

Testing and rating of direct exchange ground coupled heat pumps with electrically driven compressors for space heating and/or cooling - Part 1: Direct exchange-to-water heat pumps

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 15879-1:2011 sisaldab Euroopa standardi EN 15879-1:2011 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 31.03.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 23.02.2011.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 15879-1:2011 consists of the English text of the European standard EN 15879-1:2011.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 31.03.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 23.02.2011.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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English Version

Testing and rating of direct exchange ground coupled heat pumps with electrically driven compressors for space heating and/or cooling - Part 1: Direct exchange-to-water heat pumps

Essais et détermination des caractéristiques des pompes à chaleur à détente directe avec le sol avec compresseur entraîné par moteur électrique pour le chauffage et/ou la réfrigération des locaux - Partie 1: Pompes à chaleur à échange direct avec l'eau

Prüfung und Leistungsbemessung von erdreichgekoppelten Direktübertragung - Wärmepumpen mit elektrisch angetriebenen Verdichtern zur Raumbeheizung und/oder -kühlung - Teil 1: Direktübertragung/Wasser-Wärmepumpe

This European Standard was approved by CEN on 8 January 2011.

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Foreword

This document (EN 15879-1:2011) has been prepared by Technical Committee CEN/TC 113 “Heat pumps and air conditioning units”, the secretariat of which is held by AENOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2011, and conflicting national standards shall be withdrawn at the latest by August 2011.

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1 Scope

This European Standard specifies the terms and definitions, test conditions, test procedures and requirements for the rating and performance of direct exchange-to-water ground coupled heat pumps with electrically driven compressors, used for space heating and/or cooling. Brine can be used instead of water.

This European Standard applies to factory-made units with horizontal in-ground collectors. In the case of units consisting of several parts, this standard applies only to those designed and supplied as a complete package.

Water-to-direct exchange and direct-exchange-to-direct exchange ground coupled heat pumps are covered by EN 15879-2.

Direct exchange-to-air ground coupled heat pumps and air-to-direct exchange heat pumps are covered by EN 15879-3.

This European Standard does not apply to units using transcritical cycles, e.g. with CO₂ as refrigerant.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12102:2008, *Air conditioners, liquid chilling packages, heat pumps and dehumidifiers with electrically driven compressors for space heating and cooling — Measurement of airborne noise — Determination of the sound power level*

EN 14511-1:2007, *Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling — Part 1: Terms and definitions*

EN 14511-3, *Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling — Part 3: Test Methods*

EN 60204-1, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*

EN 60335-2-40, *Household and similar electrical appliances — Safety — Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers (IEC 60335-2-40:2002, modified)*

EN 61000-3-11, *Electromagnetic compatibility (EMC) — Part 3-11: Limits; Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems; Equipment with rated current ≤ 75 A and subject to conditional connection (IEC 61000-3-11:2000)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14511-1:2007 and the following apply.

3.1

direct exchange ground coupled heat pump

heat pump which consists of an in-ground heat exchanger and a heat pump module

3.2

in-ground heat exchanger

heat exchanger buried in the ground that consists of a series of parallel loops, each consisting of a single tube, in which the refrigerant is circulating for a direct heat exchange with the ground