



*NSF International Standard /  
American National Standard*

## NSF/ANSI 53 - 2016

Drinking Water Treatment Units -  
Health Effects



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NSF International Standard/  
American National Standard  
for Drinking Water Treatment Units —

**Drinking water treatment units –  
Health effects**

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The illustrations, if provided, are intended to assist in understanding their adjacent standard requirements. However, the illustrations may not include **all** requirements for a specific product or unit, nor do they show the only method of fabricating such arrangements. Such partial drawings shall not be used to justify improper or incomplete design and construction.

Unless otherwise referenced, the annexes are not considered an integral part of NSF Standards. The annexes are provided as general guidelines to the manufacturer, regulatory agency, user, or certifying organization.

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## Contents

1	General .....	1
1.1	Purpose .....	1
1.2	Scope .....	1
1.3	Alternate materials, designs, and construction .....	1
1.4	Minimum requirements.....	1
1.5	Chemical and mechanical reduction performance claims .....	2
1.6	Treatment train.....	2
1.7	Standard review .....	2
2	Normative references .....	2
3	Definitions .....	3
4	Materials .....	3
4.1	Materials in contact with drinking water .....	3
4.2	Materials evaluation .....	4
4.3	Gas chromatography/mass spectroscopy (GC/MS) analysis .....	6
5	Structural performance .....	15
5.1	Structural integrity .....	15
5.2	Acceptance .....	15
5.3	Working pressure .....	17
5.4	Structural integrity test methods .....	17
6	Minimum performance requirements .....	21
6.1	Performance indication of chemical reduction capacity.....	21
6.2	Elements .....	22
6.3	Flow control.....	22
6.4	Waste connections.....	23
6.5	Product water dispensing outlets .....	23
6.6	Hazards .....	23
6.7	Systems used in bottled water plants .....	23
6.8	Operation temperature .....	23
6.9	POE rated pressure drop .....	23
6.10	Minimum service flow .....	24
6.11	Rated service flow .....	24
6.12	Active agents and additives.....	24
7	Elective performance claims – test methods.....	25
7.1	General requirements .....	25
7.2	Chemical reduction claims .....	27
7.3	Mechanical filtration reduction claims .....	46
7.4	Metals reduction testing .....	60
8	Instruction and information .....	85
8.1	Installation, operation, and maintenance instructions.....	85
8.2	Data plate.....	87
8.3	Replacement components .....	89
8.4	Performance data sheet.....	90
Annex A	.....	97
Annex B	.....	107
Annex C	.....	115
Annex D	.....	117
Annex E	.....	121
Annex F	.....	123

Annex G .....	127
Annex H.....	131
Annex I .....	133

## Foreword<sup>2</sup>

The purpose of this Standard is to establish minimum requirements for materials, design and construction, and performance of drinking water treatment systems that are designed to reduce specific health-related contaminants in public or private water supplies. NSF/ANSI 53 specifies minimum product literature requirements that manufacturers must provide to authorized representatives and owners.

This edition of the Standard contains the following revisions:

### Issue 87

This revision added language to state that systems be conditioned using the test water with the specified contaminant for chemical reduction claims under section 7.

### Issue 104

CAS numbers were added to Table 4.1 (previously Table 1) of the materials evaluation criteria.

### Issue 105

Sampling point instructions for squeeze bottles in Annex E were clarified.

The tables in this edition have also been changed to reflect the appropriate section in which it is located:

Previous edition of NSF/ANSI 53	Current edition of NSF/ANSI 53
Table 1	Table 4.1
Table 2	Table 4.2
Table 3	Table 4.3
Table 4	Table 4.4
Table 5	Table 5.1
Table 6	Table 6.1
Table 7	Table 7.1
Table 8	Table 7.2
Table 9	Table 7.3
Table 10	Table 7.4
Table 11	Table 7.5
Table 12	Table 7.6
Table 13	Table 7.7
Table 14	Table 7.8
Table 15	Table 7.9
Table 16	Table 7.10
Table 17	Table 7.11
Table 18	Table 8.1
Table 19	Table 8.2
Table 20	Table 8.3

<sup>2</sup> The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. Therefore, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

This Standard was developed by the NSF Joint Committee on Drinking Water Treatment Units using the consensus process described by the American National Standards Institute.

Suggestions for improvement of this Standard are welcome. This Standard is maintained on a Continuous Maintenance schedule and can be opened for comment at any time. Comments should be sent to Chair, Joint Committee on Drinking Water Treatment Units at [standards@nsf.org](mailto:standards@nsf.org), or c/o NSF International, Standards Department, P.O. Box 130140, Ann Arbor, Michigan 48113-0140, USA.

## NSF/ANSI Standard for Drinking Water Treatment Units —

# Drinking water treatment units — Health effects

## 1 General

### 1.1 Purpose

It is the purpose of this Standard to establish minimum requirements for materials, design and construction, and performance of point-of-use and point-of-entry drinking water treatment systems that are designed to reduce specific health-related contaminants in public or private water supplies. Such systems include point-of-entry drinking water treatment systems used to treat all or part of the water at the inlet to a residential facility or a bottled water production facility, and includes the material and components used in these systems. This Standard also specifies the minimum product literature and labeling information that a manufacturer shall supply to authorized representatives and system owners, as well as the minimum service-related obligations that the manufacturer shall extend to system owners.

### 1.2 Scope

The point-of-use and point-of-entry 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). These substances are considered established or potential health hazards. They may be microbiological, chemical, or particulate (including filterable cysts) in nature. It is recognized that a system may be effective in controlling one or more of these contaminants, but systems are not required to control all. Activated carbon filter systems covered by this Standard are not intended to be used with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

### 1.3 Alternate materials, designs, and construction

While specific materials, designs, and construction may be stipulated in this Standard, systems that incorporate alternate materials, designs, and construction may be acceptable when it is verified that such systems meet the applicable requirements stated herein.

### 1.4 Minimum requirements

A system as defined in this standard shall meet the applicable requirements of 4, 5, 6, and 8, plus at least one performance claim as described in 7.

A component as defined in this standard shall meet the requirements of 4 and 8. If the component is pressure-bearing, it shall also meet the applicable requirements of 5.

A commercial modular system as defined in this standard shall meet the applicable requirements of 4, 5, 6, and 8, plus at least one performance claim as described in 7. Manifolds of commercial modular systems shall meet the requirements of 4, 5 (if pressure bearing), and 8, and shall be evaluated as stand-alone components. Manifolds shall have a minimum internal diameter such that the water velocity in the manifold will not exceed 3 m (10 ft) per second (which can be calculated based upon the system flow rate