SPCR 404

Certification rule for

certification of Heat Pumps according to Heat Pump KEYMARK

RISE Research Institutes of Sweden AB
Certification

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Foreword

A certification is an attestation by an independent third party that a product meets the requirements of a given standard or other form of specification.

This certification rule covers the requirements for certification of heat pumps according to Heat Pump KEYMARK Scheme.

Certification through RISE is performed by a dedicated department, RISE Certification, and is conducted in accordance with EN ISO/IEC 17065:2012. The tests used as basis for certification are carried out in accordance with EN ISO/IEC 17025:2017.

This certification rule is based on current regulations and standards but may be revised in the future, such as to adapt to new regulations and standards or because of experience from the application of these certification rule.

This edition of the certification rule supersedes previous editions.

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1 Introduction

This certification rule covers the certification process and the requirements for certification of heat pumps. The purpose of the certification is to show conformity with the requirements in the Heat pump KEYMARK Scheme, which is a voluntary certification scheme.

In this certification rule, external references are invoked, for dated references only the claimed edition applies. For claimed undated references, the most recent edition of the reference (including any additions) applies.

2 Scope

2.1 Scope of certification rule and certificate

This certification rule applies for certification of heat pumps according to heat pump KEYMARK. The scheme covers products covered by EU regulations 813/2013, 814/2013 and 206/2012. Which are heat pumps for space heating, space cooling and domestic hot water heating, including combination heaters. Each certificate cover one subtype.

2.2 Not covered by certification rule

This certification rule and EU regulations 813/2013, 814/2013 does not cover heat pumps with a heating capacity over 400 kW. Nor does the certification rule and EU regulation 206/2012 cover air conditioners over 12 kW.

3 The certification process

3.1 Application

Applications for certification must be made in writing and accompanied by technical documentation containing a detailed description of the product, its design and manufacturing process. To facilitate the initial examination, installation and/or instructions for use and the results of any tests already carried out should be attached.

The application must include a decision regarding approach for audit testing/surveillance testing, “periodic testing approach” or “One-off admission testing approach”, according to Heat Pump KEYMARK Scheme.

All documents including drawings, product descriptions, assembly instructions, user manual, etc. must be provided with a name or number as well as a date of issue, all changes and revisions must be traceable.

3.2 Initial review of the application

The initial review of the application verifies that this certification rule applies and that the content of the application is complete and acceptable. In case of ambiguity or if the

content is incomplete, RISE will clarify these issues with the applicant before the certification process can continue. If it is not possible for RISE to undertake the assignment, the applicant will be notified together with a justification.

If RISE undertakes the assignment, the applicant receives an order confirmation that the application has been accepted. A certification agreement is thus established.

Should it be necessary to engage subcontractors for all or part of the evaluation, the applicant is informed. The applicant may object to the selected subcontractor.

3.3 Test samples

The applicant is encouraged to supply test samples to the extent that the evaluation plan requires.

3.4 Evaluation

The evaluation process checks whether the product meets the requirements specified in sections 4, 5 and 6.

In the evaluation process, investigations are carried out to consider whether assessment data exists in accordance with the established requirement. In some cases, previous test results may be used for the evaluation, provided that the tests have been carried out by an accredited and/or notified independent testing laboratory.

In cases where the product and/or the documentation shows deficiencies, i.e., does not meet the requirements, RISE can cancel the evaluation.

Furthermore, the manufacturer must have a system for factory production control (FPC) that ensures that products bearing the certification label comply with the requirements of these certification rules. Evaluation through an initial inspection of the manufacturing plant and factory production control (FPC) in the factory is carried out by RISE, depending on production process and where significant production activities are performed can visit on multiple sites be necessary. The results are reported in a report, where any deviations are reported. The manufacturer must rectify the deviations and report to RISE. All deviations must be rectified, and the measures must be approved by RISE before this part of the evaluation can be considered complete. The report from the product audit and the corrected and approved deviations will be part of the basis for evaluation.

The results of the evaluation are summarised and submitted for review and decision.

3.5 Review and decision

The evaluation is reviewed, and if approved, the process will proceed to a decision about certification. A certificate is issued once the decision has been made.

3.6 Certificate

The certificate is issued to the applicant and its validity is based on continuous compliance with the requirements in this certification rule.

3.7 Validity

The certificate is issued with a maximum period of validity of ten years. The certificate can then be renewed, see below. Valid certificates are presented at RISE's website, as well as in the KEYMARK database.

The validity requires that the manufacturer's factory production control (FPC) is monitored and fulfil the requirements in accordance with section 5 and 6.

3.8 Renewal

Submit applications for renewal in writing at least 6 months before the end of the period of validity. Upon application, an assessment will be made of the steps required to renew the certificate. If no changes have been made to regulations, specifications, etc., the certificate can normally be renewed without further action.

A prerequisite is that the product remains unchanged in relation to the original certificate or the latest revision. The absence of changes shall be certified by the applicant.

The pre-renewal assessment also considers the audits (product audits) of the manufacturer's own control carried out during the period of validity.

3.9 Changes to certified products

No changes to the certified product, including changes in production, may be made without this being assessed and approved by RISE. The manufacturer must therefore notify RISE of any changes planned for the certified product, including changes in production process. The notification shall be accompanied by a description of the changes and an additional technical file.

RISE will determine the necessary steps for ensuring that the certificate can continue to be valid after the changes have been made. The assessment may necessitate additional tests. If the result of the amendment means that the certificate can still be valid, the certificate is revised with the new information. The certificate shall retain its original period of validity.

4 Requirements

Products certified according to this certification rule has assessed properties according to Heat Pump KEYMARK scheme rules.

4.1 Specific requirements for Heat Pumps

Products in scope of the certification has to meet the quality and performance requirements according to the Ecodesign regulations and Heat Pump KEYMARK scheme rules.

The products are divided into Type, Sub-type and model according to the scheme rules. A type of heat pump is defined by the use of the same heat source, heat sink and driving energy (typically electricity).

The types covered by the KEYMARK scheme are outdoor air (or exhaust air)/water, water (or brine)/water, direct expansion/water and air/air.

A sub-type is part of a type. Heat pumps with an identical refrigeration circuit design, key components including same refrigerant, and mass of refrigerant are considered being the same sub-type. A sub-type corresponds to a certificate.

Within a sub-type there can be several different models with the same identical refrigeration circuit, but otherwise differ in design. For example, with or without circulation pump, different electrical supply or different corrosion protection of storage tank.

4.2 Specific requirements for testing

According to section 3.1 selection of testing approach shall be done in the application.

If One-off testing approach is selected, first admission tests shall be conducted, prior to certification by a registered testing laboratory, recognized by RISE. These can be found on the Heat Pump KEYMARK website.

If periodic testing approach is selected, five subtypes can be certified based on one test report.

RISE shall pick out the test sample out of three serial numbers provided by the manufacturer. The scope of the test is decided by RISE according to the scheme rules and applicable annex template.

4.3 Specific requirements for documentation

Review of the technical documentation is part of the admission process. The documentation shall be such that it can be assured that the sub-types and models submitted for certification are equivalent to those that are to be manufactured.

The documentation must consist of a description of the product including the details of intended use (space heating, cooling, domestic hot water, etc), key component part list in accordance with the scheme rules (type, reference and brand for each component) and installation, use and maintenance instructions.

4.4 Marking

Products that fulfil the requirements in this certification rule and has a valid certificate can be marked with the “HP KEYMARK logo”. Requirements regarding certification mark and labelling can be found in Heat Pump KEYMARK Scheme. RISE identification code that shall be in the marking and labelling is 012.

The complete marking shall be approved by RISE.

5 Factory production control (FPC) by the manufacturer

The manufacturer must have a system for factory production control (FPC) that ensures that products bearing the certification label comply with the requirements of these certification rules.

Requirements regarding factory inspections, factory production control and the system for this can be found in the Heat Pump KEYMARK Scheme.

6 Supervisory inspections

6.1 Execution

Supervisory inspections, referred to by RISE as product audits, is conducted by RISE at least once a year in accordance with the requirements in section 5 and 6 in this certification rule.

Product audits is carried out by RISE in the form of visits to the manufacturer and may be conducted without prior notice. RISE shall be granted access to premises and provided access to the documents required for verifying the manufacturer's FPC.

During these visits, RISE will assess whether the manufacturer's FPC operates as intended and perform testing and inspection according to section 5 and collect samples for audit testing according to section 6.2.

If tests and/or inspections (audits) of the production control fails, the cause of failure must be investigated. The investigation may result in a re-test, renewed inspection (visit) or rejection of the production control.

6.2 Audit testing/Surveillance testing

During product revisions, samples are taken for the periodic surveillance testing. This sample is chosen depending on initially selected testing approach and according to Heat Pump KEYMARK Scheme.

7 Other terms and conditions

Provided in the RISE document “General certification rules for certification of products CR 000”.

8 References

The following reference documents are necessary when using this document. For dated references, only the cited edition applies. For undated references, the most recent edition of the reference document (including any additions) applies.

SS-EN ISO/IEC 17065:2012	Conformity assessment – Requirements for bodies certifying products, processes and services
SS-EN ISO/IEC 17025:2017	General requirements for the competence of testing and calibration laboratories

Heat Pump KEYMARK Scheme Rules*	European KEYMARK Scheme for Heat Pump
CR 000	General certification rules for certification of products CR 000

*This certification rule is included in RISE flexible accreditation scope for product certification. The actual versions on this requirements is handled through flexible accreditation, the applied version can at any given time be provided by RISE.

9 History

2018-11-14 Certification rule established.

2024-10-20 Certification rule revised due to introduction of the certification rule in RISE flexible accreditation scope for product certification.