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## Protecting our world



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### Philips ultraviolet lamps - for the purification of water, air and surfaces





Philips Lighting provides innovative solutions, dedicated to improve health and quality of life with ultraviolet light.

## Moving towards a purer world

As the world's population rises, the demand for fresh, potable water increases - but so does the risk of pollution. Today more than one billion people around the world have no access to safe drinking water supplies. Millions more suffer from air pollution.

Philips ultraviolet lamps and ballast systems are non-polluting, purification systems, using ultraviolet (UV) light technology. Simple to install, cost-effective, environmentally friendly, these lamp systems make a safe solution for the purification of water, air and surfaces as an alternative to chemical purification systems.

### The crucial difference

From research to product development, from production to distribution, our global presence enables us to support our end-user customers and our business partners in every way. We oversee and control all the processes in-house, allowing us to offer you complete and confident assurance on quality and performance standards.

To provide the highest quality, we use the utmost precision with our advanced tools and machinery. Every single lamp is inspected to the most stringent tolerances throughout the production process. Our ballasts also go through extensive testing and measurement cycles, pushing them to the limit. This allows us to offer the benefits of guaranteed quality standards and unique technical experience.

Our experience, skill and resources make the application of a complex technology, simple and straightforward. To achieve the best performance from any installation, you need to optimize the delicate balance and interaction between lamp and ballast. Philips UV lamps operate on the edge of their capacity and systems are getting "smarter". This means they can offer added functionality, such as the ability to monitor UV output and adapt input power accordingly.

We are the only lamp manufacturer that offers a complete inhouse manufactured package of lamp, ballast and sleeves for ultimate performance.

When you choose Philips as a partner, we take complete responsibility for system performance and reliability. You deal with one supplier for the total system. This helps to avoid problems on any lamp compatibility failures and makes life easier for you.

### The best choice

As the largest lamp manufacturer in the world, we bring you the very best in product innovation, reliability and quality. Using the knowledge of lighting technology that we have built up over the last 100 years, we offer a comprehensive portfolio of UV lamps and ballast systems for a wide range of applications. From water and air purification to insect traps, colored lamps, aquariums, UV curing, blacklight blue and reprography.

We offer you a comprehensive choice from low pressure mercury lamps, quartz medium pressure lamps to high output amalgam lamps, ideal for use across a range of applications where purification is required. Complimentary to this lamp range, Philips offers a wide variety of ballasts and sleeves.

We invented and pioneered the use of technology to reduce the mercury level of our lamps. As a result, we are very proud to have by far the lowest mercury level in ultraviolet (UV) lamps in the industry.





# Simplicity is a lamp with the power to purify

Our water purification lamp and ballast systems can help free whole communities from the threat of water borne diseases caused by micro-organisms such as bacteria and viruses. These are still one of the main causes of death in many parts of the world. We offer lighting solutions for different markets, covering a range of installation possibilities for residential and municipal drinking water, waste water, industrial water, swimming pools and other water treatment applications.

### Simply better

Philips UV technology for water purification works almost instantly, leaving no residues, needing no chemicals that can produce harmful by-products, which give an unpleasant taste to water.

Typically Philips UV lamps are used as components in multistage filter units. These are compact and easy to install, use and maintain, as well as being highly effective.

## Raising the standard in water purification

A basic aim of governments around the world is to provide their citizens with safe drinking water, cost effectively. The primary process is to deactivate micro-organisms, avoiding or reducing the use of chlorine. Advanced oxidation by use of ultraviolet (UV) is rapidly emerging as a practical, economic alternative treatment for drinking water, offering low costs, low levels of harmful by-products and high efficiency.

### **Drinking water**

Besides large municipal drinking water plants, consumers can install UV water purification systems at the point of water entry into the home, or at the point of use, such as the kitchen sink. Combined with a conventional mechanical or active carbon filter stage to remove suspended particulates or organic materials, the result is water that is both biologically pure and sparkling clear.

### Waste water treatment

UV irradiance is an environmentally responsible and cost-effective way to purify public waste water discharges. UV purification is much safer than chlorine, as chlorine and its residual by-products are themselves harmful to the environment. Chlorine has also proved relatively ineffective against several hazardous micro-organisms, such as cryptosporidium. Thousands of waste water installations worldwide rely on UV purification.

### Swimming pools and fish ponds

Philips lamps have an increasing role in fish ponds and aquariums. Our Philips TUV PL-S lamps have set new standards in this field. In swimming pools, it has been proven that our lighting systems have lowered the chlorine doses by up to 50%.

Other applications using UV for water purification are: fish farming, ballast water for ships, agriculture, etc. We can ensure optimal support for all our customers by our thorough application knowledge.



## Purifying the air we breathe

Increasingly, we spend more time indoors. Not just at home, but at work, on trains and aircraft, in cinemas, leisure centres and shopping complexes. The air we breathe in these environments is anything but pure. Indoor air is trapped, frequently recirculated and loaded with contaminants. These include bacteria, viruses, moulds, mildew, pollen, smoke and toxic gases from building materials.

Air pollution is well documented as being a predominant factor in the spread of common diseases such as flu epidemics that cost billions of dollars in the world economy.

Philips UV purification systems are used in applications such as upper-air luminaires, in hospitals and in air ducts for ventilations, providing protection against airborne pathogens, and keeping the cooling coil clean from mould growth. Philips TUV PL-L HO lamps lead the way as the ideal product of choice in these applications.

