

UNDERWRITERS LABORATORIES INC. CERTIFICATION REQUIREMENT DECISION

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Product Category (CCN): DMGR/DMGR7

Standard Number: UL 921

Standard Title: Standard for Commercial Dishwashers

Edition Date: March 23, 2016

Edition Number: 7

Section / Paragraph Reference: Supplement SA

Subject: Commercial Dishwashers provided with a Heat Pump

DECISION:

SUPPLEMENT SA - COMMERCIAL DISHWASHERS SELF-CONTAINED CONDENSING SYSTEMS

INTRODUCTION

SA1 Scope

SA1.1 These requirements cover commercial, freestanding dishwashers which incorporate a self-contained condensing system to capture heat and water vapors, thereby reducing the residual heat gain to the premises. These dishwashers are sometimes referred to as “ventless dishwashers”. These requirements also cover dishwashers provided with a heat pump. These requirements add to the applicable requirements in the body of this Standard.

SA3A Commercial Dishwashers provided with a heat pump

SA3A.1 A dishwasher provided with a heat pump shall comply with the applicable requirements of CSA C22.2 No. 236 and UL 1995, utilizing the additional guidance as specified below:

- a) The testing shall be conducted as specified in Table SA3;
- b) Flammable refrigerants shall not be employed for commercial dishwashers;
- c) Refrigerant motor compressors shall comply with:
 - 1) CSA C22.2 No. 140.2 or CAN/CSA-C22.2 No. 60335-2-34; and
 - 2) UL 984 or UL 60335-2-34.
- d) Refrigerant containing parts shall comply with Clause 34 of UL 1995/CSA C22.2 No. 236;
- e) Refrigerant marking and amount shall comply with Clause 44.3(j) of UL 1995/CSA C22.2 No. 236; and
- f) The Manufacturing and Production tests – pressure tests for leakage and strength, shall be conducted in accordance with Clause 85 of UL 1995/CSA C22.2 No.236.

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Table SA3 - Test conditions for heat pump commercial dishwasher

(See Clause SA3)

CSA C22.2 No. 236 / UL 1995 Test	Test Conditions
<u>Input Test</u>	<u>Conducted in conjunction with UL921/CSA C22.2 No. 168, Clause 7.2¹</u>
<u>Starting Test</u>	<u>Conducted in conjunction with UL921/CSA C22.2 No. 168, Clause 7.3¹</u>
<u>Heating Operating Test - Temperature and Pressure, Clause 51</u>	<u>Conducted in conjunction with the UL 921/C22.2 No. 168 Normal Temperature Test, Clause 7.4¹</u>
<u>Indoor Fan Motor Failure and Water Failure Test, Clause 52</u>	<u>Conducted per CSA C22.2 No. 236/UL 1995, for the condenser fan motor or any water supply circuit needed for the heat pump.</u>
<u>Overflow Test</u>	<u>Covered by requirement in Clause 7.10 of UL 921/CSA C22.2 No. 168</u>
<u>Limited Short Circuit Test</u>	<u>Covered by requirement in Clause 7.14 of UL 921/CSA C22.2 No. 168</u>
<u>Strength Test, Clause 70</u>	<u>Conducted per CSA C22.2 No. 236/UL 1995</u>
<u>Condensate Drain Blockage Test, Clause 62</u>	<u>Conducted per CSA C22.2 No. 236/UL 1995</u>
¹ The test voltage, room ambient temperature, pressure measurement and, if applicable, condenser/evaporator water supply temperature and pressure shall be as specified in CSA C22.2 No. 236/UL 1995, or worst-case as supplied in the dishwasher heat-pump.	

RATIONALE FOR DECISION:

This Certification Requirement Decision is intended to document the requirements for commercial dishwashers provided with a heat pump. These types of dishwashers are typically provided with a self-contained condensing system so that a venting system is not needed at the installation. These machines are sometimes designated “ventless dishwashers”. The heat pump is intended to collect operating exhaust energy and water vapor, and convert them into usable energy for heating the wash and rinse water for the dishwasher.

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