

Commission Regulation (EC) No 641/2009 of 22 July 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for glandless standalone circulators and glandless circulators integrated in products (Text with EEA relevance)

COMMISSION REGULATION (EC) No 641/2009

of 22 July 2009

implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for glandless standalone circulators and glandless circulators integrated in products

(Text with EEA relevance)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Directive 2005/32/EC of the European Parliament and of the Council of 6 July 2005 establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC of the European Parliament and of the Council⁽¹⁾, and in particular Article 15(1) thereof,

After consulting the Ecodesign Consultation Forum,

Whereas:

- (1) Under Directive 2005/32/EC ecodesign requirements should be set by the Commission for energy-using 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), first indent, of Directive 2005/32/EC provides that, in accordance with the procedure referred to in Article 19(3) and the criteria set out in Article 15(2) of that Directive, and after consulting the Ecodesign Consultation Forum, the Commission will, as appropriate, introduce an implementing measure for appliances in electric motor systems and heating equipment, such as for circulators.
- (3) The Commission has carried out a preparatory study to analyse the technical, environmental and economic aspects of circulators typically used in buildings. The study has been developed together with stakeholders and interested parties from the Community and third countries, and the results have been made publicly available.
- (4) Circulators consume much of the energy used in heating systems in buildings. Furthermore, most standard circulators operate continuously, regardless of heating needs. Circulators are therefore one of the priority products for which ecodesign requirements should be established.

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

- (5) The environmental aspect of circulators that is identified as significant for the purposes of this Regulation is electricity consumption in the use phase.
- (6) The preparatory study shows that approximately 14 million circulators are placed on the Community market annually and that their most significant environmental impact out of all life-cycle phases is the use phase energy consumption amounting to 50 TWh in 2005, corresponding to 23 million tonnes of CO₂ emissions. If no specific measures are taken, electricity consumption is predicted to increase to 55 TWh by 2020. The preparatory study shows that use phase electricity consumption can be significantly improved.
- (7) The preparatory study shows that requirements regarding other ecodesign parameters referred to in Annex I, Part 1, of Directive 2005/32/EC are not necessary as power consumption of circulators in use phase is by far the most important environmental aspect.
- (8) Circulators should be made more efficient by applying existing non-proprietary cost-effective technologies that can reduce the total combined costs of purchasing and operating circulators.
- (9) Ecodesign requirements should harmonise electricity consumption requirements for circulators throughout the Community, thus contributing to the functioning of the internal market and to improving the environmental performance of these products.
- (10) To increase the re-use and recycling of circulators, manufacturers should provide information on the assembly and dismantling of circulators.
- (11) The ecodesign requirements should not have a negative impact on the functionality of circulators and should not negatively affect health, safety or the environment. In particular, the benefits of reducing electricity consumption during the use phase should more than offset any additional environmental impacts during the production phase.
- (12) The ecodesign requirements should be introduced gradually in order to provide a sufficient timeframe for manufacturers to re-design products subject to this Regulation as appropriate. The timing for the introduction of these requirements should be such as to avoid negative impacts on the functionalities of circulators on the market, and to take into account cost impacts for manufacturers, in particular small and medium-sized enterprises, while ensuring timely achievement of the objectives of the Regulation.
- (13) Conformity assessment and measurements of the relevant product parameters should be performed using reliable, accurate and reproducible measurement methods, which take into account the generally recognised state of the art measurement methods 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⁽²⁾.
- (14) This Regulation should quickly ensure the placing on the market of technologies that reduce the life-cycle environmental impact of circulators, leading to estimated electricity savings of 23 TWh by 2020, corresponding to 11 Mt of CO₂ equivalent, compared with the situation, where no action is taken.

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

- (15) In accordance with Article 8 of Directive 2005/32/EC, this Regulation should specify the applicable conformity assessment procedures.
- (16) In order to facilitate compliance checks, manufacturers should provide information in the technical documentation referred to in Annexes IV and V to Directive 2005/32/EC.
- (17) In addition to the legally binding requirements laid down in this Regulation, indicative benchmarks for best available technologies should be identified to ensure wide availability and easy accessibility of information on the life-cycle environmental performance of circulators.
- (18) The measures provided for in this Regulation are in accordance with the opinion of the Committee established by Article 19(1) of Directive 2005/32/EC,

HAS ADOPTED THE FOLLOWING REGULATION:

[^{F1}Article 1

Subject matter and scope

- 1 This Regulation establishes ecodesign requirements for the placing on the market of glandless standalone circulators and glandless circulators integrated in products.
- 2 This Regulation shall not apply to:
 - a drinking water circulators, except as regards the product information requirements of Annex I, point 2(1)(d);
 - [^{F2}b circulators to be integrated in products and placed on the market no later than 1 January 2022 as replacement for identical circulators integrated in products placed on the market no later than 1 August 2015 and specifically marketed as such, except as regards the product information requirements of Annex I, point 2(1)(e).]

Textual Amendments

- F1** Substituted by [Commission Regulation \(EU\) No 622/2012 of 11 July 2012 amending Regulation \(EC\) No 641/2009 with regard to ecodesign requirements for glandless standalone circulators and glandless circulators integrated in products \(Text with EEA relevance\)](#).
- F2** Substituted by [Commission Regulation \(EU\) 2019/1781 of 1 October 2019 laying down ecodesign requirements for electric motors and variable speed drives pursuant to Directive 2009/125/EC of the European Parliament and of the Council, amending Regulation \(EC\) No 641/2009 with regard to ecodesign requirements for glandless standalone circulators and glandless circulators integrated in products and repealing Commission Regulation \(EC\) No 640/2009 \(Text with EEA relevance\)](#).

Article 2

Definitions

[^{F3}The definitions set out in the Ecodesign for Energy-Related Products Regulations 2010 apply; and for any term that is not defined in those Regulations, the definitions set out in 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

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

energy-related products, as it had effect immediately before IP completion day, apply. The following definitions also apply—]

- (1) ‘circulator’ means an impeller pump, with or without pump housing, which has the rated hydraulic output power of between 1 W and 2 500 W and is designed for use in heating systems or in secondary circuits of cooling distribution systems;
- (2) ‘glandless circulator’ means a circulator with the rotor directly coupled to the impeller and the rotor immersed in the pumped medium;
- (3) ‘standalone circulator’ means a circulator, designed to operate independently from the product;
- (4) ‘product’ means an appliance that generates and/or transfers heat;
- (5) ‘circulator integrated in a product’ means a circulator designed to operate as part of a product carrying at least one of the following design details:
 - (a) the pump housing is designed to be mounted and used inside a product;
 - (b) the circulator is designed to be speed controlled by the product;
 - (c) the circulator is designed for safety features not suitable for standalone operation (ISO IP classes);
 - (d) the circulator is defined as part of product approval or product CE marking;
- (6) ‘drinking water circulator’ means a circulator specifically designed to be used in the recirculation of water intended for human consumption as defined in Article 2 of the Council Directive 98/83/EC⁽³⁾;
- (7) ‘pump housing’ means the part of an impeller pump which is intended to be connected to the pipe work of the heating systems or secondary circuits of the cooling distribution system.]

Textual Amendments

- F1** Substituted by [Commission Regulation \(EU\) No 622/2012 of 11 July 2012 amending Regulation \(EC\) No 641/2009 with regard to ecodesign requirements for glandless standalone circulators and glandless circulators integrated in products \(Text with EEA relevance\)](#).
- F3** Words in Art. 2 substituted (31.12.2020) by [The Ecodesign for Energy-Related Products and Energy Information \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/539\)](#), reg. 1(3), **Sch. 2 para. 7(2)** (as amended by [S.I. 2020/1528](#), regs. 1(2), 4); 2020 c. 1, Sch. 5 para. 1(1)

Article 3

Ecodesign requirements

The ecodesign requirements for circulators are set out in Annex I.

Compliance with ecodesign requirements shall be measured in accordance with requirements set out in Annex II, point 1.

The calculation method for the energy efficiency index of circulators is set out in Annex II, point 2.

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

Article 4

Conformity assessment

[^{F4}For the purposes of regulation 4(2)(a) of the Ecodesign for Energy-Related Products Regulations 2010, the procedure for assessing whether an energy-related product complies with this implementing measure is the internal design control system set out in Part 1 of Schedule 1A to the Ecodesign for Energy-Related Products Regulations 2010 or the management system for assessing conformity set out in Part 2 of Schedule 1A to those Regulations.]

Textual Amendments

- F4** Art. 4 substituted (31.12.2020) by [The Ecodesign for Energy-Related Products and Energy Information \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/539\)](#), reg. 1(3), **Sch. 2 para. 7(3)**; 2020 c. 1, Sch. 5 para. 1(1)

Article 5

Verification procedure for market surveillance purposes

[^{F5}When performing market surveillance checks to assess compliance with the requirements set out in Annex 1, the authorities of Great Britain must apply the verification procedure described in Annex 3.]

Textual Amendments

- F5** Art. 5 substituted (31.12.2020) by [The Ecodesign for Energy-Related Products and Energy Information \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/539\)](#), reg. 1(3), **Sch. 2 para. 7(4)** (as amended by S.I. 2020/1528, regs. 1(2), **6(3)(4)(b)(v)**); 2020 c. 1, Sch. 5 para. 1(1)

Article 6

Benchmarks

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

^{F6} Article 7

Revision

.....

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

Textual Amendments

- F6** Art. 7 omitted (31.12.2020) by virtue of The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/539), reg. 1(3), **Sch. 2 para. 7(5)**; 2020 c. 1, Sch. 5 para. 1(1)

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*.

It shall apply in accordance with the following timetable:

1. from 1 January 2013, glandless standalone circulators shall meet the efficiency level defined in Annex I, point 1(1), with the exception of those specifically designed for primary circuits of thermal solar systems and of heat pumps;
2. from 1 August 2015, glandless standalone circulators and glandless circulators integrated in products shall meet the efficiency level defined in Annex I, point 1(2).

F7 ...

Textual Amendments

- F7** Words in Signature omitted (31.12.2020) by virtue of The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/539), reg. 1(3), **Sch. 2 para. 7(6)**; 2020 c. 1, **Sch. 5 para. 1(1)**

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

ANNEX I

ECODESIGN REQUIREMENTS

1. ENERGY EFFICIENCY REQUIREMENTS

1. From 1 January 2013, glandless standalone circulators, with the exception of those specifically designed for primary circuits of thermal solar systems and of heat pumps, shall have an energy efficiency index (EEI) of not more than 0,27, calculated in accordance with Annex II, point 2.
2. From 1 August 2015, glandless standalone circulators and glandless circulators integrated in products shall have an energy efficiency index (EEI) of not more than 0,23, calculated in accordance with Annex II, point 2.

[^{F1}2. PRODUCT INFORMATION REQUIREMENTS

1. From 1 January 2013 :
 - (a) the energy efficiency index of standalone circulators calculated in accordance with Annex II, shall be indicated on the name plate and packaging of the standalone circulator and in the technical documentation of the standalone circulator as follows: ‘EEI ≤ 0,[xx]’;
 - (b) the following information shall be provided on standalone circulators and on circulators integrated in products: ‘The benchmark for the most efficient circulators is EEI ≤ 0,20.’;
 - (c) information concerning disassembly, recycling, or disposal at end-of-life of components and materials, shall be made available for treatment facilities on standalone circulators and on circulators integrated in products;
 - (d) for drinking water circulators, the following information shall be provided on the packaging and in the documentation: ‘This circulator is suitable for drinking water only’;
 - (e) [^{F2}for circulators to be integrated in products and placed on the market no later than 1 January 2022 as replacement for identical circulators integrated in products placed on the market no later than 1 August 2015, the replacement circulator or its packaging shall clearly indicate the product(s) for which it is intended.]

Manufacturers shall provide information on how to install, use and maintain the circulator in order to minimise its impact on the environment.

The information listed above shall be visibly displayed on freely accessible websites of the circulator manufacturer.

2. From 1 August 2015, for circulators integrated in products, the energy efficiency index calculated in accordance with Annex II, shall be indicated on the name plate of the circulator and in the technical documentation of the product as follows: ‘EEI ≤ 0,[xx]’.]

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

ANNEX II

MEASUREMENT METHODS AND METHODOLOGY FOR CALCULATING THE ENERGY EFFICIENCY INDEX

1. MEASUREMENT METHODS

For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements shall be made using a reliable, accurate and reproducible measurement procedure that takes into account the generally recognised state of the art measurement methods ^{F8}....

Textual Amendments

F8 Words in Annex 2 para. 1 omitted (31.12.2020) by virtue of [The Ecodesign for Energy-Related Products and Energy Information \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/539\)](#), reg. 1(3), **Sch. 2 para. 7(7)**; 2020 c. 1, Sch. 5 para. 1(1)

[^{F12}]. METHODOLOGY FOR CALCULATING THE ENERGY EFFICIENCY INDEX

The methodology for calculating the energy efficiency index (EEI) for circulators is as follows:

1. Standalone circulators with pump housing shall be measured as a complete unit;

Standalone circulators without pump housing shall be measured with pump housing identical to the pump housing in which they are intended to be used;

Circulators integrated in products shall be dismantled from the product and measured with a reference pump housing;

Circulators without pump housing intended to be integrated in a product shall be measured with a reference pump housing;

where ‘reference pump housing’ means a pump housing supplied by the manufacturer with inlet and outlet ports on the same axis and designed to be connected to the pipework of a heating system or secondary circuit of a cooling distribution system.
2. Where a circulator has more than one setting of head and flow, measure the circulator at the maximum setting.

‘Head’ (H) means head (in metres) produced by the circulator at the specified point of operation.

‘Flow’ (Q) means the volume flow rate of water through the circulator (m³/hr).
3. Find the point where $Q \cdot H$ is maximum and define the flow and head at this point as: $Q_{100\%}$ and $H_{100\%}$.
4. Calculate the hydraulic power P_{hyd} at this point.

‘Hydraulic power’ means an expression of the arithmetic product of the flow (Q), Head (H) and a constant.

“ P_{hyd} ” means hydraulic power delivered by the circulator to the fluid being pumped at the specified point of operation (in watts).
5. Calculate the reference power as:

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

$$P_{ref} = 1,7 \cdot P_{hyd} + 17 \cdot (1 - e^{-0,3 \cdot P_{hyd}}), 1 \text{ W} \leq P_{hyd} \leq 2 \text{ 500 W}$$

‘Reference power’ means a relation between hydraulic power and power consumption of a circulator, taking into account the dependency between circulator efficiency and size.

‘ P_{ref} ’ means the reference power (in watts) of the circulator in a given head and flow.

6. Define the reference control curve as the straight line between the points:

$$(Q_{100\%}, H_{100\%}) \text{ and } (Q_{0\%}, H_{100\%})$$

7. Select a setting of the circulator ensuring that the circulator on the selected curve reaches $Q \cdot H = \text{max point}$. For circulators integrated in products follow the reference control curve by adjusting the system curve and speed of the circulator.

‘System curve’ means a relationship between flow and head ($H = f(Q)$) resulting from friction in the heating system or cooling distribution system, as presented in the following graph:

8. Measure P_1 and H at the flows:

$$Q_{100\%}, 0,75 \cdot Q_{100\%}, 0,5 \cdot Q_{100\%}, 0,25 \cdot Q_{100\%}$$

‘ P_1 ’ means the electrical power (in watts) consumed by the circulator at the specified point of operation.

9. Calculate P_L as follows:

$$P_L = H_{ref} \cdot H_{meas} \cdot P_{1,meas}$$

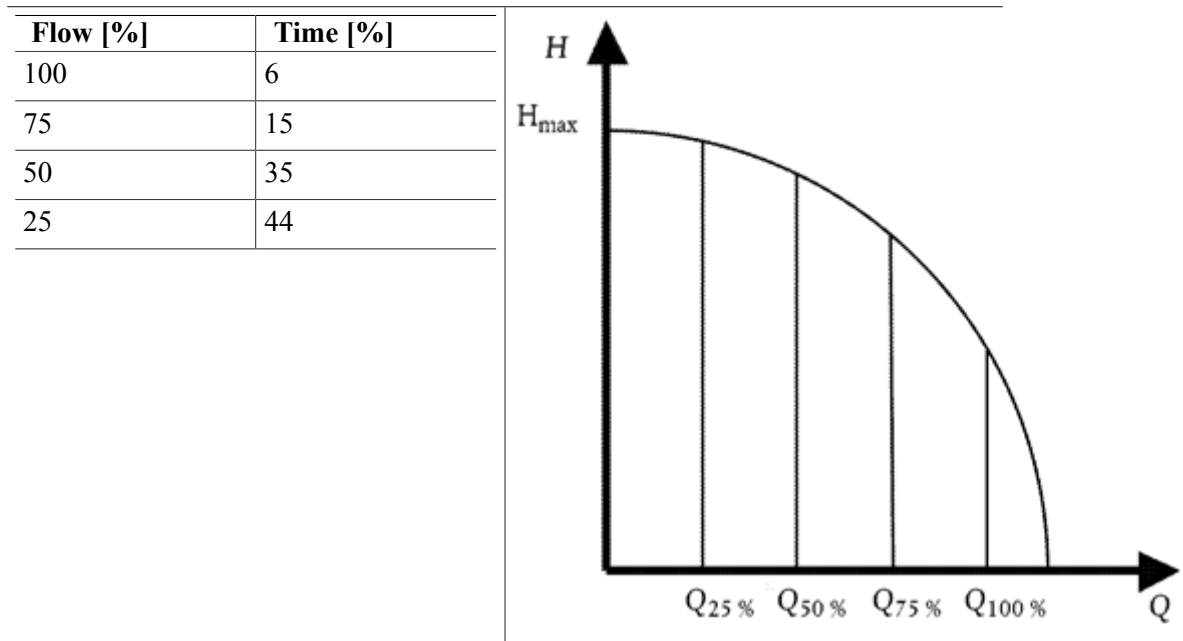
, if $H_{meas} \leq H_{ref}$

$$P_L = P_{1,meas}, \text{ if } H_{meas} > H_{ref}$$

Where H_{ref} is the head on the reference control curve at the different flows.

10. Using the measured values of P_L and this load profile:

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)



Calculate the weighted average power $P_{L,avg}$ as:

$$P_{L,avg} = 0,06 \cdot P_{L,100\%} + 0,15 \cdot P_{L,75\%} + 0,35 \cdot P_{L,50\%} + 0,44 \cdot P_{L,25\%}$$

Calculate the energy efficiency index⁽⁴⁾ as:

$$EEI = PL_{,avg} Pref \times C_{20\%}$$

, where $C_{20\%} = 0,49$

Except for circulators integrated in products designed for primary circuits of thermal solar systems and for heat pumps, where the energy efficiency index is calculated as:

$$EEI = PL_{,avg} Pref \times C_{20\%} \times 1 - e^{-3,8 \times n_s / 301,36}$$

where $C_{20\%} = 0,49$ and n_s is the specific speed defined as

$$n_s = n_{100\%} / 60 \times Q_{100\%} / H_{100\%}$$

where

n_s [rpm] is specific speed of a circulator;
 $n_{100\%}$ is rotational speed in rpm in this duty defined at $Q_{100\%}$ and $H_{100\%}$.

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

[^{F9}ANNEX III

Product compliance verification by market surveillance authorities

Textual Amendments

F9 Substituted by Commission Regulation (EU) 2016/2282 of 30 November 2016 amending Regulations (EC) No 1275/2008, (EC) No 107/2009, (EC) No 278/2009, (EC) No 640/2009, (EC) No 641/2009, (EC) No 642/2009, (EC) No 643/2009, (EU) No 1015/2010, (EU) No 1016/2010, (EU) No 327/2011, (EU) No 206/2012, (EU) No 547/2012, (EU) No 932/2012, (EU) No 617/2013, (EU) No 666/2013, (EU) No 813/2013, (EU) No 814/2013, (EU) No 66/2014, (EU) No 548/2014, (EU) No 1253/2014, (EU) 2015/1095, (EU) 2015/1185, (EU) 2015/1188, (EU) 2015/1189 and (EU) 2016/2281 with regard to the use of tolerances in verification procedures (Text with EEA relevance).

The verification tolerances defined in this Annex relate only to the verification of the measured parameters by [^{F10}Great Britain] authorities and shall not be used by the manufacturer or importer as an allowed tolerance to establish the values in the technical documentation or in interpreting these values with a view to achieving compliance or to communicate better performance by any means.

Textual Amendments

F10 Words in Annex 3 substituted (31.12.2020) by The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/539), reg. 1(3), **Sch. 2 para. 7(8)(a)** (as amended by S.I. 2020/1528, regs. 1(2), **6(1)(2)(b)(vi)**); 2020 c. 1, Sch. 5 para. 1(1)

[^{F11}When verifying the compliance of a product model with the requirements laid down in this Regulation, for the requirements referred to in this Annex the authorities of Great Britain must apply the following procedure—]

Textual Amendments

F11 Words in Annex 3 substituted (31.12.2020) by The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019 (S.I. 2019/539), reg. 1(3), **Sch. 2 para. 7(8)(b)** (as amended by S.I. 2020/1528, regs. 1(2), **6(3)(4)(b)(v)**); 2020 c. 1, Sch. 5 para. 1(1)

- (1) The [^{F10}Great Britain] authorities shall verify one single unit of the model.
- (2) The model shall be considered to comply with the applicable requirements if:
 - (a) the values given in the technical documentation pursuant to [^{F12}paragraph 1(2) of Part 1 of Schedule 1A to the Ecodesign for Energy-Related Products Regulations 2010], and, where applicable, the values used to calculate these values, are not more favourable for the manufacturer or importer than the results of the corresponding measurements carried out pursuant to [^{F13}paragraph 1(2)(b)(vii) of Part 1 of Schedule 1A to those Regulations]; and
 - (b) the declared values meet any requirements laid down in this Regulation, and any required product information published by the manufacturer or importer does not contain values that are more favourable for the manufacturer or importer than the declared values; and

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

- (c) when the [F10Great Britain] authorities test the unit of the model, the determined values (the values of the relevant parameters as measured in testing and the values calculated from these measurements) comply with the respective verification tolerances as given in Table 1.
- (3) If the results referred to in point 2(a) or (b) are not achieved, the model shall be considered not to comply with this Regulation.
- (4) If the result referred to in point 2(c) is not achieved, the [F10Great Britain] authorities shall select three additional units of the same model for testing.
- (5) The model shall be considered to comply with the applicable requirements if, for these three units, the arithmetical mean of the determined values complies with the respective verification tolerances given in Table 1.
- (6) If the result referred to in point 5 is not achieved, the model shall be considered not to comply with this Regulation.
- (7) F14

Textual Amendments

- F12** Words in Annex 3 para. (2)(a) substituted (31.12.2020) by [The Ecodesign for Energy-Related Products and Energy Information \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/539\)](#), reg. 1(3), **Sch. 2 para. 7(8)(c)(i)**; 2020 c. 1, **Sch. 5 para. 1(1)**
- F13** Words in Annex 3 para. (2)(a) substituted (31.12.2020) by [The Ecodesign for Energy-Related Products and Energy Information \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/539\)](#), reg. 1(3), **Sch. 2 para. 7(8)(c)(ii)**; 2020 c. 1, **Sch. 5 para. 1(1)**
- F14** Annex 3 para. (7) omitted (31.12.2020) by virtue of [The Ecodesign for Energy-Related Products and Energy Information \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/539\)](#), reg. 1(3), **Sch. 2 para. 7(8)(d)**; 2020 c. 1, **Sch. 5 para. 1(1)**

The [F10Great Britain] authorities shall use the measurement and calculation methods set out in Annex II.

The [F10Great Britain] authorities shall only apply the verification tolerances that are set out in Table 1 and shall use only the procedure described in points 1 to [F156] for the requirements referred to in this Annex. No other tolerances, such as those set out in [F16designated] standards or in any other measurement method, shall be applied.

Textual Amendments

- F15** Word in Annex 3 substituted (31.12.2020) by [The Ecodesign for Energy-Related Products and Energy Information \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/539\)](#), reg. 1(3), **Sch. 2 para. 7(8)(e)(i)**; 2020 c. 1, **Sch. 5 para. 1(1)**
- F16** Word in Annex 3 substituted (31.12.2020) by [The Ecodesign for Energy-Related Products and Energy Information \(Amendment\) \(EU Exit\) Regulations 2019 \(S.I. 2019/539\)](#), reg. 1(3), **Sch. 2 para. 7(8)(e)(ii)**; 2020 c. 1, **Sch. 5 para. 1(1)**

TABLE 1

Verification tolerances

ANNEX II

Document Generated: 2024-08-27

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

Parameter	Verification tolerance
Energy efficiency index	The determined value shall not exceed the declared value by more than 7 %.]

ANNEX IV

INDICATIVE BENCHMARKS

At the time of the adoption of this Regulation, the benchmark for the best available technology on the market for circulators is $EEI \leq 0,20$.

Changes to legislation: This version of this Regulation was derived from EUR-Lex on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk. (See end of Document for details)

- (1) OJ L 191, 22.7.2005, p. 29.
- (2) OJ L 204, 21.7.1998, p. 37.
- (3) [^{F1}OJ L 330, 5.12.1998, p. 32.]
- (4) [^{F1}C_{XX}% means a scaling factor that ensures that at the time of defining the scaling factor only XX % of circulators of a certain type have an $EEI \leq 0,20$.]

Textual Amendments

- F1** Substituted by [Commission Regulation \(EU\) No 622/2012 of 11 July 2012 amending Regulation \(EC\) No 641/2009 with regard to ecodesign requirements for glandless standalone circulators and glandless circulators integrated in products \(Text with EEA relevance\)](#).

Changes to legislation:

This version of this Regulation was derived from [EUR-Lex](#) on IP completion day (31 December 2020 11:00 p.m.). It has not been amended by the UK since then. Find out more about legislation originating from the EU as published on legislation.gov.uk.