
**Non-ducted portable air-cooled air
conditioners and air-to-air heat
pumps having a single exhaust duct —
Testing and rating for performance**

*Climatiseurs refroidis par air et pompes à chaleur portables
non raccordés à simple conduit — Essais et détermination des
caractéristiques des performances*

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 86, *Refrigeration and air-conditioning*, Subcommittee SC 6, *Testing and rating of air-conditioners and heat pumps*.

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Introduction

Single duct portable air conditioners and heat pumps can be selected for their ease and rapidity of use, handling and installation, in particular when the use of other categories of air conditioners is not convenient or forbidden, for example in rented or holiday houses or in historical buildings where an external unit cannot be placed outdoors.

The operational mode and features of such appliances are quite different from those of the well-known non-ducted air conditioners and heat pumps largely diffused worldwide and covered by ISO 5151.

There are presently no internationally recognized standards for single duct portable air conditioners and heat pumps. The economic operators involved in the production and distribution of such products face significant problems in verifying and declaring performance and energy consumption data in an objective and internationally recognized way.

This being considered, ISO/TC 86/SC 6 decided to prepare a specific standard for single duct portable air conditioners and heat pumps.

During the discussion of its contents it was acknowledged that it is necessary to provide the users with information on the specific characteristics of single duct portable air conditioners and heat pumps, on their correct installation and on their use. This will be covered by a future Amendment to this document which is currently under discussion.

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Non-ducted portable air-cooled air conditioners and air-to-air heat pumps having a single exhaust duct — Testing and rating for performance

1 Scope

This document specifies the standard conditions for capacity and efficiency ratings of non-ducted portable air-cooled air conditioners having a single exhaust duct and non-ducted portable air-cooled heat pumps having a single exhaust duct. Such air conditioners and heat pumps may include an evaporatively cooled condenser cooled by air and the evaporation of:

- a) condensate collected from the evaporator;
- b) external supplementary water stored in a supplementary water tank; or
- c) both a) and b).

This document also specifies the test methods for determining the capacity and efficiency ratings.

This document applies to equipment that is factory-made, electrically driven and uses mechanical compression. This document is applicable to equipment utilizing one or more refrigeration systems.

This document is not applicable to the rating and testing of the following:

- i) Water-source heat pumps or water-cooled air conditioners;
- ii) Multi-split-system air conditioners and air-to-air heat pumps (see ISO 15042:2017 for the testing of such equipment);
- iii) Individual assemblies not constituting a complete refrigeration system;
- iv) Equipment using the absorption refrigeration cycle;
- v) Ducted equipment (see ISO 13253:2017 for the testing of such equipment);
- vi) Evaporative coolers or any other cooling systems that are not of the vapour compression type;
- vii) Dehumidifiers;
- viii) Spot coolers.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 817, *Refrigerants — Designation and safety classification*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at <http://www.electropedia.org/>