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COMMISSION REGULATION (EU) No .../..

of **XXX**

**implementing Directive 2009/125/EC of the European Parliament and of the Council
with regard to ecodesign requirements for professional refrigerated storage cabinets,
blast cabinets, condensing units and process chillers**

(Text with EEA relevance)

COMMISSION REGULATION (EU) No .../..

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implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products¹ and in particular Article 15(1) thereof,

After consulting the Consultation Forum referred to in Article 18 of Directive 2009/125/EC,

Whereas:

- (1) Under Directive 2009/125/EC, ecodesign requirements should be set by the Commission for energy-related products representing significant volumes of sales and trade, having a significant environmental impact and presenting significant potential for improvement through design in terms of their environmental impact without entailing excessive costs.
- (2) The Commission established the first Working Plan in accordance with Directive 2009/125/EC on 21 October 2008², covering the years 2009 to 2011, identifying refrigerating and freezing equipment, including professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers, as a priority for the adoption of implementing measures.
- (3) The Commission has carried out a preparatory study on the technical, environmental and economic aspects of refrigerating and freezing equipment typically used in the Union, including professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers. The study was devised together with stakeholders and interested parties from the Union and third countries, and the results have been made publicly available.
- (4) The fifth product of the refrigerating and freezing equipment lot — walk-in cold rooms — has been kept separate because of its unique characteristics within the group, and walk-in cold rooms should not be addressed by this Regulation at this time.
- (5) As regards professional refrigerated storage cabinets, it is not necessary to set ecodesign requirements for direct greenhouse gas emissions related to the use of refrigerants, as the increasing use of low global warming potential (GWP) refrigerants in the household and commercial refrigerator market sets a precedent that the professional refrigerated storage cabinets sector could follow.

¹ OJ L 285, 31.10.2009, p. 10.

² COM (2008) 660 final.

- (6) As regards process chillers, it is appropriate to set ecodesign requirements for direct greenhouse gas emissions related to the use of refrigerants, as this will further direct the market towards low global warming potential (GWP) refrigerants, which are at the same time often more energy efficient.
- (7) As regards condensing units, non-proprietary technologies exist that reduce the direct greenhouse gas emissions related to the use of refrigerants through the use of refrigerants with reduced harmful impact on the environment. However, the cost-effectiveness and impact on energy efficiency of these technologies when applied to condensing units is still not fully established, as their diffusion is either negligible or represents only a small share of the market for condensing units today.
- (8) As refrigerants are addressed under Regulation (EC) No 842/2006 of the European Parliament and of the Council of 17 May 2006 on certain fluorinated greenhouse gases, and as a review of this Regulation was proposed by the Commission on 7 November 2012, no specific restrictions on the use of refrigerants should be set in this Regulation. However, a bonus should be proposed under the ecodesign requirements for condensing units and process chillers to steer the market towards the development of technologies based on the use of refrigerants with reduced harmful impact on the environment, as a bonus would lead to lower minimum energy efficiency requirements for condensing units and process chillers intended to be used with low GWP refrigerants. The future review will look at the treatment of products using high GWP refrigerants in line with the existing relevant legislation.
- (9) For the purposes of this Regulation, energy consumption in the use phase has been identified as the significant environmental aspect of professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers.
- (10) The preparatory study has shown that requirements regarding the other ecodesign parameters referred to in Part 1 of Annex I to Directive 2009/125/EC are not necessary in the case of professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers.
- (11) Annual electricity consumption in the Union related to condensing units, process chillers and professional refrigerated storage cabinets was estimated to have been 116.5 TWh (terawatt hour) in 2012, corresponding to 47 Mt CO₂ emissions. Unless specific measures are taken, annual energy consumption is expected to be 134.5 TWh in 2020 and 154.5 TWh in 2030, corresponding to 54.5 and 62.5 Mt CO₂ respectively. The combined effect of this Regulation and the Commission Delegated Regulation supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of professional refrigerated storage cabinets³ is expected to result in annual electricity savings of 6.3 TWh by 2020 and 15.6 TWh by 2030, as compared with what would happen if no measures were taken.
- (12) The preparatory study shows that the use-phase energy consumption can be significantly reduced by applying cost-effective non-proprietary technologies that reduce the combined costs of purchasing and operating these products.
- (13) Ecodesign requirements should harmonise energy consumption requirements for professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers throughout the Union, thus helping to make the single market more efficient and to improve the environmental performance of those products.

³ Number of the Regulation and OJ reference to be inserted before publication in the OJ.

- (14) The ecodesign requirements should not affect the functionality or affordability of professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers from the end-user's perspective and should not negatively affect health, safety or the environment.
- (15) The ecodesign requirements should be introduced gradually to give manufacturers sufficient time to redesign their products subject to this Regulation. The timing should be such that cost impacts for manufacturers are taken into account, while ensuring timely achievement of the objectives of this Regulation.
- (16) Product parameters should be measured and calculated using reliable, accurate and reproducible methods that take into account recognised state-of-the-art measurement and calculation methods. These include, where available, harmonised standards adopted by European standardisation bodies following a request from the Commission, in accordance with the procedures laid down in Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services⁴.
- (17) The definition of frozen operating temperature shall be used for establishing the values of the annual energy consumption for professional refrigerated storage cabinets; while taking into account food safety, it is not related to food safety legislation.
- (18) In accordance with Article 8(2) of Directive 2009/125/EC, this Regulation specifies which conformity assessment procedures apply.
- (19) To facilitate compliance checks, manufacturers should provide information in the technical documentation referred to in Annexes IV and V to Directive 2009/125/EC insofar as that information relates to the requirements laid down in this Regulation.
- (20) To further limit the environmental impact of professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers, manufacturers should provide information on disassembly, recycling or disposal.
- (21) In addition to the legally binding requirements laid down in this Regulation, indicative benchmarks for best available technologies should be identified to ensure that information on the life-cycle environmental performance of professional refrigerated storage cabinets, condensing units and process chillers is widely available and easily accessible.
- (22) The measures provided for in this Regulation are in accordance with the opinion of the Committee established by Article 19(1) of Directive 2009/125/EC,

HAS ADOPTED THIS REGULATION:

Article 1
Subject matter and scope

1. This Regulation establishes ecodesign requirements for the placing on the market of professional refrigerated storage cabinets and blast cabinets.

This Regulation shall apply to electric mains-operated blast cabinets, and electric mains-operated professional refrigerated storage cabinets including those sold for the refrigeration of foodstuffs and animal feed.

⁴ OJ L 204, 21.7.1998, p. 37.

However, it shall not apply to the following products:

- (a) professional refrigerated storage cabinets that are primarily powered by energy sources other than electricity;
 - (b) professional refrigerated storage cabinets operating with a remote condensing unit;
 - (c) open cabinets, where being open is a fundamental requirement for their primary functionality;
 - (d) cabinets specifically designed for food processing, where the mere presence of one compartment, with a net volume equivalent to less than 20% of the cabinet's total net volume and specifically designed for food processing is not sufficient for exemption;
 - (e) cabinets specifically designed only for the purpose of thawing frozen foodstuffs in a controlled manner, where the mere presence of one compartment specifically designed for thawing frozen foodstuffs in a controlled manner is not sufficient for exemption;
 - (f) saladettes;
 - (g) serve-over counters and other similar forms of cabinets primarily intended for display and sale of foodstuffs in addition to refrigeration and storage;
 - (h) cabinets that do not use a vapour compression refrigeration cycle;
 - (i) blast cabinets and blast rooms with a capacity superior to 300 kg of foodstuffs;
 - (j) continuous-process blast equipment;
 - (k) custom-made professional refrigerated storage cabinets and blast cabinets, made on a one-off basis according to individual customer specification and not equivalent to other professional refrigerated storage cabinets as described in definition 10 of Annex I or blast cabinets as described in definition 11 of Annex I;
 - (l) built-in cabinets;
 - (m) roll-in and pass-through cabinets;
 - (n) static air cabinets;
 - (o) chest freezers.
2. This Regulation also establishes ecodesign requirements for the placing on the market of condensing units operating at low or medium temperature or both.

However, it shall not apply to the following products:

- (a) condensing units including an evaporator, which may be an integral evaporator, such as in monobloc units, or a remote evaporator, such as in split units;
 - (b) compressor packs or racks, which do not include a condenser;
 - (c) condensing units of which the condenser-side does not use air as heat transfer medium.
3. This Regulation also establishes ecodesign requirements for the placing on the market of process chillers intended to operate at low or medium temperature.

However, it shall not apply to the following products:

- (a) process chillers intended to operate at high temperature;
- (b) process chillers exclusively using evaporative condensing;
- (c) custom-made process chillers assembled on site, made on a one-off basis;
- (d) absorption chillers.

Article 2
Definitions

1. The following definitions shall apply:
 - (a) ‘professional refrigerated storage cabinet’ means an insulated refrigerating appliance integrating one or more compartments accessible via one or more doors or drawers, capable of continuously maintaining the temperature of foodstuffs within prescribed limits at chilled or frozen operating temperature, using a vapour compression cycle, and intended for the storage of foodstuffs in non-household environments but not for the display to or access by customers;
 - (b) ‘blast cabinet’ means an insulated refrigerating appliance primarily intended to rapidly cool hot foodstuffs to below 10 °C in the case of chilling and below -18 °C in the case of freezing;
 - (c) ‘blast room’ means an enclosure, for which the doorway and internal space is large enough for a person to step inside, primarily intended to rapidly cool hot foodstuffs to below 10 °C in the case of chilling and below -18 °C in the case of freezing;
 - (d) ‘capacity’ means, for blast cabinets, the food weight which can be processed (by the blast cabinet) to below 10 °C in the case of chilling and below -18 °C in the case of freezing in a single operation;
 - (e) ‘continuous process blast equipment’ means a blast cabinet provided with a conveyor belt to feed foodstuff through, to allow continuous process for blast chilling or freezing of the foodstuff;
 - (f) ‘foodstuffs’ means food, ingredients, beverages, including wine, and other items primarily intended for consumption which require refrigeration at specified temperatures;
 - (g) ‘built-in cabinet’ means a fixed insulated refrigerating appliance intended to be installed in a cabinet, in a prepared recess in a wall or similar location, and requiring furniture finishing;
 - (h) ‘roll-in cabinet’ means a professional refrigerated storage cabinet including one unique compartment that allows wheeled racks of product to be wheeled in;
 - (i) ‘pass-through cabinet’ means a professional refrigerated storage cabinet accessible from both sides;
 - (j) ‘static air cabinet’ means a professional refrigerated storage cabinet without internal forced-air circulation, specifically designed to store temperature-sensitive foodstuffs or to avoid a drying effect on foodstuffs stored without a sealed enclosure, where a single static air compartment within the cabinet is not sufficient to designate the cabinet as a static air cabinet;
 - (k) ‘heavy-duty cabinet’ means a professional refrigerated storage cabinet capable of continuously maintaining chilled or frozen operating temperature in all its

compartment(s) in ambient conditions corresponding to climate class 5, as detailed in Table 3 of Annex IV;

- (l) ‘open cabinet’ means a professional refrigerated storage cabinet whose refrigerated enclosure can be reached from the outside without opening a door or a drawer, where the mere presence of one compartment which can be reached from the outside without opening a door or a drawer, with a net volume equivalent to less than 20% of the professional refrigerated storage cabinet's total volume, is not sufficient to qualify it as such;
- (m) ‘saladette’ means a professional refrigerated storage cabinet with one or more doors or drawer fronts in the vertical plane that has cut-outs in the top surface into which temporary storage bins can be inserted for easy-access storage of foodstuffs such as, but not limited to, pizza toppings or salad items;
- (n) ‘chest freezer’ means a food freezer in which the compartment(s) is accessible from the top of the appliance or which has both top-opening type and upright type compartments but where the gross volume of the top-opening type compartment(s) exceeds 75 % of the total gross volume of the appliance;
- (o) ‘condensing unit’ means a product integrating at least one electrically driven compressor and one condenser, capable of cooling down and continuously maintaining low or medium temperature inside a refrigerated appliance or system, using a vapour compression cycle once connected to an evaporator and an expansion device;
- (p) ‘low temperature’ means that the condensing unit is capable of delivering its rated cooling capacity at a saturated evaporating temperature of -35°C ;
- (q) ‘medium temperature’ means that the condensing unit is capable of delivering its rated cooling capacity at a saturated evaporating temperature of -10°C ;
- (r) ‘rated cooling capacity’ means the cooling capacity which the condensing unit allows the vapour compression cycle to reach, once connected to an evaporator and an expansion device, when operating at full load, and measured at standard rating conditions with the reference ambient temperature set at 32°C , expressed in kW;
- (s) ‘process chiller’ means a product integrating at least one compressor and one evaporator, capable of cooling down and continuously maintaining the temperature of a liquid in order to provide cooling to a refrigerated appliance or system; it may or may not integrate the condenser, the coolant circuit hardware and other ancillary equipment;
- (t) ‘low temperature’ means that the process chiller is capable of delivering its rated cooling capacity at an indoor heat exchanger outlet temperature of -25°C , at standard rating conditions;
- (u) ‘medium temperature’ means that the process chiller is capable of delivering its rated cooling capacity at an indoor heat exchanger outlet temperature of -8°C , at standard rating conditions;
- (v) ‘high temperature’ means that the process chiller is capable of delivering its rated cooling capacity at an indoor heat exchanger outlet temperature of 7°C , at standard rating conditions;

- (w) ‘rated cooling capacity’, expressed in kW, means the cooling capacity that the process chiller is able to reach, when operating at full load, and measured at standard rating conditions with the reference ambient temperature at 35 °C for air-cooled chillers and 30 °C water inlet temperature at the condenser for water-cooled chillers.
- (x) ‘compressor pack’ or ‘compressor rack’ means a product incorporating at least one or more electrically driven refrigeration compressor(s) and a control system;
- (y) ‘absorption chiller’ means a process chiller in which refrigeration is effected by an absorption process using heat as the energy source;
- (z) ‘evaporative condensing chiller’ means a process chiller equipped with an evaporating condenser, in which the refrigerant is cooled by a combination of air movement and water spray.

Article 3

Ecodesign requirements and timetable

1. The ecodesign requirements for professional refrigerated storage cabinets and blast cabinets are set out in Annex II.
2. The ecodesign requirements for condensing units are set out in Annex V.
3. The ecodesign requirements for process chillers are set out in Annex VII.
4. Ecodesign requirements shall apply in accordance with the following timetable:
 - (a) From 1 July 2016:
 - (1) condensing units shall comply with the requirements set out in points 1(a) and 2 of Annex V;
 - (2) process chillers shall comply with the requirements set out in points 1(a) and 2 of Annex VII.
 - (3) professional refrigerated storage cabinets shall comply with the requirements set out in points 1(a)(i) and 2(a) of Annex II;
 - (4) heavy-duty cabinets shall comply with the requirements set out in point 1(b) and 2(a) of Annex II.
 - (5) Blast cabinets shall comply with requirements set out in point 2(b) of Annex II.
 - (b) From 1 January 2018:
 - (1) professional refrigerated storage cabinets shall comply with requirements set out in point 1(a)(ii) of Annex II.
 - (c) From 1 July 2018:
 - (1) condensing units shall comply with the requirements set out in point 1(b) of Annex V;
 - (2) process chillers shall comply with the requirements set out in point 1(b) of Annex VII.
 - (d) From 1 July 2019:

- (1) professional refrigerated storage cabinets shall comply with requirements set out in point 1(a)(iii) of Annex II.
5. Compliance with ecodesign requirements for professional refrigerated storage cabinets shall be measured and calculated in accordance with the methods set out in Annexes III and IV.
6. Compliance with ecodesign requirements for condensing units shall be measured and calculated in accordance with the methods set out in Annex VI.
7. Compliance with ecodesign requirements for process chillers shall be measured and calculated in accordance with the methods set out in Annex VIII.

Article 4

Conformity assessment

1. The conformity assessment procedure referred to in Article 8(2) of Directive 2009/125/EC shall be the internal design control set out in its Annex IV or the management system set out in its Annex V.
2. For the purposes of conformity assessment pursuant to Article 8 of Directive 2009/125/EC, the technical documentation shall contain the information set out in point 2 of Annex II, point 2(b) of Annex V and point 2(b) of Annex VII to this Regulation.

Article 5

Verification procedure for market surveillance purposes

The authorities of the Member States shall apply the verification procedure set out in Annex IX, Annex X and Annex XI when performing the market surveillance checks referred to in Article 3(2) of Directive 2009/125/EC to ensure compliance with the requirements set out in Annex II, Annex V and Annex VII to this Regulation.

Article 6

Indicative benchmarks

The indicative benchmarks for best-performing professional refrigerated storage cabinets, condensing units and process chillers available on the market at the time of entry into force of this Regulation are set out in Annex XII.

Article 7

Review

The Commission shall review this Regulation in the light of technological progress and present the results of that review to the Consultation Forum no later than five years from the date of entry into force of this Regulation. The review shall include the following:

1. for professional refrigerated storage cabinets, an assessment of the appropriateness of introducing, in particular:
 - (a) ecodesign requirements for cabinets listed in Article 1(1);
 - (b) stricter requirements for heavy-duty cabinets;
 - (c) information requirement on a professional refrigerated storage cabinet's capacity to cool down foodstuffs;

- (d) a method for determining the standard annual energy consumption for refrigerator-freezers;
 - (e) a revised method for the standard annual energy consumption of counter cabinets;
2. for blast cabinets, an assessment of the appropriateness of introducing ecodesign requirements for these products;
 3. for walk-in cold rooms, an assessment of the appropriateness of introducing ecodesign requirements for these products;
 4. for condensing units and process chillers:
 - (a) an assessment of the appropriateness of setting ecodesign requirements covering direct greenhouse gas emissions related to refrigerants;
 - (b) an assessment of the appropriateness of setting ecodesign requirements for condensing units with a rated cooling capacity lower than 0.1 kW at low temperature and 0.2 kW at medium temperature and condensing units with a rated cooling capacity higher than 20 kW at low temperature and 50 kW at medium temperature;
 - (c) an assessment of the appropriateness of setting ecodesign requirements for condensing units sold with an evaporator, compressor packs and racks which do not include a condenser, and condensing units which do not use air as heat transfer medium for the condenser;
 - (d) an assessment of the appropriateness of setting ecodesign requirements for process chillers using evaporative condensing and process chillers using absorption technology;
 5. for all products, a check if newer versions of quoted sources are available for GWP values;
 6. for all products, the value of the admitted tolerances in the verification procedure for the measured value of the energy consumption.

Article 8
Entry into force

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Commission
The President