

## **Oil fired forced convection air heaters - Stationary and transportable for space heating**

Oil fired forced convection air heaters - Stationary  
and transportable for space heating

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13842:2004 sisaldab Euroopa standardi EN 13842:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 26.10.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13842:2004 consists of the English text of the European standard EN 13842:2004.</p> <p>This document is endorsed on 26.10.2004 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><b>Käsitlusala:</b></p> <p>This European Standard specifies the requirements and test methods for the safety and efficiency of oil-fired air heaters using only forced draught oil burners, hereafter referred to as appliances. This European Standard applies to appliances for stationary and portable appliances. It also applies to appliances intended for outdoor installation. Provision of the heated air may be by means of ducting or may be directly into the heated space</p>	<p><b>Scope:</b></p> <p>This European Standard specifies the requirements and test methods for the safety and efficiency of oil-fired air heaters using only forced draught oil burners, hereafter referred to as appliances. This European Standard applies to appliances for stationary and portable appliances. It also applies to appliances intended for outdoor installation. Provision of the heated air may be by means of ducting or may be directly into the heated space</p>
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**Võtmesõnad:** buildings, heating systems, mechanical engineerin, mobile, oil burners, oil burning systems, safety, safety engineering, safety requirements, space-heating systems, specification (approval), specifications, stationary, testing, vaporizing burners, warm air heaters

ICS 97.100.40

English version

## Oil fired forced convection air heaters - Stationary and transportable for space heating

Générateurs d'air chaud à convection forcée fonctionnant  
au fioul domestique - Fixes et transportables pour le  
chauffage des locaux

Ölbefeuerte Warmluftzeuger - Ortsfest und ortsbeweglich  
für die Raumheizung

This European Standard was approved by CEN on 13 May 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of 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.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

## Contents

	page
Foreword.....	3
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	5
4 Requirements of construction.....	8
5 Constructional and operating requirements.....	12
6 Test methods.....	15
7 Marking and instructions .....	27
Annex A (informative) Flue connections.....	31
Annex B (normative) Classification according to the evacuation of the combustion products .....	32
Annex C (normative) Measurements .....	33
Bibliography .....	40

## Foreword

This document (EN 13842:2004) has been prepared by Technical Committee CEN/TC 57 “Central heating boilers”, 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 January 2005, and conflicting national standards shall be withdrawn at the latest by January 2005.

This document includes a Bibliography.

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 document specifies the requirements and test methods for the safety and efficiency of oil-fired air heaters using only forced draught oil burners, hereafter referred to as “appliances”.

This document applies to stationary and portable appliances. It also applies to appliances intended for outdoor installation. Provision of the heated air may be by means of ducting or may be directly into the heated space.

For the purpose of this document the heat generation is by the combustion of liquid fuel oils as defined in EN 267 (gas oil with a viscosity at the burner inlet of 1,6 mm<sup>2</sup>/s (cSt) up to 6 mm<sup>2</sup>/s (cSt) at 20 °C). Alternatively, if the manufacturer requests, the fuel of kerosene may be used as defined in EN 304. Kerosene with a viscosity at the burner of 1,3 mm<sup>2</sup>/s (cSt) to 2,9 mm<sup>2</sup>/s (cSt) at 20 °C) or other suitable liquid fuel oils may also be used.

This document does not apply to:

- appliances intended for use in a single unit residential dwelling;
- appliances of the condensing type;
- appliances with atmospheric burners without a fan to assist the transportation of combustion air;
- dual purpose air conditioning appliances (heating and cooling);
- appliances where the air is heated by an intermediate fluid;
- appliances fitted with manual or automatic flue dampers;
- appliances having multiple heating units with a single flue;
- appliances fitted with more than one flue outlet.

This document is applicable to appliances which are intended to be type tested.

NOTE Requirements for appliances which are not type tested would need to be subject to further consideration.

## 2 Normative references

The following referenced documents are indispensable for the application 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.

EN 230, *Monobloc oil burners — Safety, control and regulation devices and safety times.*

EN 267, *Forced draught oil burners — Definitions, requirements, testing, marking.*

EN 304:1992, *Heating boilers — Test code for heating boilers for atomizing oil burners.*

prEN 50156-1, *Electrical equipment for furnaces and ancillary equipment — Part 1: Requirements for application design and installation.*

EN 60335-1:2002, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2001, modified).*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989).*

EN 60730-2-1, *Automatic electrical controls for household and similar use — Part 2: Particular requirements for electrical controls for electrical household appliances (IEC 60730-2-1:1989, modified)*.

EN 60730-2-9, *Automatic electrical controls for household and similar use — Part 2-9: Particular requirements for temperature sensing controls (IEC 60730-2-9:2000, modified)*.

EN ISO 1182:2002, *Reaction to fire tests for building products - Non-combustibility test (ISO 1182:2002)*.

### 3 Terms and definitions

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

#### 3.1 Appliance and its constituent parts

##### 3.1.1

##### **stationary air heater**

fixed appliance designed for the heating and possibly ventilation of a building

##### 3.1.2

##### **forced convection air heater**

appliance designed to provide space heating from a central source by distributing heated air, by means of an air moving device, either through ducting or directly into the heated space.

The appliance may consists of the following components:

- combustion chamber;
- heat exchanger;
- fan with drive motor;
- housing (casing);
- air control device;
- integrated oil burner or atomising oil burner of the monobloc-type according to EN 267.

The appliance may consist of several assemblies which are joined together

##### 3.1.3

##### **portable warm air heaters**

appliance with a heat exchanger in accordance with 3.1.2 but designed to be portable or moveable. It may contain a built-in fuel tank

##### 3.1.4

##### **oil burner**

burner that is intended to assure the thermal function of the appliance and is generally called the burner

#### 3.1.5 Combustion products circuit

##### 3.1.5.1

##### **combustion chamber**

enclosure inside which combustion of the air-fuel mixture takes place

##### 3.1.5.2

##### **heat exchanger**

part of the appliance designed to transfer heat from the combustion products to the transport air