

UV System Certification



NSF Helps Ultraviolet (UV) Light System Manufacturers Access New Markets

For over 65 years, NSF International has worked with public health officials, manufacturers and facility operators to evaluate products and protect public health. NSF has developed standards for the evaluation and testing of UV systems for many different water treatment applications:

Recreational Water	<ul style="list-style-type: none">• NSF/ANSI Std. 50
Drinking Water	<ul style="list-style-type: none">• NSF/ANSI Std. 61• US EPA UV DGM• NSF EPA ETV• NSF/ANSI Std. 55 (≤ 30GPM, for POE/POU)
Wastewater	<ul style="list-style-type: none">• NSF/ANSI Std. 46• NSF EPA ETV
Environmental	<ul style="list-style-type: none">• ISO 9001, EMS 14001, RoHS (Reduction of Hazardous Substances)

Comprehensive Testing for the Recreational Water Market

Detailed requirements for UV system evaluation and testing can be found in NSF/ANSI Standard 50-Equipment for Swimming Pools, Spas, Hot Tubs and Other Recreational Water Facilities. NSF certification includes the following:

- Testing up to 5,000gpm at 7.2mgd
- Material formulation (chemical extraction, corrosion, water quality effects)
- Physical evaluation (review of instructions, data plate, marking,)
- Operator protection (power shut-off, warning labels, flow meter, performance indication)
- Maintenance and cleanability,
- Pressure testing (burst pressure, pressure/head loss)
- Life testing (3000hr life testing of 3 UV systems)
- Disinfection efficacy to confirm 3 log reduction/inactivation of organisms
- Cryptosporidium parvum disinfection efficacy testing with: phage T7, MS2, B. subtilis, E. coli, rotavirus and other non-pathogenic test surrogates.
- Additional claim verification testing

Contact Us

For more information about NSF's services for the recreational water market, please call 800-NSF-MARK, email pool@nsf.org or visit www.nsf.org/info/pools.



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Other NSF Services for UV System Manufacturers

NSF/ANSI Standard 61 - Health Effects

NSF tests and certifies ingredients, materials, products, and systems used in the treatment and distribution of drinking water. NSF uses Standard 61 to assess the health effects of contaminants that may be contributed to drinking water from the materials in treatment and distribution equipment. Our evaluation involves formulation and process review, production facility inspection, chemical exposures, and data normalization to end use conditions. Our depth of experience, superior service, and unparalleled recognition enables manufacturers to meet regulatory requirements thereby helping you expand your business. For more information email standard61@nsf.org or visit www.nsf.org/info/wds.

NSF EPA-ETV - Environmental Technology Verification (ETV) and Drinking Water Systems

UV reactors designed for community water treatment (large systems), can be validated under the Environmental Protection Agency's (EPA) Environmental Technology Verification (ETV) Program. Testing follows the procedures in the US EPA's Ultraviolet Disinfection Guidance Manual (US EPA UV DGM) to establish the dose delivered at various operating conditions. Reactors are tested at different lamp output, UV transmittance and flow rates. UV sensors are validated and testing occurs with single sensor set-point or set-line approach. A complete EPA ETV report and summary about your product is issued and made available to help facility operators, regulators, and purchasers make informed decisions. Therefore NSF helps provide an entry to the market and reduce pilot testing enabling systems to be specified, purchased, approved and installed more quickly. NSF certification of UV systems will address the "re-validation" requirements in the 2006 US EPA UV DGM. For more information, email etv@nsf.org or visit www.nsf.org/info/etv.

NSF Standard 55 - Ultraviolet Microbiological Water Treatment Systems

UV systems with flow rates up to 30 gpm for sale to the residential point of use (POU) or point of entry (POE) market are Certified to NSF/ANSI 55. Systems with UV sensors and alarms that are able to produce a dosage of 40 mJ/cm² at the alarm set point or at 70% UVT, whichever is lower, can be Certified as Class A disinfection systems. Class B bactericidal systems must be able to produce a dosage of 16 mJ/cm² at 70% UVT. In addition to biosimetry testing, systems Certified to Standard 55 undergo material extraction and structural integrity testing. For more information, email dwtu@nsf.org or visit www.nsf.org/info/dwtu.

Management Systems Registration (ISO 9000 and 14000)

NSF offers bundled services to help your company reduce work interruptions and increase efficiency through a single source provider. NSF-ISR, a top-ten registrar, is dedicated to designing a service that best fits your unique needs. From ISO 9001 and 14001 to QMS and EMS and everything in between, our comprehensive programs will provide the total solution your company requires to achieve worldwide recognition for commitment and integrity. For more information, email information@nsf-isr.org or visit www.nsf-isr.org.

RoHS

NSF offers RoHS Certification Services for compliance with the Restriction of Hazardous Substances. NSF's vast library of product and material formulations enable us to rapidly serve your needs to meet this new regulation for Europe, California, and other states. For more information, email rohs@nsf.org or visit www.nsf.org/info/rohs.

UV Systems for Wastewater - NSF/ANSI Standard 46 and NSF EPA-ETV

For UV manufacturers that sell to the wastewater market, NSF offers two options: certification to NSF/ANSI Standard 46 for small systems, and the NSF EPA-ETV program that provides detailed customized validation reports for large flow systems. The standard tests and certifies UV devices used for the tertiary treatment of residential wastewater. Such devices commonly follow advanced residential wastewater treatment systems. Standard 46 covers small residential flows in the range of 400 to 1,500 gallons per day and is increasingly required by regulatory agencies, particularly for water reuse applications. For more information, please email wastewater@nsf.org or visit www.nsf.org/info/wastewater.