



**ASERCOM-EPEE-Eurovent Joint Industry Expert Group Position Paper on the
Draft Regulation with regard to Ecodesign requirements for professional storage
cabinets, blast cabinets, condensing units and process chillers
(ENTR Lot 1)**

Brussels, 17 April 2014

Dear Member State expert,

The Joint Industry Expert Group of Asercom and EPEE and Eurovent welcomes the draft Ecodesign Regulation ENTR Lot 1, setting out minimum energy efficiency requirements for refrigerating and freezing equipment, including professional storage cabinets, blast cabinets, condensing units and process chillers.

However, the JIEG is concerned about substantial changes in the final draft Regulation, which could significantly impact the success of the suggested efficiency requirements. In general the JIEG calls upon the regulatory committee to:

1. Increase the timing between publication and implementation to 2 years, whilst maintaining the timing between tier 1 and tier 2 and maintaining the efficiency requirements to ensure feasible measures for the industry.
2. Increase the tolerance for market surveillance from 5% to 10%, to reflect better the current practice and uncertainties of this technology.

The JIEG therefore calls upon Member States experts to carefully consider these comments in advance of the Regulatory Committee meeting on 28 April.

We hope that this paper will help you in a positive and constructive way and will contribute to the objectives of ENTR Lot 1.

We remain at your disposal, should you have any questions.

Kind regards,

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President

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Director General

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The Timing of implementation is too soon

The JIEG would like to suggest modifying the final text in order to set the implementation date for **Tier 1 to “2 years after entry into force”**. Indeed, if the final draft Regulation entered into force at the end of 2014, industry would only have six months to prepare compliance with the Tier 1 requirements of the legislation.

In addition, the JIEG would like to reiterate the importance of **Tier 2 entering into force three years after the first Tier** in order to provide sufficient time to meet the stricter requirements during the second phase of implementation.

At the same time, the JIEG would like **to re-emphasize that the minimum energy efficiency requirements must not be increased** in order to make this Regulation feasible for the industry.

The careful definition of the timing of the tiers is extremely important as this particular lot is affecting a large share of SME's throughout Europe. Sufficient time needs to be granted to apply the minimum energy efficiency requirements for the following reasons:

1. The impact of the HFC phase-down

- The recently adopted new F-Gas Regulation will have a significant impact on products falling under ENTR Lot 1 as it includes an HFC consumption reduction (phase-down) by 79% by 2030. The phase down will drastically reduce the availability of refrigerants with a higher global warming potential (GWP) which are typically used in many of the applications covered by this Lot and will ultimately lead to the uptake of refrigerants with a lower GWP.
- The JIEG is concerned that the impact of the phase-down, combined with the ambitious energy efficiency requirements proposed under Ecodesign for professional refrigeration products, will result in severe penalties for certain products under the scope of ENTR Lot 1. For example, lower GWP alternatives with similar properties and volumetric refrigerating capacity do have a significant temperature glide and so far their behavior during condensing has not been fully investigated. Industry will need sufficient time to adapt in order to make sure that Ecodesign requirements can be met.

2. Long redesign cycles & testing limitations

- The re-designing of products, whether condensing units or chillers means changing hundreds of different product types for manufacturers. Consequently, the necessary time for re-designing products needs to be taken into account. At least two years are required to prepare the product portfolio for compliance with the new energy efficiency requirements. Because of limited human resources and testing facilities it is not possible to engage simultaneously in more than three major product platform redesigning procedures and therefore new products development must be spread over time (see illustration in the annex)
- It should be noted that industry is moving to seasonal performance declaration for condensing units and will need to perform additional testing which cannot be completed within a time frame of 6 months.

- The product documentation has to be prepared, which also requires time. In order to be efficient in terms of logistics, it would be desirable that the implementation date of the tiers coincides with the time of producing the product manuals (i.e. in the end or beginning of the year).

A tolerance level of 5% is not feasible

The JIEG is very concerned about the sudden decrease of the tolerance level to 5% for verification procedures of refrigerating capacity and COP / SEPR (Annex X of draft Regulation). **The JIEG therefore calls upon Member States to consider moving back to the initially suggested tolerance level of 10%.**

Indeed, a tolerance level of 5% would be unfeasible from the perspective of market surveillance of member states, as laboratories are not set up to measure performance for the products covered by this lot within these tolerances. Too many uncertainties need to be taken into account, which are also specified in existing standards:

1. Uncertainties caused by operating pressure and temperature

- Medium temperature (MT) and low temperature (LT) condensing units and process chillers operate at high pressure ratios and measurement uncertainties for compressor testing alone amount to 3 to 4 % (based on ASERCOM/ILK investigation program). For the condenser/fan assembly in air-cooled equipment, additional measurement uncertainties have to be taken into account.
- Furthermore no solid experience exists for testing at 15° and 5°C ambient temperature as outlined in the final draft Regulation.

2. Uncertainties caused by antifreeze mixture

- Medium and low temperature process chillers generate chilled brine at a temperature below 0°. To protect the chiller against freezing the system needs to be operated with a mixture of water and ethylene glycol (brine) instead of fresh water (the same mixture is used in cars to protect the cooling system from freezing). This antifreeze mixture has a specific heat capacity (thermal property), which depends on the concentration of the ethylene glycol in the water. The heat capacity is a key parameter to measure the cooling capacity. The uncertainty of the concentration of the brine, and its impact on the actual specific heat capacity creates additional uncertainties when determining the SEPR.

3. Existing standards set out a tolerance value of 10%

- Existing EN Standards for compressors (EN 12900) and condensing units (EN 13215) refer to a tolerance value on Coefficient of Performances (COP) of 10 %. This value is also in line with international practice. (see annex)

Editorial comments

In Annex V and Annex VII, the symbol '<' should be replaced by '≤', otherwise the boarder capacity will not have to comply with any requirement.

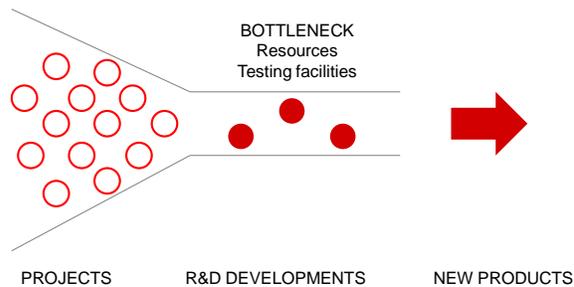
ANNEX

1. Long redesign cycles & testing limitations

	TECHNOLOGY	DEVELOPMENT	PRODUCT LAUNCH MANUFACTURING	TOTAL
	Technology assessment Product concepts Supplier selection	Specifications Qualification Testing Reliability	Product literature Selection software Assembly line set up	
PARTIAL REDESIGN	3 months	12 months	3 months	~18 months
FULL REDESIGN	6 months	18 months	6 months	~30 months

Note: Industry average product development cycles

MANUFACTURERS HAVE LIMITED R&D CAPACITY TO REDESIGN PRODUCTS



2. Tolerances

8 Tolerances

The following tolerances shall apply to manufacturer's stated performance in relation to the measured data obtained at the standard reference points in table 2. These tolerances are needed to take into account manufacturing differences during production.

Table 3 - Tolerances⁽¹⁾

Condensing unit applications	High evaporating temperature	Medium evaporating temperature	Low evaporating temperature	Household and similar refrigerators/ freezers
Tolerance				
Refrigerating capacity ¹⁾ or mass flow	- 7,5 %	- 10,0 %	- 12,5 %	- 7,5 % or - 10 W ²⁾
Power absorbed ¹⁾	+ 7,5 %	+ 10,0 %	+ 12,5 %	+ 7,5 % or + 10 W ²⁾
¹⁾ In any case the tolerance on COP _r shall not exceed 10 %. ²⁾ For values less than 100 W.				