



## UV light for clean air Disinfection and oxidation with Heraeus UV lamps

Clean, fresh air is a vital requirement for people and animals. Air which is largely free of germs is necessary not only in the industrial environment, but also in heavily-frequented areas such as airports, shopping centres, cinemas and theatres.

UV radiation ensures healthy air with a low germ content, and improves the hygiene and storage conditions in the pharmaceutical and in the food processing industry. Here the micro-organisms present in the air, such as viruses, bacteria, yeasts and moulds, can contaminate raw materials and spoil foodstuffs. UV radiation reliably reduces the germ content in the air.

Short-wave UV radiation in particular has a high bactericide effect. The radiation is absorbed by the DNA of the micro-organisms, and destroys their structure. In this way, the cells are inactivated.

Air contaminated with germs can be disinfected in the supply air ducts in order to ensure efficient reduction of the germ level in processing, packaging and storage rooms and large halls. This application uses only ozone-free UVC lamps. The ozone-producing radiation (VUV) is filtered out by the special quartz glass of the lamp tube.

## UV light and its application areas

UV light at the wavelength range of 254 nm disinfects, destroying the DNA of organisms such as bacteria, viruses or moulds and rendering them harmless. UV lamps from Heraeus Noblelight are used for air purification in:

- The food processing and pharmaceutical industry
- Hospitals, doctors' practices, laboratories, clean rooms and storage rooms, offices with and without airconditioning systems, heavily-frequented areas such as airports, cinemas etc
- Livestock stables
- HVAC systems, e.g. disinfection of ducts and cooling coils

## The advantages of Heraeus UV lamps

- Safe, reliable disinfection of rooms
- Protection against germs and pathogens
- High-performance lamp technology: optimised yield of 254 nm UVC radiation (highly disinfectant)
- The low space requirement allows easy retrofitting into existing ventilation systems
- Easy handling

## The lamp range from Heraeus Noblelight

Heraeus Noblelight offers the perfect UV lamp for your special application.

Lamp name	Electrical power	Lamp length	Power density	Ambient temperature	Application	Diameter
<b>NNI 120/86 XL</b>	150 W	878 mm	~ 2 W/cm	20-40 °C	Air, Water, Surface	15 mm
<b>NNI 201/107 XL</b>	200 W	1145 mm	~ 2 W/cm	20-40 °C	Air, Water, Surface	19 mm
<b>NNI 300/147 XL</b>	300 W	1554 mm	~ 2 W/cm	20-40 °C	Air, Water, Surface	19 mm
<b>NNI 400/147 XL</b>	400 W	1555 mm	~ 3 W/cm	20-40 °C	Air, Water, Surface	32 mm
<b>NNI 600/120 XL</b>	600 W	1200 mm	~ 5 W/cm	20-40 °C	Air, Surface	38 mm
<b>NNI 800/147 XL</b>	800 W	1554 mm	~ 5 W/cm	20-40 °C	Air, Surface	38 mm

## Installation instructions for optimum design

Air cleaning requires individual UV treatment, since the type and degree of contamination vary from case to case. The design of the special UV lamps depends on the exhaust air volume and speed, the temperature and the type or utilisation level of the exhaust air duct. **UV lamps have to be installed only by qualified specialist personnel.**

## Safety regulations

UV is potentially harmful to the skin and eyes. Therefore UVC lamps have to be operated only in consideration of the protective measures. Never look into the UV radiation with unprotected eyes, and cover any parts of the body which might be exposed to UV radiation.

UV radiation at 185 nm and 254 nm can be screened by normal glass, transparent plastic such as Makrolon®, and practically all opaque materials. When using ozone-producing lamps, appropriate measures should be taken to maintain the MAK-levels (limit value for the ozone concentration).

