

IAPMO IGC 330-2023



Industry Standard for **Recirculating Shower Systems**



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Published by

International Association of Plumbing and Mechanical Officials (IAPMO)

4755 East Philadelphia Street, Ontario, California, 91761, USA

1-800-854-2766 • 1-909-472-4100

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Printed in the United States of America

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Preface

This is the fourth edition of IAPMO IGC 330, Recirculating Shower Systems. This Standard supersedes IAPMO IGC 330-2018, Recirculating Shower Systems. The previous editions of this standard are: December 2018, August 2017, May 2016.

This Standard was developed by the IAPMO Standards Review Committee (SRC) in accordance with the policies and procedures regulating IAPMO industry standards development, Policy S-001, Standards Development Process. This Standard was approved as an IAPMO Industry Standard on January 9, 2023.

Notes:

- (1) *The use of the singular does not exclude the plural (and vice versa) when the sense allows.*
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- (4) *During its development, this Standard was made available for public review, thus providing an opportunity for additional input from stakeholders from industry, academia, regulatory agencies, and the public at large. Upon closing of public review, all comments received were duly considered and resolved by the IAPMO Standards Review Committee.*
- (5) *This Standard was developed in accordance with the principles of consensus, which is defined as substantial agreement; consensus implies much more than a simple majority, but not necessarily unanimity. It is consistent with this definition that a member of the IAPMO Standards Review Committee might not be in full agreement with all sections of this Standard.*
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- (7) *IAPMO Standards are subject to periodic review and suggestions for their improvement will be referred to the IAPMO Standards Review Committee. To submit a proposal for change to this Standard, you may send the following information to the International Association of Plumbing and Mechanical Officials, Attention Standards Department, at standards@IAPMOstandards.org or, alternatively, at 4755 East Philadelphia Street, Ontario, California, 91761, and include "Proposal for change" in the subject line:*
 - (a) *standard designation (number);*
 - (b) *relevant section, table, or figure number, as applicable;*
 - (c) *wording of the proposed change, tracking the changes between the original and the proposed wording; and*
 - (d) *rationale for the change.*
- (8) *Requests for interpretation should be clear and unambiguous. To submit a request for interpretation of this Standard, you may send the following information to the International Association of Plumbing and Mechanical Officials, Attention Standards Department, at standards@IAPMOstandards.org or, alternatively, at 4755 East Philadelphia Street, Ontario, California, 91761, and include "Request for interpretation" in the subject line:*
 - (a) *the edition of the standard for which the interpretation is being requested;*
 - (b) *the definition of the problem, making reference to the specific section and, when appropriate, an illustrative sketch explaining the question;*
 - (c) *an explanation of circumstances surrounding the actual field conditions; and*
 - (d) *the request for interpretation phrased in such a way that a "yes" or "no" answer will address the issue.*
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- (11) Participation by federal or state agency representative(s) or person(s) affiliated with industry is not to be interpreted as government or industry endorsement of this Standard.*
- (12) Proposals for amendments to this Standard will be processed in accordance with the standards-writing procedures of IAPMO industry standards development, Policy S-001, Standards Development Process.*

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IAPMO IGC 330–2023

Recirculating Shower Systems

1 Scope

1.1 General

1.1.1 This Standard covers portable and stationary recirculating shower systems intended for new and retrofit residential, commercial, RV and trailer applications and specifies requirements for materials, physical characteristics, performance testing, and markings.

1.1.2 Recirculating shower systems covered by this standard, as shown in Figure 1 to Figure 7, may operate in:

- (a) recirculating mode, which recycles shower water for reuse; or,
- (b) conventional mode, which doesn't recirculate shower water.

1.1.3 Recirculating showers systems covered by this Standard shall be classified as:

- (a) alternate water recirculating shower systems; or
- (b) gray water recirculating shower systems.

1.1.4 Shower systems covered by this Standard may be manufactured with plastic and/or glass pressure-sealed walls, a showerhead, a shower panel with handheld showerhead, and a shower pan with water filtering and electrical recirculating components. These systems can include:

- (a) factory-installed supply and waste fittings;
- (b) factory-formed shower thresholds; and
- (c) factory-installed shower walls and/or panels.

1.2 Alternative Materials

The requirements of this Standard are not intended to prevent the use of alternative materials or methods of construction provided such alternatives meet the intent and requirements of this Standard.

1.3 Terminology

In this Standard,

- (a) "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy to comply with the Standard;
- (b) "should" is used to express a recommendation, but not a requirement;
- (c) "may" is used to express an option or something permissible within the scope of the Standard; and
- (d) "can" is used to express a possibility or a capability.

Notes accompanying sections of the Standard do not specify requirements or alternative requirements; their purpose is to separate explanatory or informative material from the text. Notes to tables and figures are considered part of the table or figure and can be written as requirements.

1.4 Units of Measurement

SI units are the primary units of record in global commerce. In this Standard, the inch/pound units are shown in parentheses. The values stated in each measurement system are equivalent in application, but each unit system is to be used independently. All references to gallons are to U.S. gallons.

2 Reference Publications

This Standard refers to the following publications, and where such reference is made, it shall be to the current edition of those publications, including all amendments published thereto.

ASME International (The American Society of Mechanical Engineers)

ASME A112.1.2

Air Gaps in Plumbing Systems (For Plumbing Fixtures and Water-Connected Receptors)

ASME A112.6.3

Floor and Trench Drains

ASME A112.18.1/CSA B125.1

Plumbing supply fittings

ASME A112.18.2/CSA B125.2

Plumbing waste fittings

ASME A112.18.6/CSA B125.6

Flexible water connectors

ASME A112.19.3/CSA B45.4

Stainless steel plumbing fixtures

ASME A112.19.15

Bathtubs/Whirlpool Bathtubs with Pressure Sealed Doors

ASME B16.18

Cast Copper Alloy Solder Joint Pressure Fittings

ASME B16.22

Wrought Copper and Copper Alloy Solder Joint Pressure Fittings

ASSE International

ASSE 1001

Performance Requirements for Atmospheric Type Vacuum Breakers

ASSE 1013

Performance Requirements for Reduced Pressure Principle Backflow Prevention

ASSE 1061
Performance Requirements for Push-Fit Fittings

ASSE 1016/ASME A112.1016/CSA B125.16
Performance Requirements for Automatic Compensating Valves for Individual Showers and
Tub/Shower Combinations

ASTM International

ASTM B88
Standard Specification for Seamless Copper Water Tube

ASTM D1785
Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120

ASTM D2239
Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Controlled Inside
Diameter

ASTM D2466
Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40

ASTM D2564
Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems

ASTM D2609
Standard Specification for Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe

ASTM D2683
Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled
Polyethylene Pipe and Tubing

ASTM D2737
Standard Specification for Polyethylene (PE) Plastic Tubing

ASTM D2846
Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water
Distribution Systems

ASTM D3035
Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside
Diameter

ASTM D3261
Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene
(PE) Plastic Pipe and Tubing

ASTM F493

Standard Specification for Solvent Cements for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe and Fittings

ASTM F877

Standard Specification for Crosslinked Polyethylene (PEX) Hot- and Cold-Water Distribution Systems

ASTM F1055

Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing

ASTM F1807

Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring, or Alternate Stainless Steel Clamps, for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

ASTM F2098

Standard Specification for Stainless Steel Clamps for Securing SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) to Metal Insert and Plastic Insert Fittings

ASTM F2159

Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring, or Alternate Stainless Steel Clamps for SDR9 Crosslinked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

ASTM F2389

Standard Specification for Pressure-rated Polypropylene (PP) Piping Systems

ASTM F2735

Standard Specification for Plastic Insert Fittings for SDR9 Cross-linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing

ASTM F2769

Standard Specification for Polyethylene of Raised Temperature (PE-RT) Plastic Hot and Cold-Water Tubing and Distribution Systems

ASTM G85

Standard Specification for Standard Practice for Modified Salt Spray (Fog) Testing

AWWA (American Water Works Association)**AWWA C901**

Polyethylene (PE) Pressure Pipe and Tubing, 3/4 In. (19 mm) Through 3 In. (76 mm), for Water Service