



## **BUSINESS PLAN**

### **CEN/TC 113**

#### **HEAT PUMPS AND AIR CONDITIONING UNITS**

#### **EXECUTIVE SUMMARY**

##### **Business Environment**

• Interested parties:

- Manufacturers of heat pumps and air conditioning units, individually and through their European association EUROVENT/CECOMAF, whose members are the national manufacturers associations. A special mention is to be made to the EUROVENT Certification system, which certifies the main characteristics of several types of products, including air conditioners, heat pumps and liquid chilling packages. The certified characteristics are the total and seasonal cooling capacity, the heating capacity, the effective power input, and the sound power. The developed standards are used as reference technical documents for certification schemes and quality labels (EUROVENT, EHPA, etc)

- Other sector associations related with heat pumps, eg. EPEE (European partnership for Energy an Enviroment), EFCTC (European Fluorocarbons Technical Committee), etc.

- SMEs associations, eg. NORMAPME

- Electricity distribution companies, especially for those appliances whose compressor is electrically driven, i.e. the great majority.

- Consumers.

- Public authorities involved in energy management.

- Testing laboratories dealing with air conditioners and heat pumps.

##### **Benefits**

To define the necessary standards to be used in Europe, considering its very significant position in the international market.

##### **Priorities**

The priorities of the CEN/TC 113 were established as follows:

- terminology;
- the definition of the rating conditions for testing;
- the requirements for marking;
- the requirements for eco-design;
- the presentation of performance data.

## **1 BUSINESS ENVIRONMENT OF THE CEN/TC 113**

### **1.1 Description of the Business Environment**

The following political, economic, technical, regulatory, legal, societal and/or international dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of this CEN/TC, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

#### **Political factors**

The rational use of electrical energy is one of the goals of the European Community. Therefore, elaborating standards to permit to control and improve the energy performance of the air conditioners and heat pumps can be very significant to minimize the impact of the growing use of these appliances and reduce the peaks of electrical consumption, specially in summer in the southern countries.

#### **Economical factors**

The use of low energy consumption products measured with good European standards can lead to important savings in electrical consumption.

#### **Social factors**

There is a growing demand for comfort, especially for air conditioning in summer for southern countries of Europe. Standards will help to declare the energy consumption of these appliances.

Furthermore, consumers increasingly require a low acoustic power of these units as the users and their neighbours now reject noisy installations.

Another comfort aspect is the growing use of heat pumps for domestic hot water.

#### **Technical factors**

The development of new products as multi-split air conditioners and heat pumps, inverter technology, new types of compressors, hibryd systems, equipment conected to renewable energy sources, make necessary updated standardization.

#### **Legal factors**

The Energy Labelling directive, making urgent the elaboration of the corresponding standards covers these products. In addition, the new eco-design directive framework generates the necessity of reviewing the standards developed by TC 113 in order to provide harmonized standards supporting new requirements established by this directive.

Some national or local regulations will be also improved using the standards elaborated by this CEN/TC.

Also the certification procedures would be substantially improved by using standards corresponding to their objectives.

### **1.2 Quantitative Indicators of the Business Environment**

The following list of quantitative indicators describes the business environment in order to provide adequate information to support actions of the CEN /TC:

- For obvious climatic reasons, the air conditioners market (cooling mode) is much larger in the

European southern countries, while the heat pumps market (heating mode) is more important in the northern ones.

- During the last few years, the tendency for the manufacturing structure has been to merge medium facilities to develop or create bigger groups, although there are still a lot of small manufacturers in Europe.
- The European market presents very good possibilities of development, as the percentage of residential use is still lower than 10%.
- The constant improvements of performance, different applications, etc. of the appliance in one hand, and the improvements in the laboratories measurements technics, new requirements of performance to be measured, etc. in the other hand, lead to have an updated standard references dealing with these improvements.

## **2 BENEFITS EXPECTED FROM THE WORK OF THE CEN/TC 113**

Standardization of testing and requirements for the performance of factory assembled heat pumps, air conditioning units (ducted and non ducted), hydronic room fan coil units, and liquid chilling packages whether vapour compression or sorption, regardless of energy used, for domestic or commercial purposes excluding industrial processes and also excluding the rational use of gas energy which is within the scope of CEN/TC 299.

Also the standardization of rating conditions, performance testing and the presentation of data of refrigerant compressors and condensing units.

All these standards may be a reference or may help to:

- Respond to recent changes and major innovations in this technical field;
- Led to support cost savings through implementation of them;
- Remove technical barriers to trade and open markets throughout Europe;
- Support other European Standards;
- Support European legislation, in particular European Directives (eg.: Eco-design Directive).

## **3 PARTICIPATION IN THE CEN/TC 113**

All the CEN national members are entitled to nominate delegates to CEN Technical Committees and experts to Working Groups, ensuring a balance of all interested parties. Participation as observers of recognized European or international organizations is also possible under certain conditions. To participate in the activities of this CEN/TC, please contact the national standards organization in your country.

## **4 OBJECTIVES OF THE CEN/TC AND STRATEGIES FOR THEIR ACHIEVEMENT**

### **4.1 Defined objectives of the CEN/TC 113**

Elaboration of standards on:

- Testing and requirements for the performance of factory assembled heat pumps, air conditioning units (ducted and non ducted), hydronic room fan coil units, and liquid chilling packages whether vapour compression or sorption, regardless of energy used, for domestic or commercial purposes excluding industrial processes and also excluding the rational use of gas energy;
- Testing and requirements airborne noise of the mentioned appliances;
- Testing and presentation of performance data of the refrigerant compressors and condensing units for refrigeration.

### **4.2 Identified strategies to achieve the CEN/TC.s defined objectives.**

The standards include the testing conditions, test methods and the uncertainties of the measurements, but not the instrumentation to be used, which is left to the responsibility of the testing laboratory.

CEN/TC 113 fully agrees with the need of a global standard strategy, nevertheless the fitting of the standards to the European Directives obliges, in some cases to produce standards editorially different from the ISO standards, although the technical contents are almost identical. For that reason, there is a close liaison with ISO in order to ensure technical coherence.

The work is mainly conducted by physical meetings but some agreements and resolutions are voted by correspondence. English language is used for the work of the CEN/TC 113 and no translation is needed in the meetings.

The strategy followed by the CEN/TC 113 to define its structure is to create a WG each time it is considered as necessary, i.e. when there is a little reference documents or when the experts needed for a work are different than those of the CEN/TC's plenary. When an available reference document is considered sufficiently developed, the work is conducted directly by the CEN/TC 113, without creating a WG.

CEN/TC 113 has reached a collaboration agreement with CEN/TC 299 for gas-fired liquid chilling packages and heat pumps.

Liaisons are also maintained with CEN/TC 182, CEN/TC 156, CEN/TC 228, CEN/TC 44, CEN/TC 413, ISO/TC 86/SC 6 and IEA HPP (International Energy Agency Heat Pump Programme).

### **4.3 Environmental aspects**

Whether the environmental aspects are not within the scope of CEN/TC 113, there is a close collaboration and compromise with the activities that in this sense are developed in other committees at European and International level. The CEN/TC 113 has to take into account CEN Guide 4 in the developing of the standards within its scope.

## **5 FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE CEN/TC 113 WORK PROGRAMME**

The specific factors that could negatively impact the completion of the CEN committee's standards are:

- Expert and convenor resources are not sufficiently available (for certain projects and working groups);
- Certain works are dependant upon funding being available to undertake the necessary research or for interlaboratory cooperation (eg. round robin tests);
- Legal/regulatory issues such as uncertainties regarding a possible EC Directive/s, which in turn may necessitate modifications of the content and target dates for projects in the work program.