Eurovent Industry Recommendation / Code of Good Practice

EUROVENT
EUROPE'S INDUSTRY ASSOCIATION FOR **INDOOR CLIMATE, PROCESS COOLING,** AND **FOOD COLD CHAIN** TECHNOLOGIES

Eurovent 6/2 - 2015

Recommended code of good practice for the interpretation of Directive 2006/42/EC on machinery concerning air handling units

Second Edition

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Preface

In a nutshell

With this code of good practice, Eurovent and its members strongly recommend that an AHU without a controller is to be considered as a complete machine (similar to an AHU with a controller). The AHU manufacturer must therefore affix the CE mark, set up a Declaration of Conformity according annex II, point 1, A of the 'Machinery Directive' and provide the technical construction file of the AHU.

Authors

This document was published by the Eurovent association and was prepared in a joint effort by participants of the Product Group 'Air Handling Units' (PG-AHU), which represent a vast majority of all manufacturers of these products active on the EMEA market.

Special thanks goes to Mr Jo Boullart from the Belgian Eurovent member association Agoria, who has played a leading role in developing this document and kindly offered his expert knowledge and support.

Adoption

It has been approved and adopted through a formal voting procedure by Europe's national member associations from 20+ European countries, which ensures a wide-ranging representativeness based on democratic decision-making procedures. More information on these members can be found at the end of this document.

The Eurovent Association does not grant any certification based on this document. All certification-related issues are managed by the association's independent subunit Eurovent Certita Certification in Paris.

Document history

This Eurovent Industry Recommendation / Code of Good Practice supersedes all of its previous editions, which automatically become obsolete with the publication of this document.

Modifications

This Eurovent publication was modified as against previous editions in the following manner:

Modifications as against	Description
First edition	In 1996, Eurovent has published a Recommendation for the Application of Relevant Directives to Air Handling Units (REC 02). Eurovent 6/2 - 2015 supersedes REC 02, which referred to a former version of the 'Machinery Directive' (MD 89/392) and has become obsolete as European legislation has evolved over time.

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1. Background

On today's (2015) EU Common Market, Air Handling Units (AHU) are available in two different versions.

The first version of the unit is placed on the EU market with a controller. This controller is used to adjust the AHU in order to, for example,

- Ensure an efficient air treatment,
- Meet the actual heating, cooling and fresh air demands in buildings,
- Adjust the speed of the fan through a variable speed drive.

The second version constitutes an AHU placed on the EU market without a controller.

This Eurovent Recommendation / Code of Good Practice concerns AHUs placed on the EU market without a controller. The reason is that manufacturers, today, place this version on the market in two different ways, which leads to uncertainties:

1. As a completed machine with a declaration of conformity (DoC) according the Directive 2006/42/EC on machinery.
2. As a partly completed machine (PCM) with a declaration of incorporation (DoI) according to the Directive 2006/42/EC on machinery.

Eurovent and its members hold that it requires a sound interpretation in order to guarantee a level-playing field while allowing all manufacturers to use the same procedure. In order for this to happen, the following question was answered:

Is an AHU without a controller a machine or a partly completed machine according Directive 2006/42/EC on machinery?

2. Resources

2.1 Basic definitions

A first way of looking for an answer is starting with definitions. When assessing Art. 2, point (a), first paragraph, of the 'Machinery Directive', a machine is defined as

> *an assembly, fitted with or intended to be fitted with a drive system other than directly applied human or animal effort, consisting of linked parts or components, at least one of which moves, and which are joined together for a specific application*

A partly completed machine, as mentioned in Art. 2, point (g) is defined as

> *an assembly which is almost machinery but which cannot in itself perform a specific application. A drive system is partly completed machinery. Partly completed machinery is only intended to be incorporated into or assembled with other machinery or other partly completed machinery or equipment, thereby forming machinery to which this Directive applies*

What role does the controller play within an AHU?

The controller is used to manage the treatment of the air. It does, for example, control the heating, cooling and transportation of the air.

Yet, also without a controller an AHU can deliver air. The only difference is that, in this case, the air is not being treated when entering, for instance, the building room.

When putting the mentioned definitions in relation with the functioning of an AHU, the first conclusion could be that an AHU without a controller is a machine, and not a PCM.

2.2 Machinery in a building or structure

The third indent of Art. 2, point (a) of the 'Machinery Directive' provides for a clearer point of view by stating that (emphasis added)

> *an assembly referred to in the first and second indents, ready to be installed and able to function as it stands only if mounted on a means of transport, or installed in a building or a structure*

To further clarify this statement, the 'Guide to application of the Machinery Directive 2006/42/EC' from June 2010 contains a detailed elaboration by outlining (emphasis added):

> *The third indent of the definition of machinery implies that the manufacturer of machinery intended to be installed on a means of transport or installed in a building or a structure is responsible for the conformity of the machinery with the relevant essential health and safety requirements. He must affix the CE-marking on the machinery and draw up and sign the EC Declaration of Conformity. The manufacturer of such machinery must take into account in his risk assessment all the risks associated with the machine, including those relating to installation of the machinery on the chassis of a vehicle or trailer or on a supporting. The machinery manufacturer shall set out in his instructions the necessary specifications for the supporting structure and provide precise installation instructions.*

Hence, referring to the Guide, Eurovent and its members are of the strong opinion that the manufacturer of an AHU must affix the CE mark.

Affixing the CE does mean that the AHU is to be conform with all the essential health and safety requirements of the 'Machinery Directive'. It is thus a completed machine.

Also concerning PCM, the Guide is clear, by stating that a

> *Machinery that can in itself perform its specific application but which only lacks the necessary protective means or safety components is not to be considered as partly completed machine.*

The argument of stating that the controller is needed to perform the application of an AHU in a safe manner does not make it a machine either.

2.3 Risk assessment

Another way of looking at the problem is the risk assessment. A machine is conforming with the 'Machinery Directive' and complete when all the risks, as mentioned in Annex I and found in the assessment, are covered.

In the opinion of Eurovent and its members, integrating a controller into an AHU does not eliminate or create more or new risks. The AHU itself covers all the risks, which need to be covered according the risk assessment. This means that the machine is conform with the 'Machinery Directive' and thus completed.

3. Conclusion

Based on the elaborations above, Eurovent and its members strongly recommend that **an AHU without a controller is to be considered as a complete machine (similar to an AHU with controller).**

The **manufacturer** of the AHU **must therefore affix the CE mark, set up a Declaration of Conformity** according annex II, point 1, A of the 'Machinery Directive' **and provide the technical construction file** of the AHU.

ANNEX

Building up a Declaration of Conformity

According the annex II, point 1, A of the Directive 2006/42/EC on machinery, a Declaration of Conformity needs to be build up as follows (emphasis and comments added):

QUOTE

A. EC DECLARATION OF CONFORMITY OF THE MACHINERY

This declaration and translations thereof must be drawn up under the same conditions as the instructions (see Annex I, section 1.7.4.1(a) and (b)), and must be typewritten or else handwritten in capital letters.

This declaration relates exclusively to the machinery in the state in which it was placed on the market, and excludes components which are added and/or operations carried out subsequently by the final user.

The EC declaration of conformity must contain the following particulars:

- business name and full address of the manufacturer and, where appropriate, his authorized representative;
- name and address of the person **authorized to compile the technical file,** who must be established in the Community;
    - This can be the same as the manufacturer, but this must be stated then.
- description and identification of the machinery, including generic denomination, function, model, type, serial number and commercial name;
- a sentence expressly declaring that the machinery fulfils all the relevant provisions of this Directive and where appropriate, a similar sentence declaring the conformity with other Directives and/or relevant provisions with which the machinery complies. These references must be those of the texts published in the Official Journal of the European Union;
    - Due to the fact that the Low Voltage Directive (LVD) is already covered in annex I, section 1.5.1, the LVD **cannot** be mentioned anymore in the Declaration of Conformity (DoC). This is a clear line between the two Directives.
- where appropriate, the name, address and identification number of the notified body which carried out the EC type-examination referred to in Annex IX and the number of the EC type-examination certificate;
- where appropriate, the name, address and identification number of the notified body which approved the full quality assurance system referred to in Annex X;
- where appropriate, a reference to the harmonized standards used, as referred to in Article 7(2);
    - The harmonised standards have to mentioned completely, so also the version and **date.**
- where appropriate, the reference to other technical standards and specifications used;
- the place and date of the declaration;
- the identity and signature of the person empowered to draw up the declaration on behalf of the manufacturer or his authorized representative.

Template of a DoC

(Words printed in italics are instructions for the person drawing up this declaration and should be deleted in the actual text of this declaration. This model is to be used for machinery which is not mentioned in Annex IV of Directive 2006/42/EC. In case of Annex IV-machinery this model should be amended according to the model of conformity assessment used, see article 12.3 and Annex II, points 5 and 6 of Directive 2006/42/EC).

EC Declaration of conformity for machinery

(Machinery Directive 2006/42/EC, Annex II., sub. A)

Manufacturer: ..... *(business name)*
Address *(full)* : .....
(if appropriate also the name and address of the authorised representative)

Name and address of the person *(established in the European Community/EEA)* authorised to compile the technical file *(to the authorities on request)*:

Name: ..... Address: .....

Herewith we declare that

.....
(Description and identification of the machinery, including generic denomination, function, model, type, serial number and commercial name, as far as appropriate)

- is in conformity with the relevant provisions of the Machinery Directive (2006/42/EC)
- is in conformity with the provisions of the following other EC-Directives *(only to be mentioned where appropriate, e.g. EMC-Directive 2004/108/EC or ATEX 94/9/EC)*

  .....
  .....

And furthermore, we declare that

- the following (parts/clauses of) European harmonised standards have been used *(only to be mentioned where appropriate)*

  .....
  .....

- the following (parts/clauses of) other technical standards and specifications have been used *(only to be mentioned where appropriate)*

  .....
  .....

Place, date: ..... Signature: .....
(Identity such as name and function, and signature of the person empowered to draw up the declaration on behalf of the manufacturer or his authorised representative)

(Please note that this declaration and translation thereof must be drawn up under the same conditions as the instructions (see Annex I section 1.7.4.1. (a) and (b) and must either be typewritten or handwritten in capital letters.)

About Eurovent

We are Europe's Industry Association for Indoor Climate, Process Cooling, and Food Cold Chain Technologies – thinking beyond 'HVAC&R'

Eurovent is Europe's Industry Association for Indoor Climate, Process Cooling, and Food Cold Chain Technologies. Its members from throughout Europe, the Middle East and Africa represent more than 1.000 companies, the majority small and medium-sized manufacturers. Based on objective and verifiable data, these account for a combined annual turnover of more than 30bn Euros, employing around 150.000 people within the association's geographic area. This makes Eurovent one of the largest cross-regional industry committees of its kind. The organisation's activities are based on highly valued democratic decision-making principles, ensuring a level-playing field for the entire industry independent from organisation sizes or membership fees.

Eurovent's roots date back to 1958. Over the years, the Brussels-based organisation has become a well-respected and known stakeholder that builds bridges between manufacturers it represents, associations, legislators and standardisation bodies on a national, regional and international level. While Eurovent strongly supports energy-efficient and sustainable technologies, it advocates a holistic approach that also integrates health, life and work quality as well as safety aspects. Eurovent holds in-depth relations with partner associations around the globe. It is a founding member of the ICARHMA network, supporter of REHVA, and contributor to various EU and UN initiatives.

Our Members and 'Affiliated Manufacturers'

Our Members are national associations from Europe, the Middle East and Africa that are representing manufacturers in the area of Indoor Climate, Process Cooling, and Food Cold Chain technologies.

Spain | Spain | Belgium | Russia | Italy | Italy

Denmark | Finland | Turkey | Netherlands | Sweden | Slovenia

France | Germany | Norway | Netherlands

The more than 1000 companies within their networks (Eurovent 'Affiliated Manufacturers') can directly participate in Eurovent activities in a democratic and transparent manner.

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