



*NSF International Standard /
American National Standard*

NSF/ANSI 62 - 2018

Drinking Water Distillation Systems



NSF International, an independent, not-for-profit, non-governmental organization, is dedicated to being the leading global supplier of public health and safety-based risk management services serving the interests of all stakeholders.

This Standard is subject to revision.
Contact NSF to confirm this revision is current.

Users of this Standard may request clarifications and interpretations, or propose revisions by contacting:

Chair, Joint Committee on Drinking Water Treatment Units
c/o NSF International
789 North Dixboro Road, PO Box 130140
Ann Arbor, Michigan 48113-0140 USA
Phone: (734) 769-8010 Telex: 753215 NSF INTL
Fax: (734) 769-0109
E-mail: info@nsf.org
Web: www.nsf.org

NSF International Standard /
American National Standard
for Drinking Water Treatment Units –
Drinking Water Distillation Systems

Standard Developer
NSF International

Designated as an ANSI Standard
August 13, 2018
American National Standards Institute

Prepared by
The NSF Joint Committee on Drinking Water Treatment Units

Recommended for adoption by
The NSF Council of Public Health Consultants

Adopted by
NSF International
March 1989

Revised November 1992
Addendum, June 2002
Revised August 2009
Revised January 2015
Revised November 2017

Revised September 1997
Revised February 2004
Revised February 2012
Revised October 2015
Revised November 2018

Revised September 1999
Revised October 2007
Revised December 2013
Revised November 2016

Published by
NSF International
PO Box 130140, Ann Arbor, Michigan 48113-0140, USA

For ordering copies or for making inquiries with regard to this Standard, please reference the designation
“NSF/ANSI 62 – 2018.”

Copyright 2018 NSF International

Previous editions © 2017, 2016, 2015, 2014, 2013, 2012, 2009, 2007, 2004, 1999, 1997, 1992, 1989

Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from NSF International.

Printed in the United States of America.

Disclaimers¹

NSF International (NSF), in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. The opinions and findings of NSF represent its professional judgment. NSF shall not be responsible to anyone for the use of or reliance upon this Standard by anyone. NSF shall not incur any obligation or liability for damages, including consequential damages, arising out of or in connection with the use, interpretation of, or reliance upon this Standard.

NSF Standards provide basic criteria to promote sanitation and protection of the public health. Provisions for mechanical and electrical safety have not been included in this Standard because governmental agencies or other national standards-setting organizations provide safety requirements.

Participation in NSF Standards development activities by regulatory agency representatives (federal, local, state) shall not constitute their agency's endorsement of NSF or any of its Standards.

Preference is given to the use of performance criteria measurable by examination or testing in NSF Standards development when such performance criteria may reasonably be used in lieu of design, materials, or construction criteria.

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.

¹ The information contained in this Disclaimer 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 Disclaimer 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.

Contents

1	General	1
1.1	Scope	1
1.2	Minimum requirements	1
1.3	Chemical and microbiological reduction performance claims	1
1.4	Treatment train.....	1
1.5	Reviews and revisions	1
2	Normative references	2
3	Definitions	2
4	Materials	2
4.1	Materials in contact with drinking water	2
4.2	Materials evaluation	3
4.3	Gas chromatography / mass spectroscopy (GC/MS) analysis	5
5	Structural performance	11
5.1	Structural integrity	11
6	Minimum performance requirements	15
6.1	TDS reduction	15
6.2	Performance indication	19
6.3	Flow control.....	23
6.4	Storage tanks.....	23
6.5	Evaporator chamber	23
6.6	Openings and rims (product water zone)	23
6.7	Entry ports.....	23
6.8	Waste connections.....	23
6.9	Product water dispensing outlets.....	24
6.10	Active agents and additives	24
7	Elective performance claims – Test methods.....	24
7.1	Inorganic chemical reduction claims qualified by TDS surrogate testing	24
7.2	Inorganic chemical reduction	25
7.3	In-place sanitization of the product water zone	29
7.4	Microbiological reduction	31
7.5	Production rate verification	33
8	Instruction and information	35
8.1	Installation, operation, and maintenance instructions.....	35
8.2	Data plate.....	36
8.3	Replacement components	37
8.4	Performance data sheet	37
Annex A	Evaluation of total dissolved solids as a surrogate parameter for the reduction of inorganic contaminants by distillation systems.....	41
A.1	Executive summary.....	41
A.2	Introduction	42
A.3	Evaluation protocol	42
A.4	Results	45
A.5	Conclusions	46
Annex B	Key elements of a certification program for drinking water treatment systems and components	47
B.1	Marking the product	47

B.2	Listing certified companies	47
B.3	Annual audits	47
B.4	Testing	47
B.5	Toxicological evaluation of materials formulations	48
B.6	Corrective action	48
B.7	Enforcement.....	48
B.8	Administrative review.....	48
B.9	Appeals.....	48
B.10	Complaints.....	48
B.12	Records.....	49
B.13	Public notice.....	49
B.14	Confidentiality	49
Annex C	51
Annex D	Evaluation methods for systems with multiple technologies – Treatment train.....	53
D.1	Requirements for the evaluation of a system containing multiple, sequential treatment technologies.....	53
D.2	Example application of treatment train option B	54
D.3	Example application of treatment train option C.....	55
Interpretation Annex	57

Foreword²

The purpose of this Standard is to establish minimum requirements for the materials, design and construction, and performance of point-of-use (POU) and point-of-entry (POE) drinking water distillation systems that are designed to reduce specific chemical and microbiological contaminants in public or private water supplies. NSF/ANSI 62 also specifies minimum product literature requirements that manufacturers shall provide to authorized representatives and consumers.

Water contact materials in drinking water treatment units listed under NSF/ANSI 42, 44, 53, 55, 58, and 62 are tested and evaluated under a separate protocol from NSF/ANSI 61, with criteria that were developed specifically for the intended end-use. NSF/ANSI 61 listing shall not be additionally required for acceptance of these listed units for water contact application.

This edition of the Standard contains the following revision:

Issue 35

This revision adds clarification to the product literature requirements under Section 8.3 for replacement components.

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, or c/o NSF International, Standards Department, PO Box 130140, Ann Arbor, Michigan 48113-0140, USA.

² 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 of a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

NSF/ANSI Standard for Drinking Water Treatment Units – Drinking Water Distillation Systems

1 General

1.1 Scope

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

Systems covered by this standard are not intended for the treatment of water that is visually contaminated (turbid) or has an obvious contamination source, such as raw sewage, nor are systems covered by this standard intended to convert wastewater to microbiologically potable water.

1.2 Minimum requirements

A system as defined in this Standard shall meet the applicable requirements of Sections 4, 5, 6, and 8.

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

1.3 Chemical and microbiological reduction performance claims

1.3.1 All NSF/ANSI 62 performance claims shall be verified and substantiated by test data generated under the requirements of NSF/ANSI 62.

1.3.2 When performance claims are made for substances not specifically addressed in the scope of this Standard or for those substances not specifically addressed but falling under the scope of NSF/ANSI 62, those claims not specifically addressed in the Standard shall be so identified.

1.4 Treatment train

A system that contains multiple, sequential treatment technologies for a performance claim under this Standard shall meet the applicable requirements as described in Annex D.

1.5 Reviews and revisions

This Standard shall be reviewed at least every five years. The review shall be conducted by the NSF Joint Committee on Drinking Water Treatment Units.