

Position on the review of Ecodesign Regulation 206/2012 (ENER Lot 10) for air-to-air heat pumps, air conditioners, and comfort fans

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EXECUTIVE SUMMARY AND RECOMMENDATIONS

The European Commission is reviewing ecodesign Regulation (EU) No 206/2012 and energy labelling Regulation 626/2011 for air-to-air heat pumps, air conditioners, and comfort fans (ENER Lot 10). EPEE, the voice of the air conditioning, heat pump, and refrigeration industry in Europe, supports the EU ecodesign and energy labelling policies, and agrees with the need to keep the legislation up-to-date and in line with the latest technological developments.

This paper provides EPEE's position on the most recent proposals from the Commission on the review of ENER Lot 10 following the Call for Evidence on the ecodesign review. We will elaborate our views on the proposals in the Addendum Report on alternative testing methods and thermal comfort, which was presented by the Commission at the last Consultation Forum of 6 July 2021.

- 1.** Foster thermal comfort in a balanced way.
- 2.** Introduction of load based testing requires more time.
- 3.** Consider airflow measurement for all testing facilities.
- 4.** Provide proper determination for airflow limitations of multi-split systems.
- 5.** Exclude units not designed for human comfort from scope.
- 6.** Adhere to at least two years between publication and enforcement of new rules.
- 7.** Allow for more time to adopt the CVP
- 8.** Sharing of confidential technical information has to go through high-security platforms for independent testing.

Introduction

EPEE, the voice of the air conditioning, heat pump, and refrigeration industry in Europe, welcomes the opportunity to provide comments on the ENER Lot 10 ecodesign proposals. We welcome the Commission's consideration of the industry comments following the last Consultation Forum meeting, and we support the need for reviewing ecodesign rules in line with the latest technological and market developments.

Nonetheless, we believe that certain aspects could be further optimised. Please see our recommendations with further explanation below.

EPEE recommendations on the Addendum Report on alternative testing methods and thermal comfort

1. Foster thermal comfort in a balanced way

We welcome the Commission's consideration of the industry comments following the last Consultation Forum meeting. EPEE supports the comfort considerations in the Commission's airflow limitation proposals.

Any scenario concerning comfort and airflow limitations should be the same for cooling and heating functions, and should be stable and not change with each review.

EPEE would like to remind that thermal comfort is subjective and depends on a number of factors. Not all of these parameters can be controlled by the product itself. In order to optimise this, further research is needed to carry out an impact assessment on the role of airflow limitation, type, and size of indoor units and its effect on actual comfort of end-users, the real need for such limitation, and their impact on energy efficiency and share these results with all relevant stakeholders.

2. Load based testing requires more time

EPEE believes that there is currently not enough information to understand whether or not load-based testing can be carried out. The Round-Robin Test results are not available, so any implementation would delay the launch of this review. We therefore support the proposal for a review clause, but wonder whether this is not too premature.

3. Consider airflow measurement for all testing facilities

Further standardisation is required for the airflow measurement method. Such test method should be fit for all types of test facilities and proper tolerances have to be set for market surveillance purposes.

Currently, no standardised test methods exist for airflow measurement in a calorimeter room during the thermal performance test. The Commission proposal to monitor the fan speed as an alternative for airflow measurement still needs to be assessed and verified as it does not consider the speed variation during defrost, the compensation due to condensation in the internal unit heat exchanger when cooling, or other special operations that could occur during the test. This would make any limitations or considerations of comfort challenging. As such, EPEE recommends to carefully consider the development of airflow measurement for the calorimeter room method, and such testing methods should be fit for any EU test facility.

Please note that evaluating and implementing such method will take time. Therefore, the implementation schedule will need to take this into account. Additionally, airflow tolerances will have to be defined for market surveillance purposes.

4. Provide proper determination for airflow limitations of multi-split systems

EPEE welcomes the fact that CR is considered, though more clarification is needed before the proposal can be supported. We would like to request confirmation whether a study was performed that considered all types and combinations of units in order to set up this formula in relation to the capacity ratio.

Please note that the capacity ratios for multi-split units generally differ from the rated capacity ratio of a single split. Thermal comfort requirements set for single split products should therefore not be applied directly without adaptation to multi-split systems.

Also, the addendum does not specify whether the test airflow for the multi-split system is based on the rated capacity of the outdoor unit or on the rated capacity of the specific combination of the outdoor and indoor units, as each specific multi-combination has a different rated capacity.

Moreover, accepting the proposed equation and adapting the thermal comfort boundary conditions by implementing a CR factor requires a verification procedure. The reason for this is that each combination has different output capacities, as already mentioned above, which in turn leads to different CRs. A verification procedure will avoid any misinterpretation of the requirements.

5. Exclude units not designed for human comfort from scope

Units designed for other applications than human comfort can be identified with different model numbers and tend to use different selling routes than residential air conditions. Therefore, they should be part of a separate product group and should not be included in this review.

The proposed measures relate to cooling for human comfort and are not adapted to other applications, such as small server rooms or industrial cooling. The distinction between these applications is that they have different operating conditions:

- Cooling for human comfort varies depending on environmental and physiological factors (ambient temperature, air velocity, humidity, occupant activity level, etc.); and
- Cooling for industrial applications is based on stable environmental requirements (air flow rate, humidity, supply air temperatures, etc.), which are crucial for the proper process functioning and do not change. Furthermore, process cooling uses high airflow rates compared to comfort cooling for occupants, in order to effectively remove the heat from the space in which the equipment is operating.

A current practice adopted by manufacturers is to state in the product combination tables the intended application of the unit: for human comfort or for technical cooling. Such technical

cooling products are sold via independent sales channels. Therefore, EPEE does not foresee a risk of creating loopholes in ENER Lot 10 by excluding such close control units.

Additionally, EN 14825 excludes close control units from its scope – such units cannot be tested by applying the specified cooling and heating conditions in EN 14825. If such close control units need to be regulated by ecodesign, this should be done by another regulation with specific adapted requirements, tests conditions, and efficiency calculation methods.

Therefore, the new requirement on thermal comfort should not be applicable for systems serving small server rooms or industrial cooling.

6. Adhere to at least two years between publication and enforcement of new rules

The current proposal foresees one year between the publication of the new requirements in the OJEU and start of implementation. This is too short, as products need to be redesigned and retested based on adapted test methods. Furthermore, standards have to be updated on the basis of proposals for considering airflow limitations and the introduction of Control Verification Procedures (CVP).

EPEE strongly recommends increasing the implementation period to at least two years between publication and implementation. The reason for starting the implementation period at the start of the year is related to the seasonality of the market.

7. Allow for more time to adopt the CVP

We are supportive of introducing the Controls Verification Procedure (CVP), based on the Japanese standard (JIS B 8616:2015). The methodology currently applies to large capacity units and needs adaptation for smaller capacity units. Thus, time is needed for the modification and implementation of CVP in existing EN standards. EPEE asks the Commission to take this into account and allow for a sufficiently long implementation period, as mentioned earlier (at least two years).

8. Enforce clear boundary conditions for sharing information to allow for independent testing

EPEE objects to the sharing data for testing on public platforms, and believes that the EPREL compliance section can be a suitable location for such purposes. In any case, it has to be avoided that intellectual property is shared (publicly). For this reason, it is necessary to adopt clear boundary conditions and requirements specifying:

- what types of laboratories can request such confidential data from manufacturers,
- what type of data should be shared,
- what the acceptance or refusal criteria are for sharing such data from the manufacturer's side, and
- which NDAs and legal principles should be adhered to between the involved parties.

ABOUT EPEE

EPEE represents the Refrigeration, Air-Conditioning and Heat Pump industry in Europe. Founded in the year 2000, EPEE's membership is composed of over 50 member companies as well as national and international associations from three continents (Europe, North America, Asia). With manufacturing sites and research and development facilities across the EU, which innovate for the global market, EPEE member companies realize a turnover of over 30 billion Euros, employ more than 200,000 people in Europe and also create indirect employment through a vast network of small and medium-sized enterprises such as contractors who install, service and maintain equipment. Please see our website (<https://www.epeeglobal.org/>) for further information.