Hanovia

the power in UV technology

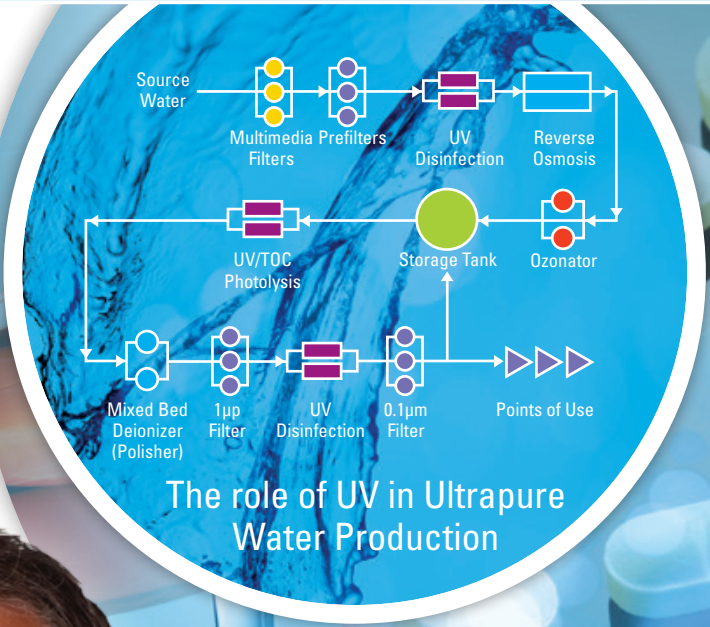
UV in pharmaceuticals toiletries & cosmetics...

FACT SHEET

How does Ultraviolet work?

Ultraviolet energy causes permanent inactivation of microorganisms by disrupting DNA so that they are no longer able to maintain metabolism or reproduce.

The maximum effectiveness occurs at between 240nm and 280nm, with the most effective wavelength typically at 265nm. The Hanovia Arc Tube produces these wavelengths in abundance. UV also provides the energy for certain chemical reactions and Hanovia systems now provide appropriate technologies for removal of chemical contaminants.



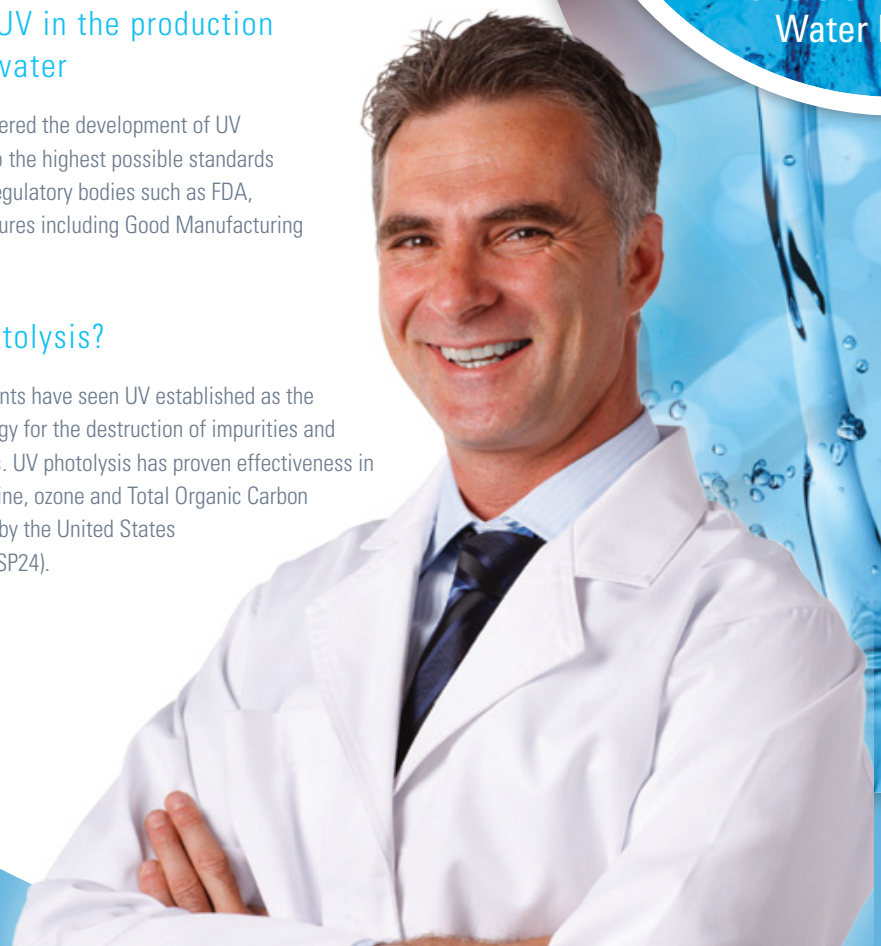
The role of UV in Ultrapure Water Production

The role of UV in the production of purified water

Hanovia has pioneered the development of UV to provide water to the highest possible standards as demanded by regulatory bodies such as FDA, and quality procedures including Good Manufacturing Practice (GMP).

What is photolysis?

Further developments have seen UV established as the preferred technology for the destruction of impurities and treatment residues. UV photolysis has proven effectiveness in photolysis of chlorine, ozone and Total Organic Carbon (TOC), as required by the United States Pharmacopoeia (USP24).



Most Efficient

- UV is effective against all known microorganisms including spores, yeasts, moulds, algae and protozoa
- Continuous monitoring of germicidal UV intensity
- Permanent accurate treatment records are produced ideal for ISO 9000 etc.
- Links easily to process controllers and computers
- Long term operation with minimal maintenance

Superior to Alternative Technologies

- Less capital intensive, lower running costs than other disinfection methods
- A photolysis unit will also provide disinfection
- Fully automated with fail-safe capacity
- Effective in high temperature water
- Compatible with sterilants including steam

Why is Hanovia the leading UV supplier?

- Hanovia has pioneered the use of UV in these applications for over 75 years
- Hanovia manufactures all its own stainless steel chambers, quartz thimbles and Arc Tubes to the highest possible standards
- Hanovia is the only UV systems manufacturer which also makes Medium Pressure Arc Tubes

Hanovia Systems are Compact & Easy to Install

- Conveniently fit into existing pipework vessels in most process areas
- Minimum site preparation required
- Pre-assembled units available pre-wired and skid-mounted, requiring only connection to the electrical supply

Inexpensive and Simple to Maintain

- Simple and safe operation easily understood by operators
- Designed for remote operation
- Replacement of Arc Tubes is quick and simple
- Distributors world-wide

Rigorous Quality Control (ISO 9001)

- Every system fully tested prior to despatch
- Test certificates always supplied

All Hanovia systems Include:

- Disinfection Chamber
- Arc Tube
- Control / Power Supply Cabinet
- UV Monitor
- Automatic Wiper Mechanism (optional)

Validation and Certification

Hanovia can supply an optional validation package which includes the following documentation:-

- Certification of Conformance
- QA/Test certification for system
- Material certificates
- UV Arc Tube conformity certificate
- UV monitor certificate
- Transmissivity standard

Ultraviolet Monitoring

UV monitors which respond only to the bactericidal wavelengths are used by Hanovia. They can be linked to PLCs and computers, so that power consumption is managed for economy of operation. Cheaper, wide band photo cells, being non specific in their sensitivity to bacterial wavelengths, can provide false information.

UV Installation and Dose

Hanovia supplies a full range of UV treatments for pharmaceutical, toiletry and cosmetics manufacture. Selection of the appropriate UV model for each application should be made in conjunction with a Hanovia specialist, who will also advise on the installation and dose Impurities in water which absorb and reflect UV; this effect must be allowed for in design calculation.

UV Transmission of Fluids

UV Transmission is measured on a spectrophotometer and is expressed as a percentage of the transmission achieved with doubled distilled water. Hanovia will perform this measurement for all clients and potential users in order to establish optimum dose requirements for each application.

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