

STANDARD INFORMATION

Standard Number: UL 979
Standard Name: Water Treatment Appliances
Standard Edition and Issue Date: 2nd Edition dated September 29, 2016
Date of Revision: April 25, 2019
Date of Previous Revision of Standard: November 8, 2017

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **April 25, 2021**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revise 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requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revise requirements.

Note that for component control devices certified to standards which are being removed from UL 979 (i.e. UL 244A, UL 353, UL 917 and UL 873), the existing component controls may be used. New components added to the construction will need to comply with the revised requirements in the standard.

Overview of Changes:

- Revisions to the Control Requirements to updated standards and updated field strength value for radiated EMI from 3 V/m to 10 V/m to correlate with IEC 60730-1 and IEC 60335-1
- Deletion of the option to use controls certified to UL 244A, UL 353, UL 873, and UL 917
- Removes references to UL 991 and UL 1998

Specific details of new/revise 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:

Information – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revise paragraphs noted in the attached or explain why these new/revise 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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined out below.</i>
	Info	CONSTRUCTION
6	Info	Components
6.6	Info	Controls
6.6.1	Info	General
		Operating controls that rely upon software for the normal operation of the end product that manage a Safety Critical Function shall comply with:
6.6.1.3		<p>a) The Standard for Tests for Safety Related Controls Employing Solid State Devices, UL 991, and the Standard for Software in Programmable Components, UL 1998;</p> <p>b) <u>a)</u> The Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1, or</p> <p>c) <u>b)</u> Using the requirements for Electronic Circuits Evaluated to the Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements, UL 60335-1, based requirements, Section 29.</p>
		Solid-state Protective Electronic Circuits that do not rely upon software as a protective component shall comply with:
6.6.1.5		<p>a) The Standard for Tests for Safety Related Controls Employing Solid State Devices, UL 991;</p> <p>b) <u>a)</u> The Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1, except for the Controls Using Software requirements; or</p> <p>c) <u>b)</u> Using the requirements for Electronic Circuits Evaluated to the Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements, UL 60335-1, based requirements, Section 29.</p>
		Solid-state Protective Electronic Circuits that rely upon software as a protective component shall comply with:
6.6.1.6		<p>a) The Standard for Tests for Safety Related Controls Employing Solid State Devices, UL 991; and the Standard for Software in Programmable Components, UL 1998;</p> <p>b) <u>a)</u> The Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1; or</p> <p>c) <u>b)</u> Using the requirements for Electronic Circuits Evaluated to the Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements, UL 60335-1, based requirements, Section 29.</p>



CLAUSE	VERDICT	COMMENT
6.6.2	Info	<p>Electromechanical and electronic controls</p> <p>A control, other than as specified in 6.6.3 – 6.6.7, shall comply with:</p> <p>6.6.2.1 a) The Standard for Solid State Controls for Appliances, UL 244A; b) The Standard for Temperature Indicating and Regulating Equipment, UL 873; e) <u>a)</u> The Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1; or d) <u>b)</u> Using the requirements for Electronic Circuits Evaluated to the Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements, UL 60335-1, based requirements, Section 29.</p>
6.6.3	Info	<p>Liquid level controls</p> <p>A liquid level control shall comply with:</p> <p>6.6.3.1 a) The Standard for Solid State Controls for Appliances, UL 244A; b) The Standard for Temperature Indicating and Regulating Equipment, UL 873; e) <u>a)</u> The Standard for Industrial Control Equipment, UL 508; or d) <u>b)</u> The Standard for Automatic Electrical Controls Part 1: General Requirements, UL 60730-1; and 1) The Standard for Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Automatic Electrical Air Flow, Water Flow and Water Level Sensing Controls, UL 60730-2-15; or 2) The Standard for Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Automatic Electrical Water and Air Flow Sensing Controls, Including Mechanical Requirements, UL 60730-2-18; or e) <u>c)</u> Using the requirements for Electronic Circuits Evaluated to the Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements, UL 60335-1, based requirements, Section 29.</p>
6.6.4	Info	<p>Motor and speed controls</p> <p>A control used to start, stop, regulate or control the speed of a motor shall comply with:</p> <p>6.6.4.1 a) The Standard for Solid State Controls for Appliances, UL 244A; b) The Standard for Temperature Indicating and Regulating Equipment, UL 873; e) <u>a)</u> The Standard for Industrial Control Equipment, UL 508; d) <u>b)</u> The Standard for Power Conversion Equipment, UL 508C; e) <u>c)</u> The Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1; f) <u>d)</u> The Standard for Low-Voltage Switchgear and Controlgear – Part 1: General Rules, UL 60947-1, and the Standard for Low-Voltage Switchgear and Controlgear – Part 4-1: Contactors and Motor-Starters – Electromechanical Contactors and Motor-Starters, UL 60947-4-1; or g) <u>e)</u> Using the requirements for Electronic Circuits Evaluated to the Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements, UL 60335-1, based requirements, Section 29.</p>



CLAUSE	VERDICT	COMMENT
6.6.5	Info	Pressure controls
		A pressure control shall comply with one of the following; see also 26.8 and 26.9:
6.6.5.1		a) The Standard for Solid State Controls for Appliances, UL 244A; b) a) The Standard for Industrial Control Equipment, UL 508; c) b) The Standard for Automatic Electrical Controls– Part 1: General Requirements, UL 60730-1; and the Standard for Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Automatic Electrical Pressure Sensing Controls Including Mechanical Requirements, UL 60730-2-6; or d) c) Using the requirements for Electronic Circuits Evaluated to the Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements, UL 60335-1, based requirements, Section 29.
6.6.6	Info	Temperature controls
		A temperature control shall comply with:
6.6.6.1		a) The Standard for Solid State Controls for Appliances, UL 244A; b) The Standard for Temperature Indicating and Regulating Equipment, UL 873; c) a) The Standard for Industrial Control Equipment, UL 508; d) b) The Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1; and the Standard for Automatic Electrical Controls for Household and Similar Use – Part 2-9: Particular Requirements for Temperature Sensing Controls, UL 60730-2-9; or e) c) Using the requirements for Electronic Circuits Evaluated to the Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements, UL 60335-1, based requirements, Section 29.
6.6.7	Info	Timer controls
		A timer control shall comply with:
6.6.7.1		a) The Standard for Solid State Controls for Appliances, UL 244A; b) a) The Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1; and the Standard for Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Timers and Time Switches, UL 60730-2-7; or c) b) Using the requirements for Electronic Circuits Evaluated to the Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements, UL 60335-1, based requirements, Section 29.



CLAUSE	VERDICT	COMMENT
6.16	Info	Motors and motor overload protection
6.16.4	Info	Motor overload protection
		Except as indicated in 6.16.4.3, electronically protected motor circuits shall comply with one of the following <u>the Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1</u> . If software is relied upon to perform a safety function, it shall be considered software Class B. See Motor and Speed Controls, 6.6.4, for basic control requirements.
6.16.4.4		a) The Standard for Tests for Safety-Related Controls Employing Solid-State Devices, UL 991. When the protective electronic circuit is relying upon software as a protective component, it shall comply with the requirements in the Standard for Tests for Software in Programmable Components, UL 1998. If software is relied upon to perform a safety function, it shall be considered software Class 1; or b) The Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1; If software is relied upon to perform a safety function, it shall be considered software Class B.
6.21	Info	Semiconductors and small electrical and electronic components
		Where an electronic component is determined to be a critical component during the Component Breakdown Test specified in 45.2, one of the following standards <u>the Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1, shall be applied</u> . See 28.4 for the test parameters to be used.
6.21.5		a) The Standard for Tests for Safety-Related Controls Employing Solid-State Devices, UL 991; and as applicable, the Standard for Software in Programmable Components, UL 1998, for controls that rely upon software as a protective component; or b) The Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1.
6.23	Info	Switches
		A clock-operated switch, in which the switching contacts are actuated by a clock-work, by a gear-train, by electrically-wound spring motors, by electric clock-type motors, or by equivalent arrangements shall comply with <u>the Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1, and the Standard for Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Timers and Time Switches, UL 60730-2-7</u> . one of the following:
6.23.2		a) The Standard for Clock Operated Switches, UL 917; or b) The Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1, and the Standard for Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Timers and Time Switches, UL 60730-2-7.



CLAUSE	VERDICT	COMMENT
6.23.3		<p>A timer or time switch, incorporating electronic timing circuits or switching circuits, with or without separable contacts, shall comply with the requirements for an operating control with Type 1 action for 6,000 cycles of operation, or as a manual control for 5,000 cycles of operation, in accordance with the <u>Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1, and the Standard for Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Timers and Time Switches, UL 60730-2-7.</u> following:</p> <p>a) The Standard for Solid-State Controls for Appliances, UL 244A; or b) The Standard for Automatic Electrical Controls – Part 1: General Requirements, UL 60730-1, and the Standard for Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Timers and Time Switches, UL 60730-2-7.</p>
26	Info	<p>Pressure-Relief Devices</p> <p>If a pressure-relief device is required in accordance with 26.5, a control depended upon to limit the pressure in a vessel shall:</p> <p>a) Comply with the applicable requirements in the Standard for Limit Controls, UL 353, or the applicable requirements for refrigeration limiting devices in the Standard for Temperature-Indicating and Regulating Equipment, UL 873, and shall Have a maximum pressure setting of not more than 90 percent of the rating of the pressure-relief device. Compliance with the Standard for Automatic Electrical Controls - Part 1: General Requirements, UL 60730-1, and/or the applicable Part 2 standard from the UL 60730 series fulfills the UL 873 requirements; or b) Operate so that the pressure-relief device described in 26.7 does not operate during or after the test described in 26.9.</p>
28	Info	<p>Controls – End Product Test Parameters</p>
28.4	Info	<p>Protective controls (limiting controls)</p> <p>The following test parameters shall be among the items considered when determining the acceptability of an electronic protective control investigated using the Standard for Automatic Electrical Controls - Part 1: General Requirements, UL 60730-1:</p> <p>28.4.2</p> <p>f) Radio-Frequency Electromagnetic Field Immunity:</p> <ol style="list-style-type: none"> 1) Immunity to conducted disturbances, when applicable, test level 3 shall be used; and 2) Immunity to radiated electromagnetic fields, field strength of ≥ 10 V/m shall be used;
<p>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.</p>		