

Refrigerant compressors - Rating conditions, tolerances and presentation of manufacturer's performance data

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12900:2005 sisaldab Euroopa standardi EN 12900:2005 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 25.11.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12900:2005 consists of the English text of the European standard EN 12900:2005.</p> <p>This document is endorsed on 25.11.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This European Standard specifies the rating conditions, tolerances and the method of presenting manufacturer's data for positive displacement refrigerant compressors.</p>	<p>Scope: This European Standard specifies the rating conditions, tolerances and the method of presenting manufacturer's data for positive displacement refrigerant compressors.</p>
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ICS 23.140, 27.200

Võtmesõnad: compressors, cooling systems, correction factors, data, data representation

English Version

Refrigerant compressors - Rating conditions, tolerances and presentation of manufacturer's performance data

Compresseurs pour fluides frigorigènes - Conditions de détermination des caractéristiques, tolérances et présentation des performances du fabricant

Kältemittel-Verdichter - Nennbedingungen, Toleranzen und Darstellung von Leistungsdaten des Herstellers

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Foreword

This European Standard (EN 12900:2005) 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of an identical text or by endorsement, at the latest by April 2006, and conflicting national standards shall be withdrawn at the latest by April 2006.

This European Standard supersedes EN 12900:1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies the rating conditions, tolerances and the method of presenting manufacturer's data for positive displacement refrigerant compressors. These include single stage compressors and single and two stage compressors using a means of liquid subcooling. This is required so that a comparison of different refrigerant compressors can be made. The data relate to the refrigerating capacity and power absorbed and include correction factors and part-load performance where applicable.

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 378-1:2000, *Refrigerating systems and heat pumps — Safety and environmental requirements — Part 1: Basic requirements, definitions, classification and selection criteria*

EN 13771-1, *Compressors and condensing units for refrigeration – Performance testing and test methods – Part 1: Refrigerant compressors*

ISO 817, *Refrigerants — Designation system*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions of EN 378-1:2000 and the following apply.

3.1

positive displacement compressor

compressor in which compression is obtained by changing the internal volume of the compression chamber, see 3.4.6 of EN 378-1:2000

3.2

refrigerating capacity

product of the mass flow of refrigerant through the compressor and the difference between the specific enthalpy of the refrigerant at the compressor inlet and the specific enthalpy of saturated liquid

NOTE The refrigerant at the compressor inlet is superheated above the suction dew point temperature to the stated value (see Table 1). The saturated liquid is at a pressure corresponding to the compressor discharge pressure.

3.3

subcooling

difference between the bubble point temperature of the refrigerant corresponding to the compressor discharge pressure and the temperature of the liquid refrigerant below the bubble point

3.4

superheat

difference between the dew point temperature of the refrigerant corresponding to the compressor suction pressure and the suction vapour temperature of the refrigerant at the compressor inlet

3.5

power absorbed

- for externally driven compressors: the power at the compressor shaft;
- for motor compressors: the electrical power input at the motor terminals

3.6

coefficient of performance, COP,

ratio of refrigerating capacity to the power absorbed, expressed in Watt/Watt