

## Standard Information

**Standard Number:** UL 1995 / CSA C22.2 No. 236

**Standard Name:** Heating and Cooling Equipment

**Standard Edition and Issue Date:** 5<sup>th</sup> Edition Dated July 31, 2015

**Date of Previous Revision to Standard:** 4<sup>th</sup> Edition Revised October 3, 2014

## Effective Date of New/Revised Requirements

**Effective Date:** November 30, 2022

## Impact, Overview, Fees 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requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.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:** The changes, with respect to the previous edition of the standard includes many revisions, but perhaps the most significant is the Scope change to remove equipment rated 600 V or less, which are now covered by the scope of ANCE/CSA/UL 60335-2-40. 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).**

**Fees:** So that production of products bearing the Listing Mark will not be interrupted, between now and approximately 8 months before the effective date, a quote will be issued for the Applicant to work with their local Intertek Lab to determine the necessary test program, sampling requirement and needed construction details and/or updated marking/instruction details.

### 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**Current Listings Not Active?** – *Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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.*

# Standards Update Notice (SUN)

Issued: February 22, 2016

## Description of New/Revised Technical Requirements

Clause	Verdict	Comment
1		<b>Scope</b> Scope changes for products rated under 600 Volts will now use UL60335-2-40.
3		<b>Reference publications</b> Component standard requirements updated and incorporated in this Section.
4	Info	<b>Installation and operating instructions</b>
4.4		Clause was revised to include/cover transcritical system.
4.5(new)		Added requirements for equipment with solar PV systems.
4.6(new)		Added requirements for equipment with UV lamp systems.
4.7(new)		Added requirements for heat recovery units.
4.8(new)		
4.9(new)		
5	Info	<b>Enclosures</b>
5.4 c)(new)		Added requirement for polymeric enclosures exposure to UV-C radiation.
7	Info	<b>Openings in enclosures</b>
7.7(new)		Added requirement for enclosures containing UV radiation lamp systems.
8	Info	<b>Enclosures, doors, and covers</b>
8.5(new)		Added requirements for doors, covers and panels giving access to UV radiation lamp systems.
8.6(new)		
9	Info	<b>Accessibility of parts</b>
9.7-9.12 (new)		Added requirements for units employing UV radiation lamp systems.
15	Info	<b>Mechanical assembly – field assembly</b>
15.2		Added requirements for factory specified field installed integral UV systems.
15.3(new)		
16	Info	<b>Auxiliary devices</b>
16.10(new)		Added requirements for units that are designed for possible installation of duct mounted UV radiation lamp systems.
16.11(new)		Additional requirements for heat recovery unit.
19	Info	<b>Terminal parts and leads for field wiring connections</b>
19.33(new)		Additional requirements for equipment intended for cord connection.
19.34(new)		
19.35(new)		
19.36		Updated requirement mandating length requirement for ELV circuit leads per clause 19.12
20	Info	<b>Internal wiring</b>
20.6(new)		Additional requirements for PV source circuit wiring.
20.7(new)		
20.9(new)		Additional requirement for ampacity determination of adjustable speed drives.

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Issued: February 22, 2016

Clause	Verdict	Comment
23	Info	<b>Motors</b>
23.12		Added reference to CSA C22.2 No. 0.8 and CSA-ISO/IEC 16085 for compliance
23.13		Added reference to CAN/CSA E60730-1 and CAN/CSA E60730-2-9 for compliance
23.14		Added reference to CSA C22.2 No. 0.14 for compliance.
24	Info	<b>Grounding and bonding</b>
24.13(new)		Additional of equipotential bonding terminal requirements for heat pump pool and spa heaters.
26	Info	<b>Switches and controllers</b>
26.10		Clause was revised to indicate requirements for motor controllers that also serve as disconnects.
26.11 (new)		Additional requirement for controller of a motor-compressor on a unit that uses water as a heat exchange medium.
28	Info	<b>Capacitors</b>
28.3		Additional requirement stating electrolytic types of motor starting capacitors required to comply with supplement SA of UL 810.
30	Info	<b>Electric heaters</b>
30.14		Deleted the Exception for heater elements with switching devices rated for 250,000 endurance cycles; <i>"A heater element circuit that incorporates a switching device controlled by both the automatically resetting temperature-limiting control and a temperature regulating control complies if the switching device is rated for 250,000 endurance cycles."</i>
30.17-30.25		Clauses were revised to indicate that a manually resettable or replaceable backup protective device is now required (no exceptions).
32	Info	<b>Control circuits</b>
32.8(new)		Addition of new clause to indicate requirements for fuses.
32.10(new)		Addition of new clause to indicate requirements for fuse holders.
32.11(new)		Addition of new clause to indicate requirements for circuit breakers.
34	Info	<b>Refrigerant, hot water, and steam coils</b>
34.6		Clause was revised which makes the clause applicable to pressure vessels which the internal or external design pressure is greater than 15 psig (103.4 kPa gauge).
34.8		Clause was revised to add letter c) for transcritical systems.
34.9(new)		Addition of new clause to indicate that for transcritical systems the maximum normal working pressure is the marked design pressures for each system pressure range.
34.30(new) 30.34(new)		Addition of new clauses to indicate requirements for equipment intended to utilize carbon dioxide (R744) in a transcritical system.
34.32 34.33		Clauses were revised to include transcritical systems to criteria.
35(new)		<b>Condensing and compressor units employing flammable refrigerants</b>  Addition of new section for condensing and compressor units employing flammable refrigerants intended to be used in refrigerator or freezer applications.
36	Info	<b>Heat pump water heating and heat recovery equipment</b>
36.1		Revision of clause to cover heat recovery equipment.

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Clause	Verdict	Comment
36.10 36.14		Clauses were revised to include criteria for heat recovery units.
36.17(new) 36.18(new)		Addition of new clauses to indicate requirements for heat recovery units.
37(new) 38(new) 39(new) 40(new) 41(new) 42(new)		Addition of new sections for requirements of heating and cooling equipment related to PV equipment or utility interactive inverters.
44	Info	<b>Equipment markings</b>
44.3 f)		Addition of "Exceptions" in this clause to indicate marking requirements for motor or motor-compressor controlled by an adjustable speed drive.
44.3 k)		Revision of clause to indicate marking requirements for transcritical systems employing an intermediate pressure section.
44.3 z), z1), z2) (new)		Addition of marking requirements for equipment with UV radiation lamp systems.
44.13 c), 44.14 a), 44.14 b)		Clauses revised to include marking requirements for motor's MOC and motor – compressor's MRC.
Figure 44.1 Figure 44.2	Info	Referenced exceptions 1 and 2 of 44.3 (f) in LOAD1 and 2 for variable speed equipment
45	Info	<b>Other markings</b>
45.13		Clause was revised to include transcritical systems to criteria.
45.17(new) 45.18(new) 45.19(new) 45.20(new) 45.21(new) 45.22(new) 45.23(new)		Addition of marking requirement for units related to PV equipment or utility interactive inverters.
45.24(new)		Addition of marking requirements for equipment with removable Ultraviolet (UV) radiation doors or barriers
46	Info	<b>General test parameters</b>
Table 46.1 Table 46.2		<b>Operation tests</b>  Revision of table to add UV leakage test to applicable equipment.
Table 46.5		Added Class E Insulation Class to table.  Item D, 1. - Corrected Column 1 Temperature from 305 F to 197 F and corrected Column 2 Temperatures from 177 C to 122 C and 350 F to 251 F.
Table 46.6		<b>Test voltages</b>  Addition of Note (b) to this table to indicate input testing shall be conducted at nameplate rated voltage.
53	Info	<b>Electric heater tests</b>
53.13		Added formula to determine when to de-energize heat sources other than refrigerant heat during testing.

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Clause	Verdict	Comment
68	Info	<b>Accelerated aging tests</b>
68.2(new)		Addition of new clause to indicate test requirements for non-metallic sealing gaskets or protective barrier tape that may be exposed to UV.
71	Info	<b>Fatigue test analysis</b>
71.9		The number of test cycles was revised from 250,000 to 500,000.
71.11		Clause was revised to include transcritical systems to criteria.
71.12		Addition of new clause to indicate requirements for equipment intended to utilize carbon dioxide (R744) in a transcritical system.
71.13		Added low side of transcritical system to letter c)  Added letter d) to clause for portions that operate between low side and high side of transcritical system.
71.14 71.15		Addition of new clauses to indicate requirements for transcritical systems.
74	Info	<b>Regulating relief valve endurance test</b>
74.1		Addition of transcritical system to clause.
75	Info	<b>Leakage current test – cord-connected products</b>
75.2(new)		Addition of new clause to indicate leakage current limits specific for coolant distribution equipment for use in Information Technology Equipment (ITE) rooms.
78	Info	<b>Power supply cords</b>
Table 78.1		Addition of Note 2 and Note 3 to indicate power supply cord length requirements for coolant distribution equipment and systems installed in an ITE room.
78.3(new)		Addition of new clause to indicate power supply cord length requirements for computer room air conditioners
82(new)		<b>Heat pump pool heaters</b>  Addition of new section that specifically covers heat pump pool heaters
85	Info	<b>Pressure tests for leakage and strength</b>
Table 85.1		Added R744 Cascade and Transcritical to Table  Added notes b) and c)
89(new)		<b>Ultraviolet radiation exposure test</b>  Addition of new section that specifically covers UV radiation exposure.
90(new)		<b>Controls – end product test parameters</b>  Addition of new section that specifically covers controls.
		<b>CUSTOMERS PLEASE NOTE:</b> 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.