# DRINKING WATER TREATMENT UNITS
## Applicable NSF Standards

Founded in 1944, NSF is the leading global, independent third-party certification and testing health safety and protection organization for products that affect water quality and food safety.

In addition, NSF is recognized as the leading authority in the development of consensus, national standards that bring together experts from the regulatory, manufacturing, academic, scientific research, and consumer industries.

## NSF Drinking Water Treatment Units (DWTU) Certification Program

The NSF DWTU Certification Program for Point-of-Use (POU) and Point-of-Entry (POE) systems and components was first established in the early 1970s, beginning with the adoption of the first NSF DWTU Standard in 1973.

Today, a total of eleven NSF DWTU Standards and Protocols have been adopted, to which hundreds of companies have certified thousands of POU and POE systems and components.

Recognized by regulatory agencies from a local to international level, the NSF certification mark means that your product complies with all stated standard or protocol requirements.
Each NSF Standard is technology-specific. Once you have identified the proper standard, that one standard includes all of the test methods and criteria for all requirements of your product necessary to achieve NSF Certification.

# NSF/ANSI 42 - DRINKING WATER TREATMENT UNITS – AESTHETIC EFFECTS

This standard establishes minimum requirements for systems designed to reduce non-health-related contaminants.

| Scope | Point-of-Use and Point-of-Entry Systems |
|---|---|
| Claims | Chlorine, taste and odor, chloramine, particulate, iron, manganese, zinc and total dissolved solids (TDS) |
| Testing | Material safety, lead content evaluations, structural integrity and specific aesthetic-related contaminant reduction claims (claims vary by product) |

# NSF/ANSI 53 - DRINKING WATER TREATMENT UNITS – HEALTH EFFECTS

This standard establishes minimum requirements for systems designed to reduce health-related contaminants.

| Scope | Point-of-Use and Point-of-Entry Systems |
|---|---|
| Claims | This standard offers over 50 contaminant reduction claims. Some of the most popular include lead, Cryptosporidium, microcystins, VOCs, chromium and various pesticides and herbicides<br>In 2022, Total PFAS reduction claim has been added to this standard. |

# NSF/ANSI 44 – RESIDENTIAL CATION EXCHANGE WATER SOFTENERS

This standard establishes the minimum requirements for certification of residential water softeners using a cation exchange resin that is regenerated with sodium or potassium chloride, reducing hardness from public or private water supplies.

| Scope | Residential water softening systems |
|---|---|
| Claims | Most common elective claims include:<br>Barium reduction, Radium 226/228 reduction, efficiency of salt and water consumptions |

# NSF/ANSI 55 – ULTRAVIOLET MICROBIOLOGICAL WATER TREATMENT SYSTEMS

This standard establishes the minimum requirements for point-of-entry and point-of-use UV water treatment systems that may be either microbiologically safe or microbiologically unsafe. These systems are not intended for water that has an obvious contamination.

| Scope | Residential ultraviolet (UV) water treatment systems |
|---|---|
| Claims | some of the microorganisms reduced include: *Cryptosporidium*, *Giardia* cysts, coliforms |

# NSF/ANSI 58 – REVERSE OSMOSIS DRINKING WATER TREATMENT UNITS

This standard establishes the minimum requirements for materials, design and construction, and performance of reverse osmosis drinking water treatment systems.

| Scope | Point-of-Use Reverse Osmosis-based Systems |
|---|---|
| Claims | Required: TDS (total dissolved solids) reduction<br>Optional: • Cyst reduction • Hexavalent and trivalent chromium reduction • Arsenic reduction • Nitrate/nitrite reduction • Cadmium reduction • Lead reduction • Barium reduction • Turbidity reduction • Fluoride reduction • Copper reduction • VOC reduction • Asbestos reduction • Perchlorate reduction • Radium 226/228 reduction • Selenium reduction • Pentavalent arsenic reduction |

# NSF/ANSI 62 – DRINKING WATER DISTILLATION SYSTEMS

This standard establishes the minimum materials, design and construction, and performance requirements for point-of-use and point-of-entry drinking water distillation systems and the components used in these systems.

| Scope | Point-of-use (POU) and point-of-entry (POE) drinking water distillation systems |
|---|---|
| Claims | Distillation systems covered by this Standard are designed to reduce specific chemical contaminants from potable drinking water supplies. Systems covered under this Standard may also be designed to reduce microbiological contaminants, including bacteria, viruses, and cysts, from potable drinking water supplies. |

# NSF/ANSI 244 – SUPPLEMENTAL MICROBIOLOGICAL WATER TREATMENT SYSTEMS - FILTRATION

This standard establishes the minimum requirements for the reduction of microorganisms using mechanical filtration devices for supplemental treatment of microbiologically safe drinking water. Mechanical filtration devices covered by this Standard are intended for use only on water supplies that have been treated to public water system standards or otherwise are determined to be microbiologically safe as demonstrated by routine testing. They are intended only for protection against intermittent incursions or accidental microbiological contamination of otherwise safe drinking water.

| Scope | Drinking Water Filters |
|---|---|
| Claims | Structural integrity, material safety, reduction of bacteria and viruses counts |

# NSF/ANSI 401 – DRINKING WATER TREATMENT UNITS-EMERGING COMPOUNDS / INCIDENTAL CONTAMINANTS

This standard addresses the ability of a water treatment device to remove up to 15 individual contaminants which have been identified in published studies as occurring in drinking water. The contaminants covered in NSF/ANSI 401 have been detected in drinking water supplies at trace levels and can affect some consumers' perception of drinking water quality

| Scope | Point-of-Use and Point-of-Entry Systems |
|---|---|
| Claims | This standard offers up to 15 specific contaminant reduction claims. Some of the most popular categories include prescription drugs, over-the-counter medications, herbicides, pesticides and chemical compounds. |
| Testing | Material safety, lead content verification, structural integrity and specific emerging compounds/incidental contaminants outlined in the standard. |

# NSF/ANSI P 231 – MICROBIOLOGICAL WATER PURIFIERS

Microbiological water purifiers use chemical, mechanical, and/or physical technologies to filter and treat waters of unknown microbiological quality, but are presumed to be potable. This protocol addresses contains minimum requirements for materials, design and construction, and performance of these systems. The systems are not intended to convert wastewater or raw sewage into drinking water.

| | |
|---|---|
| Scope | Point of use treatment systems for water with unknown microbiological quality |
| Claims | Structural integrity, material safety, reduction of bacteria and viruses counts |

# NSF/ANSI P343 – HEALTH AND SANITATION REQUIREMENTS FOR ATMOSPHERIC WATER GENERATORS

This protocol addresses atmospheric water generators either Point Of Use or Point Of Entry units. The units are tested against micro-organism reduction claims while running to ensure that the water produced is microbiologically safe. Systems have to have a disinfection integrated system to avoid molds and bacteria growth (ozonation, UV)

| | |
|---|---|
| Scope | Atmospheric water generators used as Point-of-Use or Point-of-Entry systems |
| Claims | Structural integrity, material safety, reduction of bacteria and viruses counts |

# NSF/JWPA P508 – DRINKING WATER TREATMENT UNITS - FILTRATION

This protocol establishes minimum requirements for materials, design and construction, and performance of point-of-use (POU) and point-of-entry (POE) drinking water treatment systems that are designed to reduce specific contaminants in public or private water supplies in regions that have lower water pressure than those existing in the U.S. and Canada.

| | |
|---|---|
| Scope | Point-of-Use and Point-of-Entry Systems |
| Claims | Incorporates all claims from NSF/ANSI 42, 53, and 401 |
| Testing | Material safety, lead content evaluations, structural integrity, and performance claims |

# 7 STEPS TO GET NSF CERTIFICATION FOR YOUR PRODUCTS

When you're ready to pursue certification, NSF International makes it easy for you. Standards and Protocols like those listed above usually require seven steps to gain certification:

| APPLICATION | SUBMISSION | REVIEW | ONSITE AUDIT | TESTING | TECHNICAL EVALUATION | CERTIFICATION |
|---|---|---|---|---|---|---|
| Your company submits an application. | You provide product formulation, toxicology and product use information. | Our technical team reviews formulations and/or parts lists. | We perform an onsite audit of the production facility and collect/request samples. | Our laboratory conducts testing. | We complete a final technical evaluation. | NSF certification is granted (and maintained annually). |

**Water Filter Reverse Osmosis System**

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