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Irish Standard
I.S. EN 50379-1:2012

Specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances -- Part 1: General requirements and test methods

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I.S. EN 50379-1:2012

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50379-1

April 2012

ICS 13.320

Supersedes EN 50379-1:2004

English version

Specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances - Part 1: General requirements and test methods

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 1: Prescriptions générales et méthodes d'essai

Anforderungen an tragbare elektrische Geräte zur Messung von Verbrennungsparametern von Heizungsanlagen - Teil 1: Allgemeine Anforderungen und Prüfverfahren

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CENELEC

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

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Foreword

This document (EN 50379-1:2012) has been prepared by CLC/TC 216 "Gas detectors".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2013-03-19
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2015-03-19

This document supersedes EN 50379-1:2004.

EN 50379-1:2012 includes the following significant technical changes with respect to EN 50379-1:2004:

— 4.2.12 and 5.7.4 consider 15 min. average concentration for solid fuels;

— 4.3.3 for instructions was amended;

— 5.3.6 for flow indicators was amended;

— 5.5.7 considers calibration curves for sensors with nonlinear signal;

— 5.5.8 considers influence of pressure variations;

— 5.5.9 considers the influence of water vapour on the gas signal;

— 5.7.2 for calculated values was amended;

— 5.9.1 was amended to cover measurement at the circular orifice.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

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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 under the generic title *Specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances*:

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 concentrations 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 (see Annex A). Authorised inspectors use these apparatus to measure the flue gas parameters, in order to test compliance with national regulations. Due to the legal consequences resulting from the measurement, there are strict requirements regarding the measuring uncertainty of these apparatus, and EN 50379-2 therefore includes maximum values for measuring uncertainty. 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. The determination of measuring uncertainty is described in Annex C.

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.

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1 Scope

This European Standard covers apparatus for measuring gas concentrations and other combustion parameters, as used in the installation and maintenance of heating appliances. Such apparatus may be used for testing the performance of appliances for different types of fuels, either by the installer, maintenance engineer or inspector.

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. This part of EN 50379 specifies the general requirements and is supplemented by the requirements in EN 50379-2 and/or EN 50379-3.

This European Standard 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.

This European Standard excludes apparatus for

- 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 may apply.

NOTE 2 Apparatus may contain functional modules which are not covered by this standard e.g. measurement of smoke spot number (see EN 267:2009+A1:2011, Annex A) and/or measurement of indoor ambient air (see EN 50543).

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 267:2009+A1:2011, *Automatic forced draught burners for liquid fuels*

EN 297, *Gas-fired central heating boilers – Type B11 and B11BS boilers, fitted with atmospheric burners of nominal heat input not exceeding 70 kW*

EN 676, *Automatic forced draught burners for gaseous fuels*

EN 50270:2006, *Electromagnetic compatibility – Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen*

EN 50271:2010, *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 50379-2:2012, *Specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances – Part 2: Performance requirements for apparatus used in statutory inspections and assessment*

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