

The Natural Choice

In every industrial process water, disinfection and organic pollution are crucial part of the total production quality system.

UV technology is a clean, efficient way to disinfect and de-contaminate water. UV is proven effective against bacteria, viruses and other organisms. UV systems are also effective in reducing TOC and many organic compounds.

How Does UV Work?

The natural disinfection properties of sunlight are attributable to UV radiation within the sun's rays. The UV spectrum is reproduced and enhanced to provide excellent control of microbiological activity and, by careful wavelength selection, destruction of targeted organic compounds and TOC.

In the case of disinfection, the cell is subjected to germicidal UV at a wavelength of 200 - 280 nm. This results in damage to protein structures and alteration of the cell DNA, preventing the cell from metabolizing and reproducing.

UV radiation also effects chemical bonding within organic molecules, causing them to break with the result that non polar molecules become charged and can be subsequently removed, by ion-exchange for example, leading to TOC reduction.

What are the Benefits?

- UV kill all microbes, and act quickly
- Low in capital Investment
- low running & maintenance costs
- Compact & easy to install
- Easy to retrofit
- Accurate control
- Minimize/eliminate the use of chemicals
- No effect on the water chemical composition
- No negative environmental impact

Applications include:

- Germicidal Disinfection
- Ozone, chlorine, chloramines destruction
- Total organic carbon reduction
- Photochemical / Photo-oxidation processes

Municipal Drinking Water

Proven effective for the control of waterborne pathogens in municipal drinking waters.

The UV reactor incorporates low or medium pressure UV lamps, parallel or cross flow design to provide low head loss and small footprint.

Waste Waters

To meet evermore stringent discharge limits for viral and bacterial discharges, The UV Systems provide a cost efficient solution. Low lamp numbers, more compact design and an automatic wiping mechanism ensure efficient operation.

UV Advanced oxidation processes using ESCO International expertise and know how offer a powerful tool for the reduction of refractory and xenobiotic organic compounds, TOC and COD.

Water Reclaim & Reuse

Water resources are becoming increasingly scarce while wastewater requirements are becoming more stringent.

Reuse is both economical and environmentally friendly solution.

A combination of technologies can condition wastewater to process water requirements. Combining application know-how and experience, ESCO International can offer engineered advanced oxidation solutions designed to meet or exceed your needs.

Process Water Disinfection

ESCO UV Systems solve and prevent many micro-biological problems within the Food and Beverage industry, and in many additional industrial process applications.

High Purity Water

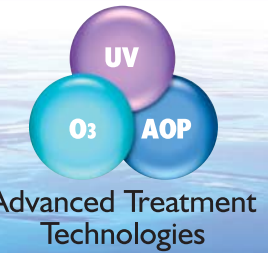
ESCO UV Systems are used in the Pharmaceutical and Electronics industries to provide disinfection, TOC reduction, oxidation of trace organic impurities, and ozone residual destruction of to meet the most stringent standards.

Swimming Pools

ESCO UV Systems offer a simple and convenient environmentally favorable method for treating swimming pool waters, with the additional benefit of eliminating chloramines and the discomfort associated with chlorine treatment alone.

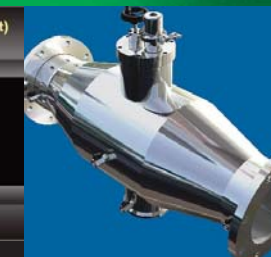
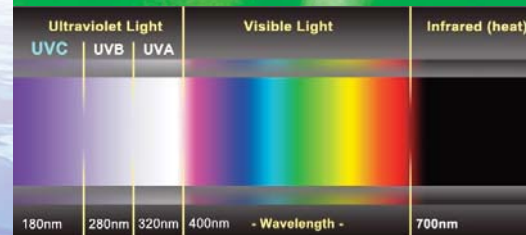
Special Applications

ESCO International provides technical consultancy, custom designed UV systems to meet your needs.



ULTRA VIOLET TECHNOLOGY

TREATING WATER NATURALLY



The Clean Technology



UV Systems

Designed For Your Needs

ESCO International solutions & technologies provide an innovative portfolio of technical services and equipment, specializing in UV, ozone and advanced oxidation processes.

The UV Systems are designed to provide excellent microbiological activity control and, by careful wavelength selection, destruction of targeted organic compounds and TOC.

Features & Benefits

The UV systems are delivered with standard or optional features for greater flexibility & control:

- Manual or automatic cleaning system
- Chemical cleaning system
- PLC control panel
- UV intensity monitoring
- Reactor temperature control
- Alarms for faults
- Automatic UV power control
- Special anti-corrosion coating
- Compact & simple to install & operate
- Minimal plant room space requirement
- Lower in capital Investment
- Minimal service & maintenance

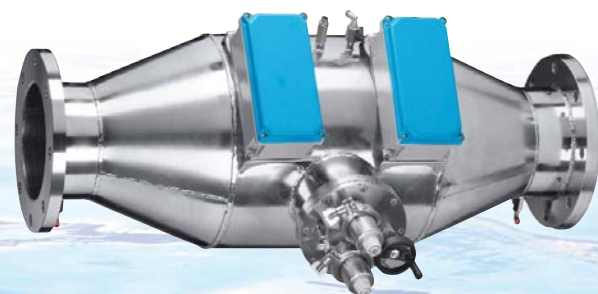
Safety

Safety is a major consideration in the design of all our product range, and the UV systems are no exception.

Quality

Total, absolute, non-negotiable quality, using only materials of the highest quality.

All products have are CE approved, and are designed in compliance with ISO 9001/2000 standards.



Performance

All our standard UV units are available with optional features to provide you with the extra flexibility to meet your needs.

The UV lamps incorporated in UV system design ensures cost effectiveness particularly at higher flow rates. It also gives peace of mind that there is sufficient UV energy for effective control of your ultra-pure water, drinking water and waste water purification.

The low pressure high output lamp performance is independent of water temperature in the range 5 – 50 °C and lamp output variation can be integrated to automatically vary energy use whilst maintaining the required UV dose, meaning that power consumption and hence running costs are continuously optimized.

Medium pressure UV systems are practically unaffected by water temperature.

Accurate intensity monitoring is essential for ensuring the correct UV dose, you can have confidence in knowing that the monitors utilized in all UV Systems are considered to be the most reliable in the industry.

The choice of magnetic or electronic ballasts and pace control operation ensures that you can choose the mode of operation most suited to your needs.

Reliability

The UV system are designed for fully automatic 24 hours operation, 365 days.

ESCO provides the best traditions of reliability and quality to ensure low running & maintenance costs and avoid unexpected failures and system downtime.

Design Range

Low & Medium pressure UV Systems

- Domestic UV series
- Flow rates from 1 m³/h to 1400 m³/h as standard
- Flow rates above 1,400 m³/h upon request
- Single & Multiple UV lamp series
- Parallel or Cross flow UV design
- Manual cleaning systems
- Automatic cleaning systems
- Chemical cleaning systems
- Stainless Steel 304, 316L
- Special anti-corrosion coating
- Custom designed UV systems
- UV systems for air purification

Combined Filtration - UV Systems Plants

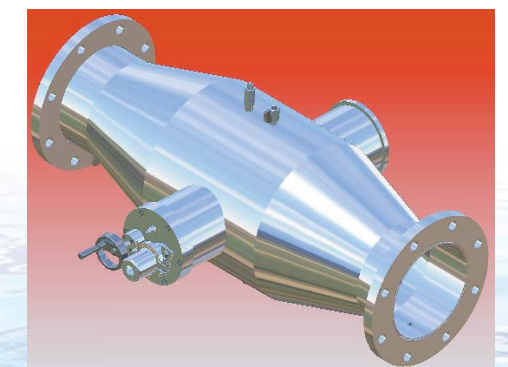
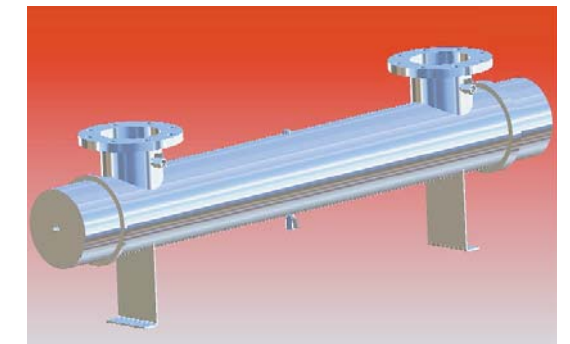
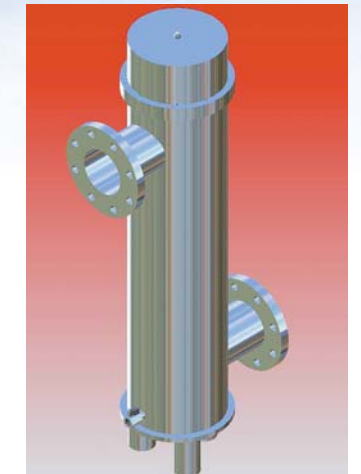
- Filtration and UV sterilization treatment
- Flow rates from 6 to 200 m³/h
- 50 µm filtration

Advanced Oxidation Skid Packages

- UV/O₃, UV/H₂O₂, UV/O₃/H₂O₂,
- Catalytic AOP systems
- Ozone skid packages
- Ozone & AOP Laboratory skid units

Industrial Filtration Systems & Cartridges

- Made entirely of stainless steel
- Containers up to 20"
- Cartridges in felt, polypropylene, polyester, Carbon, nylon, stainless steel, ceramics
- Cartridges with filtration grades from 800 to 0.2 µm
- Cartridges can be adapted to suit any container



ESCO
International

