

UV Lamps generate ozone and remove greases and smells from exhaust air

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UV lamps break down greases in kitchen hoods

- By reducing the danger of fire, there are cost savings in the fire prevention measures which need to be taken
- Measurement of the ozone-generating UV radiation in Heraeus Noblelight's accredited measurement laboratory

Heraeus Noblelight is showing solutions with ultraviolet light for air treatment at the ISH/Aircontec exhibition, which takes place in Frankfurt from the 6th to 10th March. A particularly interesting application is the use of ozone-generating UV-lamps in kitchen exhaust hoods. Here the UV radiation prevents grease deposits, prevents fires and saves cleaning costs. UV radiation is an environmentally friendly and economical alternative to chemical techniques. The ozone-generating UV radiation of the UV lamps can be measured in Heraeus Noblelight's accredited measurement laboratory.

Treatment of Aerosols

The use of greases and oils in the kitchen leads to deposits in the kitchen exhaust hoods and the flues, so that there is both an increased danger of fire and the creation of a source smells. The physical method of UV radiation is an economical and environmentally friendly alternative to cost-intensive manual cleaning of the flues and frequent filter replacement.

By using special Heraeus UV lamps, ozone is generated inside the kitchen hood from the oxygen within the environmental air. The emitted radiation at a wavelength of 185nm is used to do this. The radiation at the longer wavelength of 254nm photolyses the ozone into excited oxygen, which oxidises the long chain molecules. Organic materials such as grease and aromatics are continuously "cold combusted" and broken down. The exhaust ducting and the exhaust hood remain grease-free, danger of fire is significantly reduced and cooking smells in the exhaust air are completely eliminated. Even at the high exhaust temperatures of up to 90°C above a grill, the ozone-generating UV lamps from Heraeus Noblelight are extremely powerful. They are particularly suitable for situations where a lot of grease is used to bake or fry, such as in fast food restaurants, large kitchens and in the industrial production of fish and meat meals.

Unique internal coating ensures long operating life.

The unique Heraeus Longlife coating of the lamp tube is responsible for the long life of their UV lamps. Moreover, the Heraeus Longlife coating is transparent to the very short ozone-generating UV radiation at a wavelength of 185nm. The operating life of the lamps is also significantly extended in this wavelength range compared with conventional techniques.

Measurement of the ozone-generating radiation in the Heraeus laboratory

UV radiation at a wavelength of 185nm is completely absorbed by the surrounding air at a distance of only 30cm from the lamp. Precise measurements should be carried out only under vacuum conditions. The Heraeus Measurement Laboratory has a vacuum chamber at its disposal and this is used for the complete and trouble-free detection of the 185nm radiation, which

strongly absorbs oxygen. The design of the UV lamps can be optimally matched to customer requirements: the output-dependent efficiency is evaluated, the best mode of operation is defined and the output is optimised. By means of investigations in the wind tunnel at the Heraeus laboratory, the thermal parameters of the lamp can be observed so that the lamp can be optimised with the operating temperature. Ozone measuring equipment is used to check the generated ozone concentration. The lamps are precisely matched to the equipment and the application.

Heraeus Noblelight is a manufacturer of special light sources. At the ISH/Aircontec exhibition in Frankfurt/Main from the 6th to 10th March, Heraeus will be showing a wide range of ultraviolet lamps for air oxidation and air disinfection.

See us at Aircontec on Stand C 09, Hall 5.1.

Since the development of UV lamp technology by Richard Kuech in 1904, Heraeus Noblelight can look back to more than 100 years of experience in the development, production and application of UV emitters. Through innovations such as Longlife technology, Heraeus continues to set milestones in the field of UV lamp technology to increase the productivity of industrial processes. Heraeus Noblelight is an original equipment supplier and a partner of choice for many systems' builders involved in the disinfection of water, air and surfaces, as well as for manufacturers of systems for photo-chemistry and photo-oxidisation.

Heraeus, the precious metals and technology group headquartered in Hanau, Germany, is a global, private company in the business segments of precious metals, dental health, sensors, quartz glass and specialty lighting sources. With revenues of more than EUR 9 billion and more than 10,600 employees in over 100 companies, Heraeus has stood out for more than 150 years as one of the world's leading companies involved in precious metals and materials technology

Heraeus Noblelight GmbH with its headquarters in Hanau and with subsidiaries in the USA, Great Britain and China, is one of the technology- and market-leaders in the production of specialist light sources. In 2005, Heraeus Noblelight had an annual turnover of 79 Million € and employed 644 people worldwide. The organisation develops, manufactures and markets infrared and ultraviolet emitters for applications in industrial manufacture, environmental protection, medicine and cosmetics, research, development and analytical laboratories.

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