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**Specifikacije za prenosne električne naprave za merjenje parametrov vnetljivosti izpušnega plina grelnih naprav - 3. del: Zahtevane lastnosti za naprave, ki se uporabljajo pri vzdrževanju plinskih grelnih naprav, ki ni zakonsko predpisano**

Specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances – Part 3: Performance requirements for apparatus used in non-statutory servicing of gas fired heating appliances

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**Specification for portable electrical apparatus designed to measure  
combustion flue gas parameters of heating appliances  
Part 3: Performance requirements for apparatus used in non-statutory  
servicing of gas fired heating appliances**

Spécification pour les appareils  
électriques portatifs conçus pour mesurer  
les paramètres des gaz de combustion  
dans les conduits d'évacuation  
des appareils de chauffage  
Partie 3: Prescriptions  
des caractéristiques des appareils utilisés  
dans le service après-vente hors champ  
réglementaire des appareils de chauffage  
à gaz

Anforderungen an tragbare elektrische  
Geräte zur Messung  
von Verbrennungsparametern  
von Heizungsanlagen  
Teil 3: Anforderungen an  
das Betriebsverhalten von Geräten  
für den Einsatz im nicht-geregelten  
Bereich bei Wartungen von gasbefeuelten  
Heizungsanlagen

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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## CENELEC

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

## Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 216, Gas detectors.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50379-3 on 2004-03-01.

The following dates were fixed:

- latest date by which the EN has to be implemented  
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## Introduction

This European Standard covers apparatus for measuring gas concentrations and other combustion parameters, as used in the installation and maintenance of heating appliances. It forms a specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances, and includes the following parts:

Part 1: General requirements and test methods;

Part 2: Performance requirements for apparatus used in statutory inspections and assessments;

Part 3: Performance requirements for apparatus used in non-statutory servicing of gas fired heating appliances.

EN 50379-1 specifies general requirements for the construction, testing and performance of portable spot reading apparatus, designed to give an assessment of specific combustion flue gas parameters such as concentration of gaseous compounds, temperature and/or pressure, to check the combustion performance of heating appliances for domestic residential and commercial applications using commercially available fuels.

EN 50379-2 is for apparatus intended to be used for statutory measurement. In several European countries, legal requirements exist for the performance of heating appliances. Authorised inspectors use these apparatus to measure the flue gas parameters, in order to test the compliance with national regulations. Due to the legal consequences resulting from the measurement there are strict requirements regarding the measuring uncertainty of these apparatus. Therefore EN 50379-2 includes maximum values for measuring uncertainty of the apparatus. Tests with real flue gases form a key part of the verification of the performance of the apparatus for statutory measurement. The measuring uncertainty has to be justified by internationally accepted methods over the whole measuring range.

EN 50379-3 is for apparatus intended to be used for non-statutory applications. There are reduced performance requirements, because the apparatus are designed to decide whether maintenance for a gas fired appliance is required, and for adjusting the appliance during maintenance. There will be no determination of the measuring uncertainty for the apparatus.

## 1 Scope

This European Standard covers apparatus designed for checking the performance of heating appliances by measuring flue gas parameters of gas fired heating appliances for domestic residential and commercial applications.

The apparatus may consist of different functional modules which may be tested separately for complying with this standard, and will be combined in different ways according to the different applications. The apparatus shall comply with the general requirements as specified in EN 50379-1 and the performance requirements of EN 50379-3.

This European Standard specifies the performance requirements of portable spot reading apparatus designed to detect specific combustion flue gas parameters, such as concentration of gaseous compounds, temperature and/or pressure, to be used to decide if maintenance for the appliance is required and for adjusting the appliance during maintenance.

This standard excludes apparatus for

- checking appliances using fuels other than gas,
- continuous emission, safety monitoring and control, and
- use in vessels with an international load line.

NOTE 1 When this apparatus is used in industrial premises, national regulations shall be observed.

NOTE 2 Apparatus may contain functional modules which are not covered by this standard e.g. measurement of smoke spot number (see Annex A of EN 267).

## 2 Normative references

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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 50270		Electromagnetic compatibility - Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen
EN 50271		Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen - Requirements and tests for apparatus using software and/or digital technologies
EN 50379-1		Specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances - Part 1: General requirements and test methods
EN 60335-1	1994	Safety of household and similar electrical appliances - Part 1: General requirements
EN 60359	2002	Electrical and electronic measurement equipment - Expression of performance
EN 60529	1991	Degrees of protection provided by enclosures (IP Code)

## 3 Definitions

For the purposes of this European Standard, the definitions of EN 50379-1 apply.



## 4 General requirements

Unless otherwise stated, the general requirements of EN 50379-1 are applicable, and shall be checked by visual inspection.

## 5 Test methods and performance requirements

### 5.1 General requirements for tests

The requirements specified in Subclause 5.1 of EN 50379-1 are applicable.

#### 5.1.1 Samples and sequence of tests

For the purposes of type testing, one sample of the apparatus shall be subjected to the relevant tests given in 5.3 and 5.4, but a further sample may be used for the test in 5.3.4. A further sample, or the same if desired, may be used for the tests in 5.5 to 5.8.

The tests in 5.3 to 5.5 may be performed in any sequence, but 5.6 to 5.8 shall be performed in the sequence listed in this standard, where relevant.

#### 5.1.2 Preparation of samples

The requirements specified in Subclause 5.1.2 of EN 50379-1 are applicable.

#### 5.1.3 Test facility

The requirements specified in Subclause 5.1.3 of EN 50379-1 are applicable.

### 5.2 Normal conditions for tests

The requirements specified in Subclause 5.2 of EN 50379-1 are applicable.

### 5.3 Mechanical tests

#### 5.3.1 Degree of protection

The enclosure of the apparatus shall provide at least an IP40 degree of protection when all probes etc. are connected, in accordance with Clauses 12 and 14 of EN 60529. If an apparatus is designed for outdoor use it shall provide at least an IP42 degree of protection when connected similarly.

#### 5.3.2 Impact strength

The apparatus shall meet the requirements specified in Clause 21 of EN 60335-1, as modified by Subclause 5.3.2 of EN 50379-1. The function of the apparatus shall not be affected after the test. Visible damage to parts of the housing are acceptable, providing the functionality remains unimpaired.

#### 5.3.3 Vibration

The apparatus shall meet the requirements for accuracy listed in Table 1 of EN 50379-1.

#### 5.3.4 Drop

The apparatus shall meet the requirements for accuracy listed in Table 1 of EN 50379-1.

#### 5.3.5 Flow indicator (if fitted)

For apparatus fitted with an integral flow proving device, operation of the device shall be checked by inspection.