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ANSI/ASHRAE Standard 15.2-2022
Safety Standard for Refrigeration Systems in Residential Applications

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NOTE

Approved addenda, errata, or interpretations for this standard can be downloaded free of charge from the ASHRAE website at www.ashrae.org/technology.

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FOREWORD

Standard 15.2 is the low-rise residential companion to ANSI/ASHRAE Standard 15, Safety Standard for Refrigeration Systems.

Historically, safety requirements were not applied as rigorously to residential HVAC systems as they were to commercial systems, primarily because (a) all direct systems were restricted to A1 refrigerants as classified by ANSI/ASHRAE Standard 34, Designation and Safety Classification of Refrigerants, and listed to safety design standards such as UL 1995 and UL 60335-2-40, and (b) the risk of reaching and exceeding a refrigerant's acute toxicity exposure limit (ATEL) in the event of a complete release was very low.

The need to reduce global warming potential (GWP) in residential applications has led to the use of mildly flammable refrigerants of the ASHRAE Standard 34 A2L classification and created a vacancy for an application safety standard that building code authors can depend on. Standard 15.2 was developed to fill this roll. It serves as a stakeholder document to accommodate the use of A2L refrigerants in model building codes and is intended for use by manufacturers, installers, contractors, service technicians, building code officials, and others.

With the release in December 2019 of the third edition of UL/CSA 60335-2-40, North American product safety standards for residential products were modified to allow low-flammability A2L refrigerants. ASHRAE Standard 15.2 was developed in parallel and is more conservative than the UL standard in several places. Standard 15.2 requires that all products be listed to a national product safety standard and installed per the manufacturer's installation instructions. Particular attention is paid to ensure that, in the event of a full release of the refrigerant charge, the concentration in the space remains safely below the lower flammability limit of the refrigerant used. Therefore, specific requirements are placed on which refrigerants can be used, the maximum allowable refrigerant charge, the accessories that can be used, and the interconnecting piping. To streamline use, Standard 15.2 provides a flowchart showing how to apply the standard, as well as numerous tables eliminating the direct use of equations. Informative Appendix A provides extensive explanatory information to aid in understating the requirements and the equations used to create the tables.

ANSI/ASHRAE Standard 15.2 is under continuous maintenance. It is modified and updated based on feedback from users, change in the science originating from ASHRAE and industry research, and industry changes that respond to the global interest in improved environmental responsibility. Interested parties can recommend changes to the standard by submitting a change proposal through the ASHRAE website.

1. PURPOSE

This standard specifies the minimum requirements for the safe design and installation of *refrigeration systems* used in residential applications.

2.* SCOPE

2.1 This standard applies to *listed direct refrigeration systems* in the following residential applications that are limited to serving only a single *dwelling unit* or *sleeping unit*:

- a. One- and two-family *dwelling*s and townhouses
- b. Detached outbuildings associated with a one- or two-family *dwelling* or townhouse and located on the same property included in Section 2.1(a)
- c. Individual *dwelling units* and *sleeping units* located in a *multifamily dwelling*

3. ADMINISTRATIVE

3.1 Precedence with Conflicting Requirements. Where there is a conflict between this standard and local building, electrical, fire, mechanical, or other adopted codes, the provisions of the local or adopted code *shall* take precedence unless otherwise stated in those codes.