STANDARDS UPDATE NOTICE (SUN)
ISSUED: May 9, 2019

STANDARD INFORMATION

Standard Number: ASME A112.14.3
Standard Name: Hydromechanical Grease Interceptors
Standard Edition and Issue Date: 2018 Edition Dated May 18, 2018
Date of Revision: May 18, 2018
Date of Previous Revision of Standard: 2000 Edition Reaffirmed 2014

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **January 18, 2020**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revised requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

Overview of Changes:

- Added a requirement to check the viscosity of the test media, revised the check flow rate test, and changed the measured time for discharge to a minimum of 108.6 seconds and maximum discharge time from 126 to 114 seconds
- Added additional requirements for the installation and maintenance instructions
- New requirements for Sizing, Installation, Application and Flow Control

Specific details of new/revised requirements are found in table below.

If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).

Client Action Required:

Information – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revised paragraphs noted in the attached or explain why these new/revised requirements do not apply to your product (s).

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.

STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		Additions to existing requirements are underlined and deletions are shown ~~lined out~~ below.
2	Info	**General Requirements**
2.2	Info	**Inlet and Outlet Connections**
2.2.1		The inlet and outlet connections of the grease interceptor shall be either pipe thread or of a plain end diameter to allow hubless coupling connections. The manufacturer's installation requirements shall identify installation parameters sufficiently to enable connection consistent with the test parameters of this Standard.
2.2.2		***New clause added;*** Grease interceptor connections shall comply with ASME A112.3.1, ASME B1.20.1, ASTM A53/A53M, ASTM A888, or ASTM D2665.
2.2.3		***New clause added;*** Grease interceptors shall be connected as prescribed by the manufacturer, consistent with this Standard.
2.3	Info	**Flow Controls and/or Vents**
2.3.1		The use and placement of flow controls and/or vents or air intakes for grease interceptors shall be ~~the option of~~ in accordance with the manufacturer's installation requirements. When a flow control is not required by the manufacturer, testing shall be conducted at the manufacturer's prescribed rate of flow without any restriction of the flow from the test apparatus to the grease interceptor.
3	Info	**Testing**
3.1	Info	**Construction of Test Equipment**
3.3.1		**Test Sink** (a) The sinks shall be constructed of corrosion resistant material, structurally reinforced and supported on legs. The legs shall be of such length that the rim of the sinks is 3 ft (0.91 m) above the floor. The sink legs shall be structurally braced. (b) For flow rates up to and including 50 gpm (189 L/ min) the test sinks shall be 50 gal (189 L) and have the following inside dimensions: 8 ft (2.44 m) in length, 2 ft (0.61 m) in width, and 12 1/2 in. (0.32 m) in depth. The sinks shall have two compartments, of equal length. (c) For flow rates above 50 gpm (189 L/min) up to and including 100 gpm (378 L/min), the test sinks shall be as follows:

CLAUSE	VERDICT	COMMENT
		(1) multiples of two of the sinks specified in (b). (2) a 100 gal sink having the following dimensions: 128 in. (3.2 m) in length, 36 in. (0.91 m) in width, and 12.5 in. (0.32 m) in depth; it shall be divided into two equal compartments. (d) For flow rates of greater than 100 gpm (378 L/min), two or more sinks as specified in (b) or (c) shall be used.
3.1.1.1		Sink Waste Connections. For sinks constructed per para. 3.1.l(b), each sink compartment shall be fitted with a 11/2 in. (38 mm) standard sink waste connection with flange, threaded or slip joint tailpiece, and locknut. The waste connections shall be located on opposite sides of the center partition in the corner formed by the front side of the sink and the center partition. For sinks constructed per para. 3.1.1(c), each sink compartment shall be fitted with a 2 in. (51 mm) sink waste connection with flange, threaded or slip joint tailpiece, and locknut. The waste connections shall be located on opposite sides of the center partition in the corner formed by the front side of the sink and the center partition.
3.1.2		**Skimming Tank** The skimming tank shall be constructed as follows: (a) The skimming tank shall be rectangular in shape and open at the top. The tank shall be constructed of galvanized sheet or corrosion resisting metal with structural reinforcement (b) The tank shall be 12 ft (3.66 m) in length, 36 in. (0.91 m) in width, and 28 in. (0.71 m) in depth. NOTE: If the flow rate is 50 gpm (189 L/min) or less, the tank may be approximately 8 ft (2.44 m) in length, 28 in. (0.71 m) in width, and 32 in. (0.81 m) in depth. (c) The waste outlet from the tank shall be 4 in. (102 mm) in diameter, connected to the bottom of the tank at one end and trapped to retain a minimum of 18 in. (0.45 m) of water in the tank. The tank shall be provided with a 4 in. (102 mm) bottom drain and valve to permit draining and cleaning. (d) The skimming tank shall be equipped with a stationary baffle located approximately 4 ft (1.22 m) from the end of the tank receiving the discharge from the interceptor. This baffle shall extend the width of the tank and to within 4 in. (102 mm) of the bottom of the tank. The purpose of this baffle shall be to limit the heavy spread of grease to one end of the tank and to control to a degree the turbulent water currents created by the discharge from the interceptor.
3.2	Info	**Installation of Testing Equipment**

CLAUSE	VERDICT	COMMENT
3.2.1	Info	**Direct Connection Test Types A, B, and C**
3.2.1.1		Waste Piping. The combined horizontal waste, vertical waste riser, and interceptor inlet shall be 2 in. (51 mm) for test flows of 50 gpm (189 L/min) or less and 3 in. (76 mm) for test flows over 50 gpm (189 L/min). Discharge piping from the interceptor on test shall be equal to the outlet of the interceptor.
3.2.1.2		Sink and Interceptor Locations. The sink shall be located with the sink rim 13 ft (3.96 m) above the outside bottom of the grease interceptor being tested. The interceptor shall be so located that its bottom is 10 ft (3.05 m).
3.2.1.4	Info	**Installation of Waste Piping**
3.2.1.4.1		**Sink Connections** For test flows of 50 gpm (189 L/min) or less, the sink outlet waste connection from each sink compartment shall be 11/2 in. (38 mm) in size; for test flows over 50 gpm (189 L/min), the sink outlet waste connection from each compartment shall be 2 in. (51 mm) in size and each connection shall be fitted with a quarter-turn ball quick opening valve.
3.2.1.4.3		Flow Control and/or Vent Device. The flow control and/or vent device, if required by manufacturer, shall be adequate in size for the interceptor to be tested, and equipped with the proper size orifice and/or other details to provide the proposed flow rate of the subject interceptor based on the simultaneous drainage of both sink compartments as detailed hereinafter (see para. 3.3.4.1). The waste piping on either side of the flow control and/or vent shall be fitted with unions to permit removal of the device. If the flow control orifice required exceeds 2 in. (51 mm) in diameter, thereby requiring a flow control larger than 2 in. (51 mm), the outlet piping shall be no less than 3 in. (77 mm).
3.2.1.4.4		**Vertical Waste Riser** The vertical waste riser shall be connected to the outlet of the flow control and/or vent device, if required, and shall extend downward to connect to the grease interceptor inlet by means of an elbow and a short horizontal nipple. Test flows exceeding 50 gpm (189 L/min) requiring connections larger than 2 in. (51 mm), interceptor inlet and outlet sizes shall be no less than 3 in. (77 mm).
3.2.1.4.5		***New clause added;*** **Interceptor Inlet Connection** If the inlet diameter of the interceptor to be tested exceeds the riser pipe diameter size, use reducing coupling to permit connection of the inlet pipe.
3.2.1.4.6		**Interceptor Discharge** The discharge pipe from the interceptor outlet to the skimming tank shall be equal in size to the outlet of the interceptor, have a pitch of 1/8 in./ft (1 cm/m), and be provided with a 2 in. (50 51 mm) vent properly located to prevent siphoning of the interceptor.
3.3	Info	**Preliminary Test Procedure**

CLAUSE	VERDICT	COMMENT
3.3.1		**Media Analysis**. Before conducting rating tests on any grease interceptor, simple analysis of the test media shall be made to determine that it complies with the following characteristics: (a) Water: hydrogen ion concentration (pH value from 6.0 to 8.0). (b) Lard: specific gravity of 0.875 ± 0.005, at 150°F (66°C). (c) Viscosity in Seconds Saybolt universal (SSU), at 150°F (655°C).
3.3.4.1		The flow rates of the test sinks shall be calibrated using the following procedure: (a) Setup (b) Test The following series of check flow rate tests shall be made. Three tests shall be made for each of the following four conditions: (c) Criteria. For test methods (b)(3) and (b)(4), the time for the measured discharge shall not be less than 108.6 sec or shall not exceed 114 sec.
3.4	Info	**Rating Test Procedure**
3.4.1		**Test Media** Certification tests shall be conducted with fresh, unused lard with recorded physical characteristics stated in para. 3.3.1(b) and water as defined in para. 3.3.l(a), both within a temperature range of 150°F to 160°F (66°C to 71 °C).
3.4.3		**Test Increments** (a) Each test increment shall consist of the simultaneous discharge of the water from both sink compartments and the lard from the test compartment. (b) During the first test increment, the lard shall be poured into the No. 1 compartment (that compartment having its discharge outlet closest to the interceptor, measured along the waste pipe) and the No. 2 compartment shall discharge clear water. During the second test increment the lard shall be poured into the No. 2 compartment while the water in No. 1 compartment remains clear. This procedure of introducing the lard into alternate sink compartments shall be continued throughout the test. When multiple sinks are used, there are multiple No. 1 and No. 2 compartments. The lard shall always be introduced in the sink compartments at the ratio specified in para. 3.4.2.
3.4.5		**Efficiency Determinations (Minimum Grease Capacity)** At the option of the manufacturer the efficiency determination shall be conducted at either the interceptor's minimum grease capacity per Table 1 (see para. 3.4.7) or at the interceptor's maximum grease capacity by determining the break down point (see para. 3.4.6).

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3.4.6		**Efficiency Determinations (Maximum Grease Capacity)** The grease shall be removed from the skimming tank and the efficiency of the interceptor shall be computed at intervals of five increments or less until the average efficiency reaches approximately 93% and/or the incremental efficiency reaches approximately 85%. After this point has been reached, efficiency checks shall be made after each incremental discharge. The formula for determining the above efficiency shall be as follows: $$Efficiency = \frac{Grease\ Added - Grease\ Skimmed}{Grease\ added}$$
3.4.7		***New clause added;*** **Efficiency Determinations (Minimum Grease Capacity)** The grease shall be removed from the skimming tank and the efficiency of the interceptor shall be computed at intervals of five increments or less until the average efficiency reaches approximately 93% and/or the incremental efficiency reaches approximately 85%. After this point has been reached, efficiency checks shall be made after each incremental discharge. The formula for determining the above efficiency shall be as follows: $$Efficiency = \frac{Grease\ Added - Grease\ Skimmed}{Grease\ added}$$
3.4.7.1		**Duration of the Test** The test procedure in para. 3.4.7 is to be continued until the 12th increment.
3.4.7.2		**Determination of Efficiency at Minimum Grease Capacity** The efficiency shall be established at the increment preceding the increment in which either the average efficiency is less than 90% or the incremental efficiency is less than 80%. If the average efficiency has not yet dropped below 90% or the incremental efficiency has not yet dropped below 80%, the efficiency shall be reported at the 12^{th} increment.
3.5		**Skimming Procedure** The skimming procedure shall be initiated no less than 5 min after the increment to be skimmed has discharged into the tank. A sheet metal hand baffle, slightly shorter than the width of the skimming tank and 12 in. (305 mm) in width shall be employed to push all surfaced grease to one corner of the tank from which the grease is readily skimmed by means of a rectangular pan. The mixture of water and grease thus removed shall be placed in a ~~pail~~ separatory funnel equipped with a ~~drainage spigot~~ drain cock. All grease shall be squeegeed from the baffle and pan. This process shall be continued until the visible grease has been removed from the surface of the water in the skim tank.

CLAUSE	VERDICT	COMMENT
4	Info	**Labeling, Installation, and Maintenance**
4.2		**Installation Components** Hydromechanical grease interceptors shall be provided with complete installation instructions, including but not limited to the following: (h) where a reducer is required on the outlet, it shall be eccentric with the flat on the bottom NOTE: An eccentric reducer will prevent changing the static water level and performance of the interceptor.
4.3		**Maintenance and Cleaning Instructions** Units shall be provided with maintenance and cleaning instructions including but not limited to the following: (a) maintenance instructions (b) safety and health provisions (c) cleaning instructions Each grease interceptor shall be provided with service and cleaning instructions, which include a trouble shooting guide as well as instructions for performing necessary servicing or for obtaining servicing.
5		***New section added;*** **Sizing and Maintenance of Grease Interceptors**
5.1		**General** The recommendations for sizing, installation, and maintenance of grease interceptors contained in this section are based on input from POI. Table 1 is used for guideline purposes and larger sizes are based on two pounds per gpm of rated flow.
5.2		**Sizing**
5.2.1		**Sizing Considerations** Grease interceptors conforming to this Standard are designed to operate efficiently at their rated flow.
5.2.2		**Size Symbols** It has been determined through the testing and rating procedure that ten different sized interceptors are required for normal domestic, commercial, and institutional installations. These sizes are based on standard flow rates and grease retention capacity ratings for grease interceptors. (See Table 1.)

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5.2.3		**Sizing Procedure** Table 2 shows the basic standard formula in steps for sizing grease interceptors to suit requirements of specific fixtures. An example of this sizing formula application is included to illustrate the steps. Table 3 is included as a method for sizing grease interceptors utilizing maximum pipe capacity.
6		***New section added;*** **Applications**
6.1		**Dishwashers** A separate grease interceptor is recommended for each commercial dishwasher. The size of the interceptor is determined by the discharge rate (gpm) of the dishwasher as specified by the manufacturer. Select the proper interceptor of equivalent or next higher rate from Table 1.
6.2		**Multiple Fixtures** Where multiple fixtures are served by a single interceptor, calculate the total capacity of all fixtures, establish the number of fixtures that may be drained simultaneously and apply this factor to the total capacity to determine the maximum simultaneous capacity. Then proceed with sizing and selection of the grease interceptor using the sizing formula in Table 2.
7		***New section added;*** **Installation**
7.1		**Installation Considerations**
7.1.1		**Location** Install the interceptor as close as practical to fixture or fixtures being served. The interceptor may be set on the floor, partially recessed in the floor, or fully recessed below the floor to suit piping and structural conditions.
7.1.2		**Clearance** Anticipate sufficient clearance for removal of the interceptor cover for cleaning. Avoid installation wherein long runs of pipe (exceeding 25 ft) are necessary to reach the interceptor. This precaution will reduce the possibility of pipeline becoming clogged with congealed grease that could collect before reaching the interceptor.
7.1.3		**Prohibited Fixtures** Do not install piping from other sanitary fixtures such as water closets, urinals, and lavatories into the inlet piping to an interceptor. 10 The inlet piping to the interceptor should only be from fixtures and appliances that discharge grease or oil laden wastes.

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7.1.4		**Waste Line Venting** The waste line downstream from a grease interceptor shall be vented in accordance with plumbing code requirements
7.1.5		**Alternate Installations** Grease interceptors that are tested and rated without the use of vented flow control devices should be installed in the same manner as tested and rated, in accordance with the manufacturer's instructions.
7.1.6		**Installation Diagrams** Figures 4 through 7 are included to illustrate various grease interceptor installations normally encountered. These figures will serve as a guide to practical application of grease interceptors.
8		***New clause added;*** **Flow Control and/or Vent** The flow control and/or vent fitting, when furnished with interceptors, shall be installed ahead of the interceptor in the waste line beyond the last connection from the fixture and as close as possible to the underside of the lowest fixture on the horizontal line. When waste of two or more sinks or fixtures are combined to be served by one interceptor, a single flow control and/or vent fitting may be used. Except in the case of indirect waste installations, each fixture connected to a grease interceptor shall be trapped in accordance with the plumbing code. In no instance should a fixture vent be located between the vented flow control device and the grease interceptor.
Table 2		***New table added;*** **Procedure for Sizing Grease Interceptors**
Table 3		***New table added;*** **Interceptor Sizing Method Utilizing Maximum Pipe Capacity**
		CUSTOMERS PLEASE NOTE: This Table and column “Verdict” can be used in determining how your current or future production is or will be in compliance with new/revised requirements.