



Report on retrofitting a COMPACT exhaust air purification system

Date: 2020 – 10 - 03

Hamburg, 10 March 2020

Construction project: THE MADISON Hotel Hamburg / kitchen

Client: GTH - Gebäude Technik HH GmbH & Co.KG

Dates of documentation: 16 January 2020 and 10 March 2020

Present: Mr. Kullik, HTH Hanse

Mr. Mindt, HTH

Mr. Rusche, The Madison Hotel - Technical Department

Test device was provided. Stocktaking on 16.01.2020. Results tested on 03.03.2020

Initial situation: Two kitchen hoods with UV tubes were installed in the kitchen. The kitchen exhaust air flows into a central duct and then continues outside via the roof. An additional filter prevents the greasy air from entering the duct.

This filter is completely black after about four weeks (maintenance interval) and the ducts are also heavily clogged.

The kitchen is open daily from 6:30 to 23:00. International dishes such as meat, fish, burgers and vegetarian dishes are prepared.

Equipment used: STERISAFE Compact 20 ozone system Complete set with PTFE 6mm Teflon hose. Ozone sensor L-101, differential pressure sensor, injection spear.

Technical data:

Ozone production COMPACT-20: max. 20 g/hour

Ozone concentration 130 g/Nm³.

Ozone throughput max. 3.0 l/min

Power supply 230 V/50 Hz Power

consumption 600 W

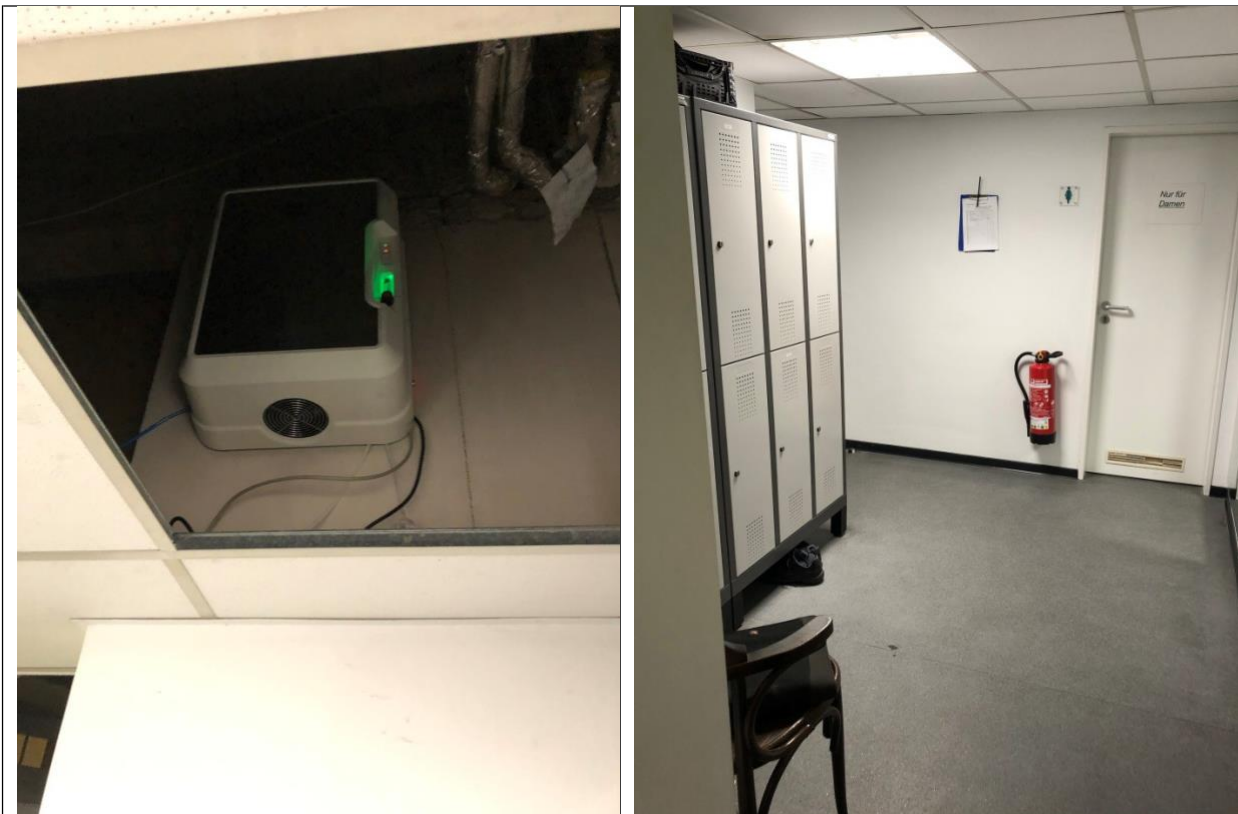
Fuse 6.0 A

Dimensions (H x W x D) 422 x 559 x 237 mm

Weight 23 kg

Installation: The exhaust air purification unit is installed in the basement in the false ceiling of the changing room. The kitchen is located on the ground floor. The Teflon hose has a length of approx. 25m (including branch for two ventilation hoods). The injection spears are installed in the ventilation system about 3m above the cooker hood. An ozone sensor is placed at the COMPACT unit and one differential pressure switch each in the exhaust air duct directly at the ventilation hood.

Pictures of the installation



Filter change/duct inspection 16.01.2020



Filter change/duct inspection 03.03.2020



Pictures: kitchen 16.01.2020



Result: The grease load in the exhaust air was significantly reduced by installing the COMPACT ozone generator. The filter is no longer black with grease, but merely brownish. The inner wall of the duct is cleaner than at the previous maintenance interval.

Note: Existing, older grease deposits cannot be dissolved by the unit, as they have already hardened. However, improvements (smoother surfaces) may occur.

The COMPACT unit has been provided for test purposes. At the end of the test (approx. two months) the device remains installed on site. Mr. Rusche (Technical Department, THE MADISON) is very satisfied with the result and the improvements. Maintenance will now be carried out in longer intervals. The existing UV tubes in the hood will be removed. Mr. Kleinertz (Director THE MADISON) has given his approval for operating with the COMPACT instead of UV tubes.