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C656-14
National Standard of Canada
(reaffirmed 2019)



Performance standard for split-system and single-package air conditioners and heat pumps



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National Standard of Canada

C656-14

Performance standard for split-system and single-package air conditioners and heat pumps



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Preface

This is the third edition of CSA C656, *Performance standard for split-system and single-package air conditioners and heat pumps*. It supersedes the previous edition published in 2005 and the first edition published in 1992 under the title *Performance Standard for Single Package Central Air-Conditioners and Heat Pumps*, and also replaces CAN/CSA-C273.3-M91, *Performance Standard for Split-System Central Air-Conditioners and Heat Pumps*.

This Standard was revised and updated and, to the extent possible, harmonized with ANSI/AHRI 210/240-2008, *Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment* and existing minimum and high efficiency levels of performance.

Annex B, which contains the uniform test method for measuring the energy consumption of central air conditioners and heat pumps, is from Appendix M of the United States Department of Energy's *Code of Federal Regulations* (CFR), Part 430, published in June 27, 2011. Annex B outlines test procedures for the calculation of the seasonal energy efficiency ratio (SEER), the heating seasonal performance factor (HSPF), the capacity and the coefficient of performance (COP) of equipment tested and rated in accordance with this Standard.

CSA Group acknowledges that the development of this Standard was made possible, in part, by the financial support of Natural Resources Canada (NRCan), BC Hydro, Manitoba Hydro, Hydro Québec, Ontario Ministry of Energy, Ontario Power Authority and SaskPower.

This Standard was prepared by the Subcommittee on the Performance of Split-System and Single-Package Central Air Conditioners and Heat Pumps, under the jurisdiction of the Technical Committee on Heating, Ventilation, Air Conditioning, and Refrigeration and the Strategic Steering Committee on Performance, Energy Efficiency, and Renewables, and has been formally approved by the 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.

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- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *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.*
- 3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
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 - d) *rationale for the change.*

C656-14

Performance standard for split-system and single-package air conditioners and heat pumps

1 Scope

1.1 General

1.1.1

This Standard applies to unitary air conditioners and heat pumps that are

- a) factory-made;
- b) air-source and/or air-sink;
- c) split-system matching assemblies (including mini-split and multi-split) or single package;
- d) of the type classified in Clause 1.2;
- e) intended for air-conditioning and space-heating applications in buildings;
- f) electrically driven, mechanical, vapour-compression-type systems; and
- g) rated below 19.0 kW (65 000 Btu/h) heating or cooling at standard rating conditions, in accordance with Clause 5.2.

Note: *This includes space constrained single-package or split-system and small-duct high-velocity central air conditioners and heat pumps matching assemblies of the type classified in Clause 1.2 and intended for air-conditioning and space-heating applications in buildings.*

1.1.2

This Standard does not apply to the following:

- a) burner-assisted air-source heat pumps;
- b) air-source/air-sink multi-function heat pump systems;
- c) integrated vapour-compression-type heat pump systems;
- d) “Direct Expansion Dedicated Outdoor Air Systems” (DX-DOAS); and
- e) water-cooled and evaporatively-cooled unitary air conditioners and heat pumps.

1.2 Unitary equipment

Unitary equipment within the scope of this Standard is outlined in Table 1.

1.3 Terminology

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.