Commission Regulation (EU) No 547/2012 of 25 June 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for water pumps (Text with EEA relevance)

COMMISSION REGULATION (EU) No 547/2012

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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 products[(1)], and in particular Article 15(1) thereof,

After consulting the Ecodesign Consultation Forum,

Whereas:

(1) Under Directive 2009/125/EC, ecodesign requirements are to 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 in terms of their environmental impact without entailing excessive costs.

(2) Article 16(2) of Directive 2009/125/EC provides that, in accordance with the procedure referred to in Article 19(3) and the criteria set out in Article 15(2), and after consulting the Consultation Forum, the Commission shall, as appropriate, introduce implementing measures for products used in electric motor systems, such as water pumps.

(3) Water pumps forming parts of electric motor systems are essential in various pumping processes. There is a total cost-effective potential for improving the energy efficiency of these pumping systems by approximately 20 % to 30 %. Even though the main savings can be achieved by motors, one of the factors contributing to such improvements is the use of energy-efficient pumps. Consequently, water pumps are a priority product for which ecodesign requirements should be established.

(4) Electric motor systems include a number of energy-related products, such as motors, drives, pumps or fans. Water pumps are one of these products. Minimum requirements are established for motors in a separate measure, Commission Regulation (EC) No 640/2009[(2)]. Consequently, the present Regulation only sets minimum requirements for the hydraulic performance of water pumps without the motor.

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(5) Many pumps are integrated in other products without being separately placed on the market. To achieve the full cost-effective energy-saving potential, water pumps integrated in other products should also be subject to the provisions of this Regulation.

(6) The Commission has carried out a preparatory study to analyse the technical, environmental and economic aspects of water pumps. The study has been developed together with stakeholders and interested parties from the Union and third countries, and the results have been made publicly available.

(7) The preparatory study shows that water pumps are placed on the European Union market in large quantities. Their energy consumption in the use phase is the most significant environmental aspect of all life-cycle phases, with their annual electricity consumption amounting to 109 TWh in 2005, corresponding to 50 Mt in CO_2 emissions. In the absence of measures to limit this consumption, it is predicted that energy consumption will increase to 136 TWh in 2020. It has been concluded that use-phase electricity consumption can be improved significantly.

(8) The preparatory study shows that electricity consumption in the use phase is the only significant ecodesign parameter related to product design as referred to in Annex I, Part 1, to Directive 2009/125/EC.

(9) Improvements in electricity consumption in the use phase of water pumps should be achieved by applying existing non-proprietary cost-effective technologies that can reduce the total combined costs of purchase and operation.

(10) Ecodesign requirements should harmonise power consumption requirements for water pumps throughout the European Union, thus contributing to the functioning of the internal market and to the improvement of the environmental performance of these products.

(11) An appropriate timeframe should be provided for manufacturers to redesign products. The timeframe should be such as to avoid negative impacts on the functionalities of water pumps and to take into account cost impacts for manufacturers, in particular small and medium-sized enterprises, while ensuring timely achievement of the objectives of this Regulation.

(12) Power consumption should be determined using reliable, accurate and reproducible measurement methods, which take into account the recognised state-of-the-art including, where available, harmonised standards adopted by the European standardisation bodies, as listed in Annex I to 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 services[(3)].

(13) This Regulation should increase the market penetration of technologies that improve the life-cycle environmental impact of water pumps, leading to estimated energy savings of 3,3 TWh by 2020, compared to the situation where no measures are taken.

(14) In accordance with Article 8(2) of Directive 2009/125/EC, this Regulation should specify the applicable conformity assessment procedures.

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(15) In order to facilitate compliance checks, manufacturers should provide information in the technical documentation referred to in Annexes IV and V to Directive 2009/125/EC.

(16) In order to further limit the environmental impact of water pumps, manufacturers should provide relevant information on disassembly, recycling or disposal at end-of-life.

(17) Benchmarks for currently available technologies with high energy efficiency should be identified. This will help to ensure the wide availability and easy accessibility of information, in particular for small and medium-sized enterprises, which will further facilitate the integration of the best available technologies for reducing energy consumption.

(18) 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 rotodynamic water pumps for pumping clean water, including where integrated in other products.

2 This Regulation shall not apply to:

a water pumps designed specifically for pumping clean water at temperatures below – 10 °C or above 120 °C, except with regard to the information requirements of Annex II, points 2(11) to 2(13);

b water pumps designed only for fire-fighting applications;

c displacement water pumps;

d self-priming water pumps.

Article 2

Definitions

In addition to the definitions set out in Directive 2009/125/EC, the following definitions apply:

(1) '*water pump*' is the hydraulic part of a device that moves clean water by physical or mechanical action and is of one of the following designs:

— End suction own bearing (ESOB),

— End suction close coupled (ESCC),

— End suction close coupled inline (ESCCi),

— Vertical multistage (MS-V),

— Submersible multistage (MSS);

(2) '*End suction water pump*' means a glanded single stage end suction rotodynamic water pump designed for pressures up to 16 bar, with a specific speed n_s between 6 and 80 rpm, a minimum rated flow of 6 m^3/h ($1{,}667 \cdot 10^{-3}$ m^3/s), a maximum shaft power of

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150 kW, a maximum head of 90 m at nominal speed of 1 450 rpm and a maximum head of 140 m at nominal speed of 2 900 rpm;

(3) '*Rated flow*' means the head and flow that the manufacturer will guarantee under normal operating conditions;

(4) '*Glanded*' means sealed shaft connection between the impeller in the pump body and the motor. The driving motor component remains dry;

(5) '*End suction own bearing water pump*' (ESOB) is an end suction water pump with own bearings;

(6) '*End suction close coupled water pump*' (ESCC) is an end suction water pump of which the motor shaft is extended to become also the pump shaft;

(7) '*End suction close coupled inline water pump*' (ESCCi) means a water pump of which the water inlet of the pump is on the same axis as the water outlet of the pump;

(8) '*Vertical multistage water pump*' (MS-V) means a glanded multi stage (i > 1) rotodynamic water pump in which the impellers are assembled on a vertical rotating shaft, which is designed for pressures up to 25 bar, with a nominal speed of 2 900 rpm and a maximum flow of 100 m^3/h ($27{,}78 \cdot 10^{-3}$ m^3/s);

(9) '*Submersible multistage water pump*' (MSS) means a multi stage (i > 1) rotodynamic water pump with a nominal outer diameter of 4″ (10,16 cm) or 6″ (15,24 cm) designed to be operated in a borehole at nominal speed of 2 900 rpm, at operating temperatures within a range of 0 °C and 90 °C;

(10) '*rotodynamic water pump*' means a water pump that moves clean water by means of hydrodynamic forces;

(11) '*displacement water pump*' means a water pump that moves clean water by enclosing a volume of clean water and forcing this volume to the outlet of the pump;

(12) '*self-priming water pump*' means a water pump that moves clean water and which can start and/or operate also when only partly filled with water;

(13) '*clean water*' means water with a maximum non-absorbent free solid content of 0,25 kg/m^3, and with a maximum dissolved solid content of 50 kg/m^3, provided that the total gas content of the water does not exceed the saturation volume. Any additives that are needed to avoid water freezing down to – 10 °C shall not be taken into account.

The definitions for the purpose of Annexes II to V are set out in Annex I.

Article 3

Ecodesign requirements

The minimum efficiency requirements as well as information requirements for rotodynamic water pumps are set out in Annex II.

Ecodesign requirements shall apply in accordance with the following timetable:

(1) from 1 January 2013, water pumps shall have a minimum efficiency as defined in Annex II, point 1(a);

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(2) from 1 January 2015, water pumps shall have a minimum efficiency as defined in Annex II, point 1(b);

(3) from 1 January 2013, the information on water pumps shall comply with the requirements set out in Annex II, point 2.

Compliance with ecodesign requirements shall be measured and calculated in accordance with requirements set out in Annex III.

No ecodesign requirement is necessary regarding any other ecodesign parameter referred to in Annex I, Part 1, of Directive 2009/125/EC.

Article 4

Conformity assessment

The conformity assessment procedure referred to in Article 8(2) of Directive 2009/125/EC shall be the internal design control set out in Annex IV to that Directive or the management system for assessing conformity set out in Annex V to that Directive.

Article 5

Verification procedure for market surveillance purposes

When performing the market surveillance checks referred to in Article 3(2) of Directive 2009/125/EC, for the ecodesign requirements set out in Annex II to this Regulation, the authorities of the Member States shall apply the verification procedure set out in Annex IV to this Regulation.

Article 6

Indicative benchmarks

The indicative benchmarks for the best-performing water pumps available on the market at the time of entry into force of this Regulation are set out in Annex V.

Article 7

Revision

The Commission shall review this Regulation in the light of technological progress and shall present the result of this review to the Consultation Forum no later than four years after its entry into force. The review shall aim at adopting an extended product approach.

The Commission shall review the tolerances used in the methodology for calculating the energy efficiency before 1 January 2014.