International Standard

ISO 5222-1

Second edition
2025-10

Heat recovery ventilators and energy recovery ventilators — Testing and calculating methods for performance factor —

Part 1: Sensible heating recovery seasonal performance factors of heat recovery ventilators (HRVs)

Ventilateurs récupérateurs de chaleur et ventilateurs récupérateurs d'énergie — Méthodes d'essai et de calcul des facteurs de performances —

Partie 1: Facteurs de performances saisonnières de la récupération de chaleur sensible des ventilateurs récupérateurs de chaleur (HRV)

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Foreword

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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 document 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).

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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*.

This second edition cancels and replaces the first edition (ISO 5222-1:2023), which has been technically revised. The main changes are as follows:

— terms and definitions have been revised to align with ISO 5222-2 and ISO 5222-3;

— symbols have been revised in accordance with the ISO/IEC Directives, Part 2;

— names of stages have been revised to align with ISO 5222-2 and ISO 5222-3;

— 6.2 sensible heating coefficient of energy and 3.3 coefficient of energy have been deleted;

— errors in 6.2.3 have been corrected;

— a note has been added to 6.2.5 for clarification;

— Figure A.1 has been revised to align with ISO 5222-2 and ISO 5222-3.

A list of all parts in the ISO 5222 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Heat recovery ventilators and energy recovery ventilators — Testing and calculating methods for performance factor —

Part 1: Sensible heating recovery seasonal performance factors of heat recovery ventilators (HRVs)

1 Scope

This document specifies the testing and calculating methods for sensible heating recovery seasonal performance factor of heat recovery ventilators (HRVs) covered by ISO 16494-1.

This document also specifies the test conditions and the corresponding test procedures for determining the sensible heating recovery seasonal performance factor of HRVs. It is intended for use only for marking and comparison purposes.

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 16494-1:2022/Amd 1:2023, *Heat recovery ventilators and energy recovery ventilators — Method of test for performance — Part 1: Development of metrics for evaluation of energy related performance*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16494-1 and the following apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
heat recovery
<sensible heating> transfer of sensible energy from exhaust air to supply air in heat recovery ventilators while heating

3.2
bypass ventilation function
function for reducing power input of the fans while the heat energy recovered is less than the additional energy input due to overcoming the resistance of recovery heat exchanger during its operation time

Note 1 to entry: The bypass ventilation function makes either the supply air or exhaust air or both airflows go through the bypass passage with energy saving control.