Standards

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Through a comprehensive consensus process, the NSF Joint Committee on Drinking Water Treatment Units has developed key standards for evaluation and certification of drinking water treatment units. These include:

NSF/ANSI Standard 42: Drinking Water Treatment Units - Aesthetic Effects
Overview: This standard covers point-of-use (POU) and point-of-entry (POE) systems designed to reduce specific aesthetic or non-health-related contaminants (chlorine, taste and odor, and particulates) that may be present in public or private drinking water.

NSF/ANSI Standard 53: Drinking Water Treatment Units - Health Effects
Overview: Standard 53 addresses point-of-use (POU) and point-of-entry (POE) systems designed to reduce specific health-related contaminants, such as *Cryptosporidium*, *Giardia*, lead, volatile organic chemicals (VOCs), MTBE (methyl tertiary-butyl ether), that may be present in public or private drinking water.

NSF/ANSI Standard 58: Reverse Osmosis Drinking Water Treatment Systems
Overview: This standard was developed for point-of-use (POU) reverse osmosis (RO) treatment systems. These systems typically consist of a pre-filter, RO membrane, and post-filter. Standard 58 includes contaminant reduction claims commonly treated using RO, including fluoride, hexavalent and trivalent chromium, total dissolved solids, nitrates, etc. that may be present in public or private drinking water.

NSF/ANSI Standard 44: Cation Exchange Water Softeners
Overview: This standard covers residential cation exchange water softeners designed to reduce hardness from public or private water supplies. Additionally, this standard can verify the system's ability to reduce radium and barium.

NSF/ANSI Standard 55: Ultraviolet Microbiological Water Treatment Systems
Overview: This standard establishes requirements for point-of-use (POU) and point-of-entry (POE) ultraviolet systems and includes two optional classifications. Class A systems (40,000 uwsec/cm2) are designed to disinfect and/or remove microorganisms from contaminated water, including bacteria and viruses, to a safe level. Class B systems (16,000 uw-sec/cm2) are designed for supplemental bactericidal treatment of public drinking water or other drinking water, which has been deemed acceptable by a local health agency.

NSF/ANSI Standard 62: Drinking Water Distillation Systems
Overview: Standard 62 covers distillation systems designed to reduce specific contaminants, including

Technology	Description of Product Technology
Adsorption (NSF/ANSI 42 & 53)	This is the physical process that occurs when liquids, gases, dissolved or suspended matter adhere to the surface of, or in the pores of, an adsorbent medium. Carbon filters use this technology to filter water.
Softeners (NSF/ANSI 44)	Water softening devices covered by Standard 44 use a cation exchange resin, regenerated with sodium chloride or potassium chloride, to reduce the amount of hardness (calcium, magnesium) in the water. The hardness ions in the water are replaced with sodium or potassium ions.
Ultraviolet Treatment (NSF/ANSI 55)	This treatment style uses ultraviolet light to disinfect water (Class A systems) or to reduce the amount of heterotrophic bacteria present in the water (Class B systems).
Reverse Osmosis (NSF/ANSI 58)	A process that reverses, by the application of pressure, the flow of water in a natural process of osmosis so that water passes from a more concentrated solution to a more dilute solution through a semi-permeable membrane. Most reverse osmosis systems incorporate pre- and post-filters along with the membrane itself.
Distillers (NSF/ANSI 62)	These systems heat water to the boiling point and then collect the water vapor as it condenses, leaving many of the contaminants behind, particularly the heavy metals. Some contaminants that convert readily into gases, such as volatile organic chemicals, may be carried over with the water vapor.

Styles of Water Treatment Devices

There are several styles of water treatment devices available on the market today. The most common styles are listed below, along with a brief description of each.

Point-of-Entry (POE) System
These systems typically treat most of the water entering a residence. Point-of-entry systems, or whole-house systems, are usually installed after the water meter. (Water meters are usually located in the basement of a house. In warm weather climates, the water meter may be in the garage or outside of the house.) A water softener is an example of a POE system.

Point-of-Use (POU) System
These systems typically treat water in batches and deliver water to a single tap, such as a kitchen sink faucet or an auxiliary faucet mounted next to the kitchen sink. The following information contains a brief explanation of different POU systems and points to consider when determining which style of a system will best suit your needs. The list is ordered from easiest installation/operation to more difficult or complex installation/operation and should not be construed as any type of recommendation.