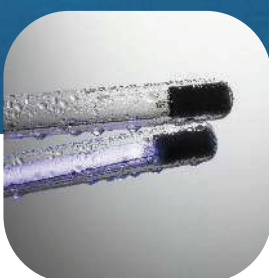


Reliable



World-class UV disinfection

Introduction

Sukrut UV Systems Pvt. Ltd. designs, manufactures and services high-quality ultraviolet (UV) systems for a wide range of demanding water and wastewater disinfection applications for quality-conscious customers. Thousands of Sukrut UV systems are excelling at the requirements and expectations of our clients in Australia, New Zealand, the Middle East and India.

Since 1996, we have had a close development and manufacturing partnership with Australian UV industry leaders (including Wedeco AVP Pty. Ltd., Australia until 2008).

The range of Sukrut UV systems (developed and manufactured exclusively for our Australian partners) has been approved for Australian WaterMark Level 1 ATS 5200.103 certification.

What is UV disinfection?

UV radiation of wavelengths between 200 to 280 nm (UV-C) has proved to damage DNA molecules of most pathogenic micro-organisms including bacteria, viruses, yeasts, protozoa, fungi, cysts, spores, etc. The micro-organism with damaged DNA loses its ability to cause infections.

No pathogenic micro-organism is known to resist correctly applied and sufficient dose of UV-C radiation.

Why disinfect with UV?

- **Reliable**

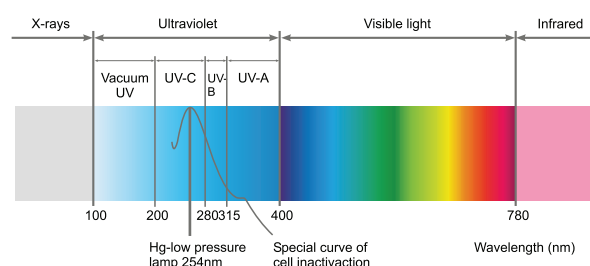
Reliable protection from most water-borne diseases. Proven worldwide

- **Enviro-friendly**

Non-chemical, no disinfection by-products (e.g. THMs)

- **Economical**

Cost-competitive compared to chlorination-de-chlorination, ozone and membrane filtration



UV dose

$$\text{UV dose} = \text{Intensity of UV-C radiation} \times \text{Exposure Time}$$

$$\left[\frac{\text{J}}{\text{m}^2} \right] \quad \left[\frac{\text{W}}{\text{m}^2} \right] \quad [\text{seconds}]$$

UV Dose is expressed as

Joules/m² [J/m²] or as micro-Watt-Seconds/cm² [μWs/cm²]

$$300 \text{ J/m}^2 = 30 \text{ mJ/cm}^2 = 30 \text{ mW-S/cm}^2 = 30,000 \mu\text{W-S/cm}^2$$

How much UV dose is required?

- The UV dose required to achieve 90% reduction of a specific micro-organism is called D₁₀ i.e. the UV dose at which only 10% of the micro-organisms survive.
- Doubling the D₁₀ UV dose achieves 99% reduction in the specific micro-organism.
- D₁₀ figures are known for most micro-organisms.*

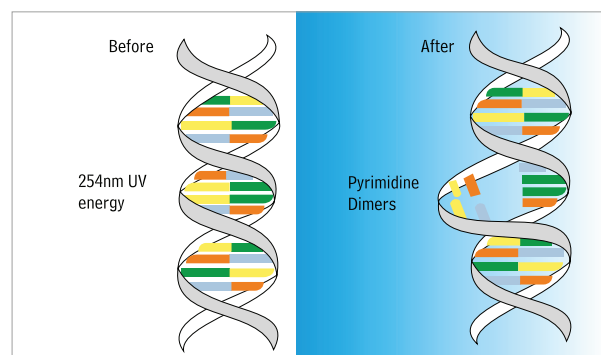
UV dose required to achieve various % reductions in E-Coli is shown below.

E-Coli - Relationship between UV dose and reduction as % of inlet count

Reduction	% Reduction	UV dose [mWs/cm ²]
1 x D ₁₀	90%	5.4 mWs/cm ²
2 x D ₁₀	99%	10.8 mWs/cm ²
3 x D ₁₀	99.9%	16.2 mWs/cm ²
4 x D ₁₀	99.99%	21.6 mWs/cm ²
5 x D ₁₀	99.999%	27.0 mWs/cm ²

* Please contact us for UV dose required for reduction of a specific micro-organism for your application.

Simple regular maintenance (e.g. periodic replacement of UV lamps, cleaning/replacement of quartz sleeves) is recommended to maintain sufficient UV dose.



Why Sukrut UV?

- World-class quality verified by WaterMark Australia
- Reliable long-term performance internationally proven over thousands of installations since 1996
- Honest, competent advice in the customer's best interest
- Easy-to-install UV systems are very compact and easy to maintain
- Professional team of qualified engineers with extensive international experience
- Specialty UV applications, proven performance in TOC reduction, sugar syrup disinfection, etc.
- Prompt deliveries

Sukrut UV systems - Features

- ✓ High and consistent UV dose
- ✓ High-performance quartz ultraviolet lamps
- ✓ Matched electronic ballasts
- ✓ Fused, high % UVT silica quartz sleeves
- ✓ Vertical or horizontal installation
- ✓ Very compact size
- ✓ Saves skid and piping costs
- ✓ Easy piping
- ✓ Saves space
- ✓ Self-guiding quartz sleeves
- ✓ Easy-to-change UV lamps
- ✓ Choice of power supplies
- ✓ Ex-stock spares
- ✓ Trouble-free, long-life operation
- ✓ System status indicators
- ✓ SS316L electro-polished UV chambers
- ✓ Application support available

CWS Series

[Industrial 1-13 m³/hr @300J/m² EOL and 95%UVT]



WBL Series

[Wastewater 1-100 m³/hr @600J/m² EOL and 65%UVT]



MCS Series

[Industrial 13-200 m³/hr @300J/m² EOL and 94-95%UVT]



UV spares and accessories



- EOL means at the end of lamp life.
- The same product can deliver higher or lower dose at different flow rates.

Sukrut – The industries served

Sukrut's customer list includes quality-focused market leaders in diverse industries like water and wastewater treatment, pharmaceuticals, food and beverages, ultra-pure water, marine, aqua-culture, swimming pools, drinking water supply, etc. We would be happy to provide references.

Sukrut – The people

Sukrut is set up and managed by qualified engineering professionals with over 23 years' experience with multinational companies in India and Australia.

The highly dedicated Sukrut team is committed to honesty, quality, technical competence, innovation, reliability and ever-lasting relationships in all spheres of its business. Based on the strong foundation of these values, Sukrut has created a unique position for itself to cater to the critical needs of our global water and wastewater industrial clients.



Drinking water



Beverages



Pharmaceutical



Ultra-pure water



Wastewater



Swimming pools



Food processing



Aqua-culture

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