



## Humidifiers



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Standard for Safety for Safety for Humidifiers

Fifth Edition, Dated April 9, 2020

**Summary of Topics**

***This new edition dated April 9, 2020 includes a revising the Scope in Supplement [SA](#) and other editorial updates.***

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated August 9, 2019.

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CSA Group  
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Underwriters Laboratories Inc.  
UL 998  
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## Humidifiers

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## PREFACE

This is the harmonized CSA Group and UL Standard for Humidifiers. It is the fifth edition of CSA C22.2 No. 104, and the sixth edition of UL 998. This edition of CSA C22.2 No. 104 supersedes the previous edition(s) published on April 25, 2011. This edition of UL 998 supersedes the previous edition(s) published on April 25, 2011.

This harmonized Standard was prepared by CSA Group and Underwriters Laboratories Inc. (UL). The efforts and support of the Air Conditioning and Refrigeration Institute (ARI) and the Heating, Refrigerating and Air Conditioning Institute of Canada (HRAI) are gratefully acknowledged.

This standard is considered suitable for use for conformity assessment within the stated scope of the standard.

This Standard was reviewed by the CSA Subcommittee on Humidifiers, under the jurisdiction of the CSA Technical Committee on Consumer and Commercial Products and the Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the CSA Technical Committee. This standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

### Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number is to be considered a minimum quantity.

Note: Although the intended primary application of this standard is stated in its scope, it is important to note that it remains the responsibility of the users of the standard to judge its suitability for their particular purpose.

### Level of Harmonization

This standard uses the IEC format but is not based on, nor is it considered equivalent to, an IEC standard.

This standard is published as an identical standard for CSA Group and UL.

An identical standard is a standard that is exactly the same in technical content except for national differences resulting from conflicts in codes and governmental regulations. Presentation is word for word except for editorial changes.

### Interpretations

The interpretation by the standards development organization of an identical or equivalent standard is based on the literal text to determine compliance with the standard in accordance with the procedural rules of the standards development organization. If more than one interpretation of the literal text has been identified, a revision is to be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

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# HUMIDIFIERS

## INTRODUCTION

### 1 Scope

1.1 These requirements cover humidifiers rated 600 V or less, and intended to be used in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and the rules of CSA C22.1, Canadian Electrical Code (CEC), Part I.

1.2 These requirements cover humidifiers intended for residential and commercial use. This includes humidifiers of the centrifugal atomizing type, evaporative-media type, water-injection type, steam type, and the like. The humidifiers are intended for installation in a room, mounted on a wall or a ceiling, or for duct or plenum mounting.

1.3 These requirements apply to equipment that includes an electric heating element to heat air or water, or both.

1.4 These requirements do not apply to evaporative coolers that are also intended to be used for cooling.

1.5 These requirements do not apply to portable, electrode-type products, such as vaporizers, which are covered by UL 499 and CAN/CSA-C22.2 No. 64.

### 2 Definitions

2.1 The following definitions apply in this Standard.

2.2 **CIRCUIT, EXTRA-LOW-VOLTAGE** – A circuit that has an ac potential of not more than 30 V (42.4 peak), and power of 100 VA or less; or 30 V dc supplied by a primary battery; or supplied by a Class 2 transformer; or supplied by a combination of a transformer and fixed impedance that, as a unit, complies with all the performance requirements for a Class 2 transformer. A circuit that is derived from a circuit which exceeds 30 V by connecting resistance or impedance, or both, in series with the supply circuit to limit the voltage and current, is not considered to be an extra-low-voltage circuit.

2.3 **CIRCUIT, HAZARDOUS VOLTAGE** – A circuit having characteristics in excess of those of an extra-low-voltage circuit.

2.4 **COMBINATION TEMPERATURE-REGULATING AND TEMPERATURE-LIMITING THERMOSTAT** – A thermostat whose function is to regulate the temperature under normal conditions of use, and that also serves to prevent a hazard that might result from conditions of abnormal operation of the heater.

2.5 **ENCLOSURE** – The enclosure that houses the electrical components, live parts, and/or moving parts. It may be an integral part of the component, a separate item, part of the ultimate enclosure, or the ultimate enclosure (e.g., the outer cabinet).

2.6 **HEATER ELEMENT** – A complete or partial assembly of a heating element, an electrical insulation (e.g., refractory, mica), a metal sheath, a glass or quartz envelope or panel, thermal insulation, and a frame or adaptor for holding the assembly together and fastening it in the heater; and leads or terminal connections, or both, which may or may not include bolts and nuts.

2.7 **HEATING ELEMENT** – The actual electrical conducting medium that is intended to be heated by an electric current.