

Heraeus Noblelight launches Technical Handbook “Ultraviolet Light for Water Treatment” at AQUATECH

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Technical handbook provides an overview of UV lamp technology for water treatment

- UV treatment – a reliable and environmentally friendly method
- New Publication available at AQUATECH show in Amsterdam

Heraeus Noblelight, the manufacturer of specialty lighting sources, has launched a unique publication at AQUATECH 2008 in Amsterdam. The new technical handbook provides an overview on UV lamp technology for water treatment and touches briefly the methods of UV disinfection and oxidation. The major goal is to present a complete picture regarding UV lamp technology to both, the design specialist and engineer for water equipment as well as the practitioner in the water works.

Heraeus Noblelight manufactures UV lamps which are used for drinking water disinfection in waterworks, for wastewater treatment in sewage treatment plants and for the treatment of industrial process water. These include low pressure UVC lamps, compact, high power medium pressure UV lamps and Longlife Amalgam lamps. All lamp types and their specific applications are covered in the new publication.

UV Water Disinfection – a Safe Method and Economic Alternative

The first UV water decontamination was installed in Paris, France as early as 1910. Quartz glass lamps – a development that goes back to the chief developer at Heraeus, Richard Küch (1860 – 1915) - are still used today, but modern high-tech UV lamps and their early predecessors are worlds apart. Today's UV disinfection is a well-established technology. The method is

very safe and based on profound scientific knowledge. The real challenge today is to further increase the efficiency and service life of the lamps. Contaminated water can be treated with high energy UV radiation which inactivates viruses or micro-organisms such as bacteria, yeasts, fungi or even parasites. UV water treatment has several benefits over other disinfection processes, notably chemicals such as chlorine and ozone, or filtration. It does not use chemicals, which makes it environmentally friendly. The method is not pH-dependent and does not affect the water's qualities, like taste, odor or color. Disinfection byproducts (DBPs) with carcinogenic or toxic effects are not formed. An all-important advantage is the fact, that pathogens cannot build any resistance to UV light. Thus, UV inactivates even Giardia and the chlorine-resistant Cryptosporidia. UV disinfection has low overall capital and operating costs, and is easy to maintain and operate.

Removal of Harmful Chemicals – Advanced Oxidation with UV

Micropollutants, which include such chemicals as endocrine disrupting compounds, pharmaceuticals and personal-care-products have come into public focus in recent years and are a serious threat for drinking water quality. In order to decompose the generally complex structures (e.g. of steroids or antibiotics) UV radiation is combined with powerful chemical oxidants such as ozone or hydrogen peroxide. A process known as advanced oxidation process (AOP). Fertilizers, herbicides and pesticides from agriculture are other examples of micropollutants that can be successfully treated with this method, as is shown in Andijk at Holland's largest drinking water reservoir IJsselmeer.

Since its development of UV medium pressure technology in 1904, Heraeus Noblelight can look back to 100 years of experience in the development, production and application of UV lamps. Through innovations such as Longlife technology, Heraeus continues to set milestones in the field of UV lamps. Heraeus Noblelight is an original equipment supplier and the 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-oxidization.

Heraeus Noblelight GmbH with its headquarters in Hanau and with subsidiaries in the USA, Great Britain, France, China, Australia and Puerto Rico, is one of the technology- and market-leaders in the production of specialist light sources. In 2007, Heraeus Noblelight had an annual turnover of 90 Million € and employed 666 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.

Heraeus, the precious metals and technology group headquartered in Hanau, Germany, is a global, private company with over 155 years of tradition. Our businesses include precious metals, sensors, dental and medical products, quartz glass, and specialty lighting sources. With product revenues of € 3 billion and precious metal trading revenues of € 9 billion, as well as over 11,000 employees in more than 100 companies worldwide, Heraeus holds a leading position in its global markets.

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