TÜVRheinland®
DIN CERTCO
Genau. Richtig.

Certification Scheme

Room Heaters (Solid Fuel Stoves) with low-pollution combustion

according to

DIN EN 13240

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1 Foreword

DIN CERTCO was founded in 1972 by DIN, the German Institute for Standardization, for the awarding of DIN marks and offers the certification of products and persons, services and enterprises on the basis of the DIN standards and similar specifications.

The neutrality, independency and competence of DIN CERTCO as well as the quality of the process and results for the satisfaction and confidence of your customers are documented by an accreditation according to DIN EN 45011 as well as through an additional certification of the QM system according to DIN EN ISO 9001.

In conjunction with the general terms and conditions of DIN CERTCO, this certification scheme forms the basis for suppliers of room heaters (solid fuel stoves) with low-pollution combustion to mark their products with the quality mark “DIN*plus”*. In this way, they document that their products fulfil all the requirements of the standard for room heaters (solid fuel stoves) with low-pollution combustion according to DIN EN 13240 and that in many cases are superior to same.

Demonstrating that the product´s characteristics have been carefully tested and assessed by independent, neutral and competent bodies, the quality mark “DIN*plus*” improves customer´s confidence. In addition the annual surveillance ensures that the product quality is maintained throughout the production. The customer is given a surplus that can be considered when deciding the purchase.

Room heaters (solid fuel stoves) with low-pollution combustion receive the quality mark “DIN*plus”* on meeting the requirements listed under section 4 according to the procedure described in this certification scheme.

An up-to-the-minute list of all certificate holders can be requested on the DIN CERTCO (www.dincertco.de) homepage.

2 Field of Application

This certification scheme is applicable to room heaters (solid fuel stoves) with low-pollution combustion and in conjunction with fulfilling the test criteria shown below satisfies all the requirements for awarding the quality mark “DIN*plus*”.

The certification scheme presented here lays down the requirements for the product itself as well as for the testing, monitoring and certification of same.

3 Test Basis

The below specified documents are the basis for the test and certification. With dated references the entitled document is considered; with undated references always the current issue of the document.

DIN EN 13240:2005-10 Solid fuel room heaters - requirements and tests; German version EN 13240: 2001 + A2:2004

- this certification scheme
- the General Terms and Conditions from DIN CERTCO

4 Product Requirements

The standard DIN EN 13240 as well as additional general specifications and requirements relevant to the environment are applicable.

4.1 Emission Limit Values

CO ≤ 1500 mg / Nm^3(corresponds to 0,12 Vol-% at 13 % O_2)
NO_x ≤ 200 mg / Nm^3
C_nH_m ≤ 120 mg / Nm^3
Dust ≤ 75 mg / Nm^3

4.2 Combustion Efficiency

η ≥ 75 %

4.3 Determination of the CO Emission and Combustion Efficiency

The gas removal, recording and evaluation takes place in accordance with the measurements described in DIN EN 13240. These refer to:

Standard	Section
DIN EN 13240	6.2, 6.3, A.4.7, A.4.8 und A.6.2

4.4 Determination of the NO_x-, C_nH_m and Dust Emission

The measurement of NO_x, C_nH_m and dust is carried out in the course of the type test according to the standard (nominal heat output) parallel to the CO measurement. The dust measurement is to be carried out according to Annex C of this certification scheme.

The measuring instruments for measuring emission must satisfy the following measurement tolerances:

Emission	Measuring Tolerance	Comments
CO	2 % of the scale end value	The calibration of the measuring instrument must be effected in the range of the CO emission limit value of 0.12 Vol %.
NO_x	2 % of the scale end value	The calibration of the measuring instrument must be effected in the range of the No_x emission limit value of 200 mg/Nm^3, calculated as No_2
C_nH_m	2 % of the scale end value	Propane equivalent, measured as $C_3H_{8,}$ calculated and given as a carbon mass [mg C/Nm^3]
Dust	1 mg (weighing device)	Standardised Recording and Determination Method

5 Conformity Assessment

5.1 Testing

5.1.1 General Information

For the performance of the tests required as the basis for the assessment and certification of the products, DIN CERTCO avails itself of test laboratories (testing bodies) to which it has awarded recognition. A list of recognized test laboratories for the testing and third-party monitoring can be obtained from DIN CERTCO or downloaded from the internet.

5.1.2 Initial Test

The initial test is a type test (design test, type test), which serves to determine whether the product meets the requirements laid down in Section 4 of this certification scheme.

5.1.3 Monitoring and Renewal Test

Monitoring/Renewal tests serve to determine whether the product corresponds to the type tested product during the production phase. These tests are carried out in the form of a design test in addition with a manufacturer's explanation after section 5.2.1.3.

The certificate holder is responsible for submitting the test reports according to Annex B according to the prescribed deadlines.

The monitoring test report must contain the following basic information:

- The design and construction of the product in regard to its material specifications and technical manufacturing characteristics has not changed in comparison with the type and design tested product.

- The production of the certificated product shall be continued without any modifications.

- The basic test specifications for certification have not changed.

5.1.4 Special Examination

A special examination is conducted when

- defects are detected
- the production has been suspended for a period of more than 6 months
- required by DIN CERTCO for reasons to be specified
- at the written request of a third party when a particular interest in the maintenance of proper market procedures in relation to competition or quality is involved.

The type and scope of the special examination shall be laid down in accordance with the respective purpose on a case by case basis by DIN CERTCO in conjunction with the testing laboratory.

Should defects be detected in the course of the special examination, the certificate holder shall bear the costs of the examination procedure.

Should the special examination at the request of a third party reveal no defects, the costs shall be borne by said third party.

5.1.5 Complementary Examination

A complementary examination shall take place when additions, extensions or modifications (see Section 5.3.4) are made to the certified product, which may influence the product’s conformity with the pertinent, fundamental requirements.

The type and scope of the complementary examination shall be laid down on a case by case basis by DIN CERTCO in consultation with the testing laboratory.

5.1.6 Test Report

The testing laboratory shall inform the principal of the test results in the form of a test report. On submitting the application, the test report must not be older than six months and must be presented to DIN CERTCO in the original.

The test results are recorded in a test report by the testing laboratory and shall contain at least the following data which exceeded the required specification of EN ISO/IEC 17025 section 5.10

- name and address of the manufacturer
- name and address of the applicant (if different from the manufacturer)
- basic test specifications with date of issue
- type of test (e.g. type test, design test, etc.)
- date of examination
- test result and assessment
- name and signature of the person responsible for the examination
- expert report, containing a description of the essential test results required for the assessment in respect of the flue cut-off and safety shut-off devices, confirmation that the prescribed compulsory safety regulations have been complied with, as well as explicit confirmation of conformity with the Norms.

5.2 Monitoring

During the period of validity of the certificate monitoring measures are carried out at regular intervals.

5.2.1 Conformity monitoring by the manufacturer

Using adequate measures for quality assurance, manufacturers have to ensure that the features of the product which have been confirmed by the certification are maintained. This can be ensured using an inspection that acts upon the product or through an in-house product control that is orientated direct to the production and furthermore, also due to measures in the scope of a quality management system (QM System) according to DIN EN ISO 9001.

5.2.1.1 In-Company Production Monitoring System (PMS)

In-house production monitoring comprises the continual monitoring of the production process by the manufacturer, which guarantees the conformity of the products manufactured with the specified requirements.

Appropriate records shall be submitted to DIN CERTCO or its authorised representative on request. The records must be held in safe-keeping for a period of ten years.

These records must contain at least the following information:

- designation of the test object
- date of manufacture
- date of examination
- result of the examination and, if envisaged, comparison with the stipulated requirements;
- signature of the person responsible for the examination;
- date of the report

In the event of a negative test result, the manufacturer shall take all necessary steps to rectify the defect. Faulty products are to be marked and set apart. The test shall be repeated regularly to verify whether the defect has been rectified.

5.2.1.2 Quality Management System

DIN CERTCO recommends the installation and certification of a quality management system in conformity with DIN EN ISO 9001.

5.2.1.2 Manufacturer's Declaration

With the manufacturers declaration according to Annex A, the owner of the certificate confirms that the products certified are still being manufactured in the same way as the type tested product at their own authority.

5.2.2 Monitoring measures by DIN CERTCO

In the scope of a monitoring inspection according to section 5.1.3, after 2½ years, DIN CERTCO checks if the construction features of the product that are based on the conformity evaluation differ from the type tested product.

5.2.3 Defects

In the event that a certified product on the market is found to be defective, the certificate holder shall be summoned in writing by DIN CERTCO to rectify the defects.

In the case of defects having a direct or indirect effect on the technical safety, hygiene or functionality of the product (serious defects), the manufacturer must ensure that, until the defects have been rectified, the products are no longer marked with the Certification Mark. The defects must also be rectified without delay in installed products or products in storage. The manufacturer must submit proof to DIN CERTCO within four weeks, in the form of a test report on a special examination according to section 5.1.4, that the defects have been rectified and that the product in question again fulfils the stipulated requirements.

The testing laboratory commissioned to carry out the special examination shall conduct the verification check.

Should the manufacturer fail to observe the above deadline, he and/or the distributor of product will no longer be permitted to use the certification mark.

In the case of defects that have no influence on the technical safety, hygiene or functionality of the product, the manufacturer must submit suitable proof to DIN CERTCO within four weeks that the defects in the product in question have been rectified.

Should grounds for complaint continue to exist, DIN CERTCO shall initially suspend the certificate and at the same time issue a final deadline for the rectification of the defects. Should the certificate holder fail to meet this demand, or fail to meet it within the period of grace, or if it is again not possible to prove that the defects have been rectified, the certificate shall be annulled.

5.3 Certification

5.3.1 Applying for Certification

Applications for the certification of room heaters (solid fuel stoves) with low-pollution combustion according to DIN EN 13240 and for permission to use the quality mark “DIN*plus*” shall be submitted to DIN CERTCO.

5.3.2 Certificate and the Right to Use the Mark

After successful testing and conformity assessment of the submitted documents,
DIN CERTCO issues a certificate to the applicant and awards the right to use the quality mark “DIN*plus*” in conjunction with a corresponding registration number.

Format of the Registration Number **P JJ xxx yyyy**

P : DINplus certificate
JJ : last two digits of the year
xxx : manufacturer code
yyyy : product code

The last two digits of the year refer to the beginning of the period of validity of the licence and will be updated accordingly on renewal.

The mark and the registration number may only be used for the type for which the licence has been issued and which corresponds to the type-tested room heater.

For each respective type, a registration number shall be issued. For design types (sub-types) of a type, the same registration number shall be issued.

Room heaters (solid fuel stoves) with low-pollution combustion for which a license has been granted to use the quality mark “DIN*plus*” may be marked with the quality mark “DIN*plus*” and the corresponding registration number.

5.3.3 Publications

All certificate holders can be viewed on the daily up-dated homepage of DIN CERTCO (www.dincertco.de) under <Certificate Holders>. Manufacturers, planners, fitters, accountancy firms and consumers use this research possibility for obtaining information on certified products.

Besides the contact details of the certificate holders (telephone, telefax, e-mail, homepage), it is also possible to view the technical data of the registered room heater.

5.3.4 Modifications / Extensions

The certificate holder is obliged to notify DIN CERTCO of all modifications to the product without delay. DIN CERTCO in conjunction with the testing laboratory shall decide on the scope of the type test that shall be conducted according to Section 5.1.2 and whether it is a matter of a substantial modification. The respective test report shall be forwarded to DIN CERTCO by the testing laboratory.

Should the testing laboratory determine a substantial modification, the license with the corresponding Registration Number shall be revoked. For the modified product, a new application for initial certification authorising the use of the quality mark "DIN*plus*" may be submitted.

The certificate holder remains obliged to notify of any changes in the formal details (e.g. certificate holder or his address).

The certificate holder may apply to DIN CERTCO for an extension of the existing certificate for further design-types (sub-types) of the same type. It is for DIN CERTCO to decide whether these extensions require a complementary examination. The design-types shall be entered in the certificate for the already certified product and, provided that the conditions are fulfilled, shall be regarded as an integral part of same.

5.3.5 Validity

The certificate is valid for 5 years.

5.3.6 Renewal

The period of validity of the licence may be renewed once for a further five years provided that, in good time before expiry of the given period of validity, conformity with the norm is once again evidenced by means of a renewal test according to section 5.1.3, comprising notification from the testing laboratory in accordance with Annex B and a declaration according to Annex A.

5.3.7 Expiry

In the event that the new standard conformity examination according to section 5.1 has not been completed before expiry of the validity period, the right to use the certification mark "DIN*plus*" and the registration number expire without the necessity for explicit notification from DIN CERTCO.

Annex A Manufacturer's Declaration

Manufacturer's Declaration

Reg. No. P

for the testing of

room heaters (solid fuel stoves) with low-pollution combustion according to DIN EN 13240

DIN CERTCO Gesellschaft
für Konformitätsbewertung mbH
Alboinstraße 56
D-12103 Berlin
GERMANY

Test Type:

☐ Monitoring

☐ Renewal Test

Certificate Holder: _____

_____

_____

Production Plant: _____

Type Designation: _____

We hereby confirm with our legally binding signature that the product of the type given above is still being produced in the same manner as the type-tested product and is indicated with the quality mark DIN*plus* as well as the appropriate registration number.

Place and date Company stamp and signature of the manufacturer

Annex B Notification

N O T I F I C A T I O N

Reg. No. P

for the testing of

room heaters (solid fuel stoves) with low-pollution combustion according to DIN EN 13240

DIN CERTCO Gesellschaft
für Konformitätsbewertung mbH
Alboinstraße 56
D-12103 Berlin
GERMANY

Test Type:

☐ Monitoring

☐ Renewal Test

Certificate Holder: _____

_____

_____

_____

Production Plant: _____

Type Designation: _____

Scrutiny of the technical drawings relating to the above product submitted by the certificate holder resulted in

☐ No complaints.

☐ The following complaints

_____

_____

_____

_____

to the type-tested product (see test report No. _____Dated_____).

Place and date

Official stamp and signature of the testing laboratory

Annex C Dust measurement

The dust measurement will be carried out parallel to the CO measurement.

The measuring location for the dust measurement must be placed above the measurement location for the CO, NO_x and C_nH_m so that the measuring accuracy is not influenced by other measuring probes. The dust measurement begins 3 minutes after the fuel has been added and is carried out over a period of 30 minutes.

C.1 Measuring equipment

The arrangement of the measurement is illustrated in Illustration 1. The sample-taking tube has a diameter of 8 mm that widens to 9.74 mm at the inlet opening of the probe.

The equipment used for taking the drawing has to be designed to allow a flue gas volume of 280 ± 28 l to be conveyed during a sample drawing period of 30 minutes, based on the standard conditions (273 K, 1013 hPa). The sample-taking tube must be positioned centrally in the flue gas cross section.

The fibre glass filter that fits into the filter mounting without organic binding agents has a separation capacity of at least 99.95 % with 0.3 µm Di-n-Octyl Phthalate smoke particles

The mounting of the filter cartridge has to be carried out so that the filter is not damaged during the processing and that the pump is not influenced by possible dust entering. The measurement filter is inserted into the filter mounting at the end of the sample-taking tube.

The sample-taking system should be designed that the dew point does not fall below in front of or in the filter cartridge during a controlled heating of the measurement probe. Under sample-taking conditions, the temperature in the area of the sleeve must remain constant at 70 °C.

Suitable measures for protecting the pump and the flow metre or limiter against the influence of dust and accumulated condensate should be applied.

During the inspection of the complete measurement process, the complete measurement system must lie within a dust limit value of 0.075 g/m³, guarantee a resolution of the measuring results of ±0.001 g/m³ and the accuracy should be ±0.005 g/m³.

The mechanical resistance of the dust accumulator sleeve must remain at temperatures up to 160 °C and the mass loss of the accumulator sleeve should not be greater than 2 mg.

The average CO_2 or O_2 concentration should be used during the 30 minute loading phase of the filter cartridge for converting to an oxygen reference value of 13 % O_2.

C.2 Sample handling

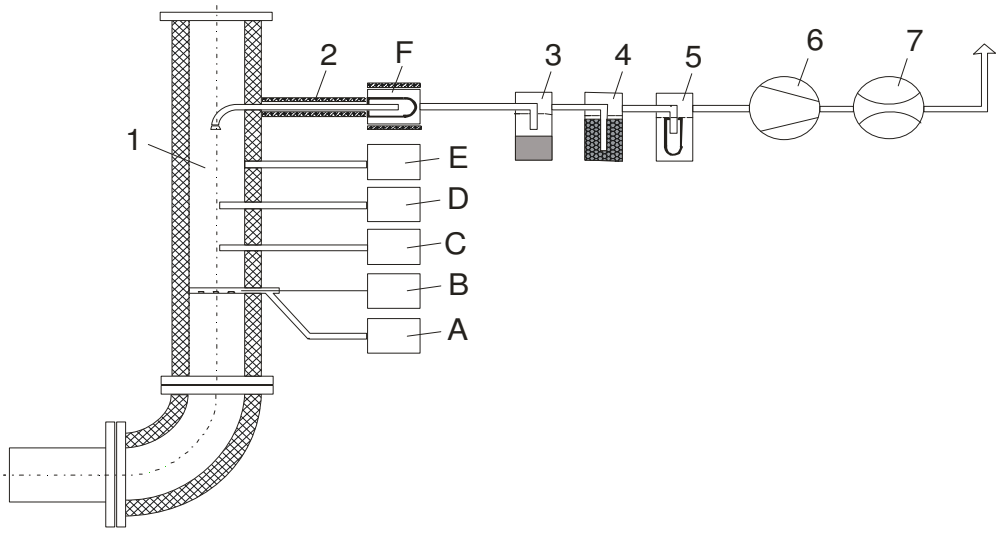
a) Before the measurement

The filter sleeve must be dried for the mass consistency for at least 1 hour at a minimum of 105 °C. Using the filter sleeve that has been directly removed from the desiccator as a basis, the dry dead weight is determined using a suitable analytical balance and the sleeve is marked. The storage of the sleeve up until the measurement is then carried out air-tight or in a desiccator.

b) After the measurement:

The filter sleeve must be dried1 h (-0, + 1 h) at 105 °C (+10, -0) up to the mass consistency.

Using the filter sleeve that has been directly removed from the desiccator as a basis, the dried weight is determined using a suitable analytical balance and the dust mass is determined.



Legend

1 Measuring section
2 Gas sample-taking probe and connection for the dust measurement (thermally insulated)
3 Water separator
4 Silica gel filter
5 Ultra fine filter
6 Pump
7 Gas flow metre

A CO_2 and CO measurement
B Measuring the flue gas temperature t_a
C NO_x measurement
D C_nH_m measurement
E Supply pressure measurement
F Dust filter (Offline gravimetric measurement)

Illustration 1 Measurement section (including NO_x-, C_nH_m, dust measurement)