

**IAPMO PS 23-2021a<sup>e2</sup>**



*Industry Standard for*  
**Dishwasher Drain Airgaps**



# ***IAPMO Standard***

Approval of an IAPMO Industry Standard requires verification by the Standards Review Committee that the standard has been developed in accordance with the policies and procedures for standards development (S-001, *Standards Development Process*, S-008, *Appeals* and S-011, *Operation of the IAPMO Standards Review Committee*). Although IAPMO administers the process and establishes rules to promote fairness in achieving consensus, it does not independently test, evaluate, or verify the content of standards.

Consensus is established when substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution.

The use of IAPMO Industry Standards is completely voluntary; their existence does not in any respect preclude anyone, whether they have approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

The Standards Review Committee has final authority on interpretation of any IAPMO Industry Standard. Moreover, no person save IAPMO designated staff shall have the right or authority to issue an interpretation of an IAPMO Industry Standard in the name of IAPMO. Requests for interpretations should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

CAUTION NOTICE: This IAPMO Industry Standard may be revised or withdrawn at any time. The policies and procedures require that action be taken periodically to reaffirm, revise, or withdraw this standard. Interested stakeholders of IAPMO Industry Standards may receive current information on all standards by [signing up to receive updates and notices](#) at the IAPMO Standards website [www.IAPMOstandards.org](http://www.IAPMOstandards.org).

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

Visit the IAPMO Online Store at: [www.IAPMOstore.org](http://www.IAPMOstore.org)

Visit the IAPMO Standards website at: [www.IAPMOstandards.org](http://www.IAPMOstandards.org)

Copyright © 1968-2021 by International Association of Plumbing and Mechanical Officials (IAPMO)  
All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without prior written permission of the publisher.

Printed in the United States of America

# ***Contents***

## **Preface**

## **IAPMO Standards Review Committee**

### **1 Scope**

- 1.1 Scope
- 1.2 Alternative Materials
- 1.3 Terminology
- 1.4 Units of Measurement

### **2 Reference Publications**

### **3 Definitions and Abbreviations**

### **4 General Requirements**

- 4.1 Materials
- 4.2 Temperature Range
- 4.3 Backflow Prevention Requirement
- 4.4 Workmanship and Finish
- 4.5 Coating and Finishes
- 4.6 Flow Ways
- 4.7 Maintenance Accessibility
- 4.8 Hose Connections
- 4.9 Critical Level Testing
- 4.10 Flow and Pressure Ranges
- 4.11 Hose Heat Resistance
- 4.12 Clamps

### **5 Testing Requirements**

- 5.1 Passage Test
- 5.2 Capacity Test
- 5.3 Critical Level Test
- 5.4 Deterioration Test
- 5.5 Resistance Test
- 5.6 Flow Rate Test for Low Flow Rate Water Treatment Applications
- 5.7 Low Flow Rate Water Treatment Applications Test for Reverse Osmosis (RO)

### **6 Markings and Accompanying Literature**

- 6.1 Markings
- 6.2 Hose Markings

# Preface

This is the tenth edition of IAPMO PS 23, Dishwasher Drain Airgaps. This Standard supersedes IAPMO PS 23-2019, Dishwasher Drain Airgaps. The previous editions of this standard are: September 2021, February 2019, 2006, 2005, 2004, 1989, 1981, 1979, 1968

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 December 13, 2021, Editorially revised on May 10, 2022

## Notes:

- (1) *The use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- (2) *The use of IAPMO Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.*
- (3) *This standard was developed using an open process and in accordance with IAPMO Standards Policy S-001, Standards Development Process, which is available on the IAPMO Standards website ([www.IAPMOstandards.org](http://www.IAPMOstandards.org)).*
- (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.*
- (6) *Although the intended primary application of this Standard is stated in its scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- (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](mailto: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](mailto: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.*
- (9) *IAPMO does not "approve", "rate", or endorse any item, construction, proprietary device, or activity.*

- (10) IAPMO does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this Standard and does not undertake to insure anyone utilizing this Standard against liability for infringement of any applicable patents, nor assumes any such liability. Users of this Standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their responsibility.*
- (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.*

## ***IAPMO Standards Review Committee***

T. Collings	Building Services & Licensing - Retired Salt Lake City, Utah, USA	<i>Chair</i>
M. Durfee	Chief Building Official - Retired Saratoga Springs, Utah, USA	<i>Vice-Chair</i>
M. Antonacci	Plumbing and HVAC Inspector, City of Toronto Toronto, Ontario, CAN	
R. Coffman	Plumbing Inspector, City of Cedar Falls - Retired Cedar Falls, Iowa, USA	
C. Crimmins	MN State Pipe Trades - Retired Champlin, Minnesota, USA	
J. Krahenbuhl	Plumbing and Mechanical Plans Check Specialist, Clark County - Retired Henderson, Nevada, USA	
B. Olinger	William Myers & Sons Inc. - Semi-Retired East Hanover, New Jersey, USA	
S. Peters	Plumbing & Mechanical Plans Examiner Santa Monica, California, USA	
R. Rice	Sr. Mechanical Inspector - Retired Maplewood, Minnesota, USA	
G. Snider	Plumbing Section Supervisor, City of Surrey Surrey, British Columbia, CAN	
G. Istefan	IAPMO Ontario, California, USA	<i>Staff Liaison</i>
H. Aguilar	IAPMO Ontario, California, USA	<i>Secretary</i>

# IAPMO PS 23-2021a<sup>e2</sup>

## Dishwasher Drain Airgaps

### 1 Scope

#### 1.1 Scope

This Standard covers dishwasher drain airgaps with single or multiple inlet ports intended for use with ordinary domestic type automatic dishwashers connected to the sanitary waste system, and specifies requirements for materials, physical characteristics, performance testing, and markings.

#### 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.