

Testing methodologies of refrigerating devices for insulated means of transport - Part 1: Mechanical cooling device with forced air circulation evaporator with or without heating device

EESTI STANDARDI EESSÕNA

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English Version

Testing methodologies of refrigerating devices for insulated means of transport - Part 1: Mechanical cooling device with forced air circulation evaporator with or without heating device

Méthodes d'essai des appareils de réfrigération pour moyens de transport isothermes - Partie 1 : Systèmes de réfrigération mécanique avec évaporateur à circulation d'air forcée ou convection et dispositifs de chauffage optionnels

Prüfung von Kühleinrichtungen für wärmegeämmte Transportmittel - Teil 1: Transportkältemaschinen mit zwangsbelüftetem Verdampfer mit oder ohne Heizeinrichtung

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Contents

Page

Foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions, symbols and uncertainties.....	5
3.1 Terms and definitions	5
3.2 Symbols and uncertainties	9
4 Requirements	11
4.1 Tested appliance description	11
4.2 Test equipment	11
4.2.1 General requirements.....	11
4.2.2 Requirements for the calorimeter box.....	12
4.2.3 Requirements for the conditioned test room.....	12
4.3 Installation and connection of the cooling device	12
4.3.1 General.....	12
4.3.2 Installation of cooling device with locally separated components (split system).....	12
5 Test conditions and methodology	13
5.1 General.....	13
5.2 Test conditions	13
5.2.1 Test conditions for measuring the cooling capacity P_C	13
5.2.2 Test conditions for measuring the heating capacity P_H	13
5.2.3 Test condition for measuring the total energy consumption E_T	14
5.3 Temperature measurements.....	14
5.3.1 Temperature of the conditioned test room T_e	14
5.3.2 Inside temperature of the calorimeter box T_i	15
5.3.3 Air temperatures of the cooling device	15
5.4 Cooling capacity P_C	15
5.5 Heating capacity P_H	15
5.5.1 Electric heating device.....	15
5.5.2 All heating devices	16
5.6 Performance testing under rated conditions	17
5.6.1 General.....	17
5.6.2 Provisions for cooling devices driven by vehicle engines	17
5.6.3 Heat transmission P_{TR} through the calorimeter box	19
5.6.4 Steady-state conditions under rated conditions	19
5.6.5 Energy consumption measurements.....	19
5.6.6 Measurement of the maximum cooling capacities and energy consumption at full load	20
5.6.7 Measurement of energy consumption under rated conditions at part load	20
5.6.8 Measurement of heating capacity and energy consumption	21
5.7 Air flow measurement	21
5.8 Rotation speed measurements	21
5.9 Time measurement	22
5.10 Functional tests	22
5.10.1 Cooling-down test.....	22
5.10.2 Defrosting test.....	22
6 Test results	22
6.1 General.....	22
6.2 Energy efficiency ratio determination	24
6.2.1 General.....	24

6.2.2	Determination of the cooling energy efficiency ratio EER_C	24
6.2.3	Determination of the heating energy efficiency ratio EER_H	24
7	Test report	24
Annex A	(informative) Examples	26
Annex B	(informative) Explanation with regard to reference speeds for different vehicle engines	27
Annex C	(informative) Total efficiency of the power chain of electric and hybrid vehicles	33
Annex D	(normative) Determination of energy and fuel consumption for cooling devices	34
D.1	Determination of energy and fuel consumption for dependent cooling devices	34
D.2	Determination of fuel consumption for independent cooling devices	35
Annex E	(informative) Heating device test methodologies	36
E.1	General	36
E.2	Direct refrigeration systems	36
E.3	Indirect refrigeration system	39
	Bibliography	40

Foreword

This document (EN 16440-1:2015) has been prepared by Technical Committee CEN/TC 413 “Insulated means of transport for temperature sensitive goods with or without cooling and/or heating device”, the secretariat of which is held by DIN.

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 July 2015 and conflicting national standards shall be withdrawn at the latest by July 2015.

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1 Scope

This European Standard applies to mechanical cooling devices with air circulation heat exchangers with or without heating device. The mechanical cooling devices are intended to be used with insulated transport equipment. They include a drive or a means of force transmission and are provided with all the components necessary for the controlled thermal transport system. The mechanical cooling devices can be powered with independent engine and/or vehicle engine and/or any other source of energy. This standard specifies the testing methodologies.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 228, *Automotive fuels - Unleaded petrol - Requirements and test methods*

EN 589, *Automotive fuels - LPG - Requirements and test methods*

EN 590, *Automotive fuels - Diesel - Requirements and test methods*

EN ISO 5801, *Industrial fans - Performance testing using standardized airways (ISO 5801)*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025)*

ISO/IEC Guide 99:2007, *International vocabulary of metrology - Basic and general concepts and associated terms (VIM)*

3 Terms and definitions, symbols and uncertainties

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC Guide 99:2007 and the following apply.

3.1.1

air volume flow

V_A

volume flow delivered by the fans in the evaporator unit

3.1.2

calorimeter box

thermally insulated room in which the evaporator unit of the cooling device is placed

Note 1 to entry: A calorimeter box can also be substituted by a suitable thermally insulated means of transport.

3.1.3

compressor/condenser unit

part of the cooling device including compressor, condenser, fans, housing, drives (electric motor, internal combustion motor, hydraulic engine and similar) and the operating panel with the control devices