Summary of Substantive Changes
between the 2017 and the 2019 editions of
NSF/ANSI 42, Drinking Water Treatment Units – Aesthetic Effects

Presented to the IAPMO Standards Review Committee on February 10, 2020

General: The changes to this standard should not have an impact on currently listed products. The substantive changes are:

- Removed inconsistent language across the standard and added clarifying language to show components or functions covered by other NSF standards (see Sections 1.2, 8.1.1, 8.2.1.2, 8.2.2.3, 8.3.2 and 8.4.2)
- Revised language to clarify testing for pH and other parameters for chloramine reduction testing. (see Section 7.3.2.8)

Section 1.2, Scope: Removed inconsistent language across the standard and added clarifying language to show components or functions covered by other NSF standards as follows:

1.2 Scope

The point-of-use (POU) and point-of-entry (POE) systems addressed by this Standard are designed to be used for the reduction of specific substances that may be present in drinking water (public or private) considered to be microbiologically safe and of known quality. Systems covered under this Standard are intended to address one or more of the following: reduce substances affecting the aesthetic quality of the water, ~~or to~~ add chemicals for scale control, or ~~both~~ limit microbial growth in the system (bacteriostatic). Substances may be soluble or particulate in nature ~~at concentrations influencing public acceptance of the drinking water~~. It is recognized that a system may be effective in controlling one or more of these substances but is not required to control all. Systems with manufacturer claims that include components or functions covered under other NSF or NSF/ANSI Standards or Criteria shall conform to the applicable requirements therein. Filter systems covered by this Standard are not intended to be used with drinking water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

NOTE — Systems that are compliant with NSF/ANSI 55 Class A or other standards that cover technologies to treat microbiologically unsafe water (e.g., US EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers or NSF P231) are examples of demonstrating adequate disinfection before or after the system.

Section 7.3.2, Chloramine reduction testing: The language was revised to clarify testing for pH and other parameters in the sampling procedures as follows:

7.3.2.8 Sampling

Collection of the influent challenge and product water samples shall begin during the on portion of the cycle after one unit volume has passed through the test unit. Sampling shall occur after the passage of 10 unit volumes of the influent challenge and at 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, and 100% of the estimated system capacity. The volume of water collected for each sample shall not exceed 1 L (0.26 gal) or four times the amount required for analysis, whichever is larger. If the on cycle ends

before the necessary sample volume has been collected, the remaining sample volume shall be collected in the same manner during the next on cycle.
Influent challenge water shall be sampled and analyzed for conformance with the pH requirements under Section 7.3.2.6.1 and chloramine reduction requirements under Table 7.2, a minimum of once for each batch of challenge water or every 3785 L (1000 gal)~~, whichever is greater~~.

Section 8, Instruction and Installation: Removed inconsistent language across the standard and added clarifying language to show components or functions covered by other NSF standards as follows:
8.1 Installation, operation, and maintenance instruction
8.1.1 *Information setting forth complete, detailed instructions for installation, operation, and maintenance shall be provided with each system. Specific information shall include:*
— model number and trade designation;
— complete name, address, and telephone number of manufacturer;
— flushing and conditioning procedures;
— rated service flow in L/min or L/d (gpm or gpd);
— maximum working pressure in kPa (psig);
— maximum operating temperature in degrees C (degrees F);
— detailed installation instructions including an explanation or schematic diagram of proper connections to the plumbing system;
— general operation and maintenance requirements including, but not limited to, suggested frequency of filter replacement or service to the system, user responsibility, and parts and service availability;
— sources of supply for replaceable components;
— statement that the system and installation shall comply with applicable state and local regulations;
— statement that the system is to be supplied only with cold water; and
— statement that the system conforms to NSF/ANSI 42 for the specific performance claims as verified and substantiated by test data.
Where applicable and appropriate, the following information shall also be included:
— model number of replacement components;
— rated capacity / rated service life in liters (gallons);
NOTE — Each unique model designation shall claim a capacity no greater than the least reduction capacity that has been verified through testing to NSF/ANSI 42, NSF/ANSI 53, or NSF/ANSI 58 section for VOC reduction.
— minimum working pressure in kPa (psig);
— minimum operating temperature in degrees C (degrees F);
— electrical requirements;
— diagram showing proper air gap installation to waste connections;
— statement for activated carbon systems:
"Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system."
NOTE — Systems that are compliant with NSF/ANSI 55 Class A or other standards that cover technologies to treat microbiologically unsafe water (e.g., US EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers or NSF P231) are examples of demonstrating adequate disinfection before or after the system.
— statement for systems making bacteriostatic claims:
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8.2.1.2 *Where applicable and appropriate, the following information shall also be included:*
— model number of replacement components;
— electrical requirements; and
— statement for activated carbon systems:
"Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system."
NOTE 1 — Where the physical size of the system does not permit affixing the caution statement to the system, the statement shall be prominently displayed in the literature accompanying the system.
NOTE 2 — Systems that are compliant with NSF/ANSI 55 Class A or other standards that cover technologies to treat microbiologically unsafe water (e.g., US EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers or NSF P231) are examples of demonstrating adequate disinfection before or after the system.
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8.2.2.3 *Where applicable and appropriate, the following information shall also be included:*
— rated capacity / rated service life in liters (gallons). If applicable rated capacity / rated service life in liters (gallons) is not included on the modular element data plate, a statement that rated capacity / rated service life in liters (gallons) may be found on the performance data sheet shall be included;
NOTE — Each unique model number designation shall claim a capacity or service life no greater than the least reduction capacity or service life that has been verified through testing to NSF/ANSI 42 or 53.
— operating or exchange steps; and
— statement for activated carbon systems:
"Do not use with water that is microbiologically unsafe or unknown quality without adequate disinfection before or after the system."
NOTE — Systems that are compliant with NSF/ANSI 55 Class A or other standards that cover technologies to treat microbiologically unsafe water (e.g., US EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers or NSF P231) are examples of demonstrating adequate disinfection before or after the system.

Section 8.3, Replacement Components: Added clarification to the product literature requirements for replacement components as follows:

8.3 Replacement components
8.3.1 *The packaging of components, specifically for replacement purposes, shall be labeled with the following information:*
— model number or name of component;
— model number or series identification of system(s) in which the component is to be used; and
— name and address of manufacturer.
8.3.2 *Where applicable, the following information shall also be included:*
— rated capacity / rated service life in liters (gallons);
NOTE — Each unique model designation shall claim a capacity or service life no greater than the least reduction capacity or service life that has been verified through testing to NSF/ANSI 42.
— operating or exchange steps;
— statement that the system conforms to NSF/ANSI 42 for the specific performance claims as verified and substantiated by test data; and
— statement for activated carbon systems:
"Do not use with water that is microbiologically unsafe or of unknown quality without adequate

disinfection before or after the system."
NOTE 1 — Where the physical size of the component does not permit affixing the caution statement to the component, the statement shall be prominently displayed in the literature accompanying the component.
NOTE 2 — Systems that are compliant with NSF/ANSI 55 Class A or other standards that cover technologies to treat microbiologically unsafe water (e.g., US EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers or NSF P231) are examples of demonstrating adequate disinfection before or after the system.

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8.4.2 Where applicable, the following information shall also be included:
— model number of replacement components;
— pressure drop of new system in kPa (psig) at rated flow (POE systems only);
— minimum working pressure in kPa (psig);
— minimum operating temperature in degrees C (degrees F);
— electrical requirements;
— statement for activated carbon systems:
"Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system."
NOTE — Systems that are compliant with NSF/ANSI 55 Class A or other standards that cover technologies to treat microbiologically unsafe water (e.g., US EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers or NSF P231) are examples of demonstrating adequate disinfection before or after the system.

Table 5.1, Structural integrity testing requirements: Table 5.1 was editorially revised to add "Components" heading that was accidentally deleted. It was also revised to remove the word "metallic" from disposable pressure vessels and components.

Annexes: The Annexes were editorial updated to change alpha characters to numeric.