inner view of the kitchen hood with UV-system.

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