



UL 331B

STANDARD FOR SAFETY

Strainers for Diesel Fuel, Biodiesel Fuel, Diesel/Biodiesel Blends with Nominal Biodiesel Concentrations up to 20 Percent (B20), Kerosene, and Fuel Oil

UL Standard for Safety for Strainers for Diesel Fuel, Biodiesel Fuel, Diesel/Biodiesel Blends with Nominal Biodiesel Concentrations up to 20 Percent (B20), Kerosene, and Fuel Oil, UL 331B

First Edition, Dated February 5, 2015

Summary of Topics

This revision of ANSI/UL 331B dated October 1, 2020 includes the following changes in requirements:

- Revisions to 10-Day Moist Ammonia-Air Stress Cracking Test; Section [15](#)***
- Clarifications to the Deformation Test; [12.2](#), [12.5](#), and [12.6](#)***

Text that has been changed in any manner or impacted by UL's electronic publishing system is marked with a vertical line in the margin.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated July 31, 2020.

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1

UL 331B

Strainers for Diesel Fuel, Biodiesel Fuel, Diesel/Biodiesel Blends with Nominal Biodiesel Concentrations up to 20 Percent (B20), Kerosene, and Fuel Oil

Prior to the first edition, the requirements for the products covered by this standard were included in the Outline of Investigation for Strainers for Diesel Fuel, Biodiesel Fuel, Diesel/Biodiesel Blends with Nominal Biodiesel Concentrations up to 20 Percent (B20), Kerosene, and Fuel Oil, UL 331B.

First Edition

February 5, 2015

This ANSI/UL Standard for Safety consists of the First Edition including revisions through October 1, 2020.

The most recent designation of ANSI/UL 331B as an American National Standard (ANSI) occurred on October 1, 2020. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <https://csds.ul.com>.

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CONTENTS

INTRODUCTION

1	Scope	5
2	Components	5
3	Units of Measurement	6
4	Undated References	6

CONSTRUCTION

5	General	6
6	Materials	7
	6.1 Metallic materials.....	7
	6.2 Nonmetallic materials.....	8
	6.3 Casting impregnation materials.....	9
7	Bodies and Covers	9
8	Stuffing Boxes.....	10
9	Springs.....	10

PERFORMANCE

10	General	10
11	Long Term Exposure Test.....	11
	11.1 General.....	11
	11.2 Samples.....	11
	11.3 Method.....	12
	11.4 Results.....	12
12	Deformation and External-Leakage Test.....	13
13	Hydrostatic-Strength Test.....	14
14	Element-Collapse Test.....	14
15	Moist Ammonia-Air Stress Cracking Test	14

MANUFACTURING AND PRODUCTION

16	General	15
----	---------------	----

MARKING

17	General	15
----	---------------	----

SUPPLEMENT SA – Test Fluids

SA1	Representative Aggressive Combustible Test Fuel Mixtures.....	17
-----	---	----

SUPPLEMENT SB – Strainers for Oil-Fired Heating Appliances

SB1	Scope	19
SB2	Capacity	19
SB3	Non-Metallic Materials.....	23
SB4	Pressure Drop Test	24
SB5	Clogging Test	25
SB6	Markings	27

No Text on This Page

INTRODUCTION

1 Scope

1.1 These requirements cover complete, self-contained strainer or filter assemblies intended for use with the fuels designated in [1.2](#). Although these devices are designated strainers, they may be either strainers or filters according to the common terminology of the industry.

1.2 Strainers and filter assemblies covered by these requirements are intended for use with one or more of the following:

- a) Diesel fuel, which includes renewable diesel, and diesel/biodiesel blends with nominal biodiesel concentrations up to 5 percent (B0 – B5) formulated in accordance with the Standard Specification for Diesel Fuel Oils, ASTM D975;
- b) Diesel/biodiesel blends and renewable diesel/biodiesel blends with nominal biodiesel concentrations from 5 percent up to 20 percent (B6 – B20) formulated in accordance with the Standard Specification for Diesel Fuel Oil, Biodiesel Blends (B6 – B20), ASTM D7467;
- c) Biodiesel (B99.9/B100) formulated in accordance with the Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, ASTM D6751;
- d) Kerosene formulated in accordance with the Standard Specification for Kerosene, ANSI/ASTM D3699;
- e) Fuel oil (heating oil) formulated in accordance with the Standard Specification for Fuel Oils, ASTM D396.

1.3 These requirements do not cover the following:

- a) Strainers for handling liquids under cryogenic conditions;
- b) Strainers for marine use;
- c) Strainers for automotive fuel lines;
- d) Strainers for handling refrigerants;
- e) Strainers for use in such facilities as chemical, petrochemical, petroleum, and utility power plants;
- f) Strainers for use in fluid-power (hydraulic and pneumatic) applications;
- g) Strainers or filter assemblies for use with gasoline or gasoline/ethanol blends, which are covered under the Outline of Investigation for Strainers for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations Up to 85 Percent (E0 – E85), UL 331A
- h) Strainers or filter assemblies for use with LP-Gas, Natural Gas, Manufactured Gas, and Anhydrous Ammonia, which are covered under the Standard for Strainers for Flammable Fluids and Anhydrous Ammonia, UL 331.

2 Components

2.1 Except as indicated in [2.2](#), a component of a product covered by this standard shall comply with the requirements for that component.

2.2 A component is not required to comply with a specific requirement that:

a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or

b) Is superseded by a requirement in this standard.

2.3 A component shall be used in accordance with its rating established for the intended conditions of use.

2.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

3 Units of Measurement

3.1 If a value for measurement is followed by a value in other units in parentheses, the first stated value is the requirement.

4 Undated References

4.1 Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard.

CONSTRUCTION

5 General

5.1 A strainer shall include all of the components necessary for its intended function and installation, and shall be furnished as a complete assembly. Strainers may be one of two types:

a) Removable assemblies, or

b) Non-removable assemblies with removable strainer elements.

In this standard, the term strainer applies to both types, and requirements that apply to a specific type will designate that type in the text of the requirement.

5.2 The construction of a strainer shall be such that parts can be reassembled in the intended manner after being dismantled to the extent needed for servicing.

5.3 A strainer shall be constructed so that, when in its intended operating position, any air trapped within will not reduce the rate of liquid flow or the effective strainer element capacity.

5.4 A non-removable strainer employing a strainer element intended to be cleaned or replaced shall permit the removal of the element without disconnecting piping.

5.5 A strainer element shall be constructed so that joints or seals required to prevent fluid bypass of the element will be maintained.

5.6 A non-removable strainer shall be constructed so that when the screen or filter element is removed for cleaning, all foreign matter (sediment and dirt) will be removed or can be removed without the probability of any foreign matter being deposited in the outlet side of the strainer.