

# Preface

This is the first edition of ASME A112.14.3/CSA B481.1, *Hydromechanical grease interceptors*. It supersedes the CSA B481 Series, *Grease interceptors*, published in 2012, and the ASME A112.14.3-2018, *Hydromechanical Grease Interceptors Standards*.

This Standard was prepared by the ASME/CSA Harmonization Task Group on Interceptors, under the jurisdiction of the ASME A112 Standards Committee on Plumbing Materials and Equipment and the CSA Technical Committee on Drains and Interceptors. The ASME A112 Standards Committee operates under the jurisdiction of the ASME Board on Standardization and Testing and the CSA Technical Committee operates under the jurisdiction of the CSA Strategic Steering Committee on Construction and Civil Infrastructure.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was approved as an American National Standard by the American National Standards Institute on May 13, 2022.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

## ASME Notes:

- 1) *The next edition of this standard is scheduled for publication in 2025.*
- 2) *This standard was developed under procedures accredited as meeting the criteria for American National Standards and it is an American National Standard. The standards committee that approved the code or standard was balanced to ensure that individuals from competent and concerned interests had an opportunity to participate. The proposed standard was made available for public review and comment, which provided an opportunity for additional public input from industry, academia, regulatory agencies, and the public-at-large.*
- 3) *ASME does not “approve,” “rate,” or “endorse” any item, construction, proprietary device, or activity. ASME does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this document, and does not undertake to insure anyone utilizing a standard against liability for infringement of any applicable letters patent, nor does ASME assume any such liability. Users of a standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, is entirely their own responsibility.*
- 4) *Participation by federal agency representatives or persons affiliated with industry is not to be interpreted as government or industry endorsement of this standard.*
- 5) *ASME accepts responsibility for only those interpretations of this document issued in accordance with the established ASME procedures and policies, which precludes the issuance of interpretations by individuals.*
- 6) *Upon request, ASME will issue an interpretation of any requirement of this standard. An interpretation can be issued only in response to a request submitted through the online Interpretation Submittal Form. The form is accessible at <http://go.asme.org/InterpretationRequest>. ASME procedures provide for reconsideration of any interpretation when or if additional information that might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME committee.*

Interpretations are published on the ASME website under the Committee Pages at <http://cstools.asme.org/> as they are issued.

**CSA Notes:**

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *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.*
- 3) *This publication was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.*
- 4) *This Standard is subject to review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee.*
- 5) *To submit a request for interpretation of this Standard, please send the following information to [inquiries@csagroup.org](mailto:inquiries@csagroup.org) and include “Request for interpretation” in the subject line:*
  - a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
  - b) *provide an explanation of circumstances surrounding the actual field condition; and*
  - c) *where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.*

*Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are available on the Current Standards Activities page at [standardsactivities.csa.ca](http://standardsactivities.csa.ca).*

- 6) *Attention is drawn to the possibility that some of the elements of this Standard may be the subject of patent rights. CSA Group is not to be held responsible for identifying any or all such patent rights. Users of this Standard are expressly advised that determination of the validity of any such patent rights is entirely their own responsibility.*

# *ASME A112.14.3-2022/CSA B481.1:22*

## *Hydromechanical grease interceptors*

### **1 Scope**

#### **1.1 Inclusions**

This Standard specifies construction and marking requirements, as well as the performance criteria for the testing and rating of hydromechanical grease interceptors, rated by flow in litres per minute and gallons per minute.

#### **1.2 Exclusions**

This Standard does not apply to interceptors intended for rainwater, sanitary wastewater, or wastewater containing petroleum products such as gasoline, heating oils, or mineral oils.

#### **1.3 Terminology**

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the Standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

#### **1.4 Units of measure**

The values given in either SI (metric) or U.S. Customary units of measure are equivalent in application; however, each measurement system is to be used independently of the other. In this Standard, U.S. Customary units are shown in parentheses. Combining values from the two measurement systems can result in non-conformance with this Standard.

#### **1.5 U.S. gallons**

All references to gallons are to U.S. liquid gallons.

#### **1.6 Alternatives**

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

## 2 Reference publications

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

### **ASME (American Society of Mechanical Engineers)**

A112.3.1-2007(R2017)

*Stainless steel drainage systems for sanitary DWV, storm, & vacuum applications above & below ground*

A112.4.4-2017

*Plastic push-fit drain, waste, and vent (DWV) fittings*

B1.20.1-2013(R2018)

*Pipe Threads, General Purpose, Inch*

### **ASPE (American Society of Plumbing Engineers)**

*Plumbing Engineering Design Handbook, Volume Four, Plumbing Components and Equipment, 2020*

### **ASME (American Society of Mechanical Engineers)/CSA Group**

A112.14.4-2022/CSA B481.5:22

*Grease Removal Devices*

### **ASTM (American Society for Testing and Materials)**

A53/A53M-20

*Standard specification for pipe, steel, black and hot-dipped, zinc-coated, welded and seamless*

A307-21

*Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength*

A888-20

*Standard specification for hubless cast iron soil pipe and fittings for sanitary and storm drain, waste, and vent piping applications*

B117-19

*Standard practise for operating salt spray (fog) apparatus*

B306-20

*Standard specification for copper drainage tube (DWV)*

C581-20

*Standard practice for determining chemical resistance of thermosetting resins used in glass-fiber-reinforced structures intended for liquid service*

D638-14

*Standard test method for tensile properties of plastics*

D1298-12b(2017)

*Standard test method for density, relative density, or API gravity of crude petroleum and liquid petroleum products by hydrometer method*

D1784-20

*Standard classification system and basis for specification for rigid poly(vinyl chloride) (PVC) compounds and chlorinated poly(vinyl chloride) (CPVC) compounds*

D1998-15

*Standard specification for polyethylene upright storage tanks*

D2661-14e1

*Standard specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 plastic drain, waste, and vent pipe and fittings*

D2665-20

*Standard specification for Poly(Vinyl Chloride) (PVC) plastic drain, waste, and vent pipe and fittings*

D3350-14

*Standard specification for polyethylene plastics pipe and fittings material*

D3359-17

*Standard test method for rating adhesion by tape test*

D3965-16

*Standard classification system and basis for specifications for rigid acrylonitrile-butadiene-styrene (ABS) materials for pipe and fittings*

D4101-17e1

*Standard classification system and basis for specification for polypropylene injection and extrusion materials*

### **CISPI (Cast Iron Soil Pipe Institute)**

301-18

*Standard specification for hubless cast iron soil pipe and fittings for sanitary and storm drain, waste, and vent piping applications*

### **CSA Group**

B66:21

*Design, material, and manufacturing requirements for prefabricated septic tanks and sewage holding tanks*

B1800:21

*Thermoplastics nonpressure pipe compendium*

B181.1:21 (part of B1800:21 Thermoplastics nonpressure pipe compendium)

*Acrylonitrile-butadiene-styrene (ABS) drain, waste, and vent pipe and pipe fittings*

B181.2:21 (part of B1800:21, Thermoplastics nonpressure pipe compendium)

*Polyvinylchloride (PVC) and chlorinated polyvinylchloride (CPVC) drain, waste, and vent pipe and pipe fittings*

B181.3:21 (part of B1800:21, Thermoplastic nonpressure pipe compendium)

*Polyolefin and polyvinylidene fluoride (PVDF) laboratory drainage systems*

C22.2 No. 0.15:15 (R2020)

*Adhesive labels*

**IAPMO (International Association of Plumbing and Mechanical Officials)**

Z1000-2019

*Prefabricated Septic Tanks*

**UL (Underwriters' Laboratories)**

969, edition 5

*Standard for marking and labelling systems*

## 3 Definitions and abbreviations

### 3.1 Definitions

The following definitions shall apply in this Standard:

**Breakdown grease capacity** — the number of kilograms or pounds of grease that a grease interceptor retains at a specific flow rate at the last increment preceding two successive increments in which either the average efficiency is less than 90% or the incremental efficiency is less than 80%.

**Directly connected** — describes when the fixtures routed to a grease interceptor are connected directly to the grease interceptor without an air gap or air break. The grease interceptor discharge can be directly or indirectly connected to the plumbing drainage system.

**Fats, oils, and greases (FOG)** — insoluble organic fats, oils, and greases from animal or vegetable sources.

**Flow control** — a device that is installed upstream from an interceptor and has a permanent orifice that controls the rate of flow through the interceptor.

**External flow control** — a separate fitting outside the grease interceptor, with or without air intake.

**Integral flow control** — a flow control provided by the manufacturer and essential to the system. An integral flow control can be internal or external.

**Internal flow control** — a flow control inside the grease interceptor, with or without air intake.

**Vented flow control** — a flow control that allows air to be entrained in the flow.

**Flow rating** — the maximum flow at which a grease interceptor will meet the FOG retention requirements of this Standard, as well as those of ASME A112.14.4/CSA B481.5.

**Grease removal device (GRD)** — a plumbing appliance that is installed in the sanitary drainage system in order to intercept free-floating insoluble FOG from waste water discharges.

**Note:** *Such equipment operates on a time- or event-controlled basis and is designed to remove the entire range of commonly available free-floating FOG automatically without intervention from the user except for maintenance.*

**Indirectly connected** — describes when the fixtures routed to a grease interceptor are connected to the grease interceptor through an air gap or air break. The grease interceptor discharge can be directly or indirectly connected to the plumbing drainage system.