

**ENERGY COMMISSION (ENERGY EFFICIENCY STANDARDS  
AND LABELLING) (AIR CONDITIONERS) REGULATIONS, 2022**

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**ENERGY COMMISSION (ENERGY EFFICIENCY STANDARDS AND LABELLING) (AIR CONDITIONERS) REGULATIONS, 2022**

IN exercise of the power conferred on the Minister responsible for Energy by subparagraph (i) of paragraph (a) of subsection (1) of section 56 of the Energy Commission Act, 1997 (Act 541) and on the advice of the Board, these Regulations are made this 28<sup>th</sup> day of June, 2022.

*Preliminary Provisions***Purpose of Regulations**

1. The purpose of these Regulations is to promote the efficient use and conservation of energy in the country and mitigate related climate change by

(a) providing for

- (i) the enforcement of Standards set out in the First Schedule and the minimum energy performance standards and sound power levels of air conditioners set out in Parts One to Three of the Second Schedule;
- (ii) the labelling of electric mains-operated air conditioners;
- (iii) supplementary product information on electric mains-operated air conditioners; and
- (iv) the registration of models of air conditioners in the Appliance Energy Efficiency Register; and

(b) prohibiting the manufacture, importation, offer for sale, sale, storage, donation, disposal, installation or use of an air conditioner that does not meet the minimum energy performance standards set out in Parts One to Three of the Second Schedule.

**Application of Regulations**

2. (1) These Regulations apply to an air conditioning product, manufactured in the country or imported into the country for display, sale or use.

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- (2) These Regulations apply to a single-phase and a three-phase
- (a) air conditioner;
  - (b) multi-split outdoor unit, whether supplied or offered for supply as part of a multi split system; and
  - (c) single-split outdoor unit,
- that has a rated standard cooling full capacity of 65kW or less, and is designed for human comfort.
- (3) These Regulations do not apply to
- (a) a close control air conditioner;
  - (b) a liquid-chilling package;
  - (c) an evaporative cooler or any other cooling system that is not of the vapour compression type;
  - (d) a ground-water air conditioner or ground-loop air conditioner;
  - (e) a spot cooler;
  - (f) a dehumidifier;
  - (g) an air conditioner which is powered by mains electricity, designed and sold only for installation in an end-use mobile application including a caravan, mobile home, camper van, boat and rail car;
  - (h) an air conditioner which is powered by mains electricity designed and sold only for installation in a specialised high temperature industrial application including a crane cabin used over a blast furnace;
  - (i) an air conditioner that does not condition air sourced from within the conditioned space, but instead conditions air sourced from outside the conditioned space, and delivers that air to the conditioned space;
  - (j) the rating plate or the equivalent plate of a rating plate affixed to an air conditioner for purposes of safety; and
  - (k) an air conditioner which is designed to use an energy source other than electricity.

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(4) Despite

- (a) paragraph (c) of subregulation (3), these Regulations apply to an air conditioner of the vapour compression type that has an enhancement or option to assist the operating energy efficiency including a solar-boosted air conditioner;
- (b) paragraph (d) of subregulation (3), these Regulations apply to a water-loop air conditioner; and
- (c) paragraph (g) of subregulation (3), these Regulations apply to a unit installed in a portable building.

*Duties and Requirements*

**Duty to comply with requirements**

3. (1) A person who manufactures, imports, offers for sale, sells, stores, supplies, distributes, donates or otherwise disposes of an air conditioner for use in the country shall ensure that each model of the air conditioner

- (a) is registered with the Commission; and
- (b) meets the
  - (i) Standards set out in the First Schedule;
  - (ii) minimum energy performance standards and star-rating class set out in Parts One to Three of the Second Schedule;
  - (iii) labelling requirements set out in the Third Schedule; and
  - (iv) information requirements set out in the Fourth Schedule.

(2) A person who advertises an air conditioner shall comply with the provisions of Part Five of the Fourth Schedule.

**Prohibition of manufacture, importation, offer for sale, sale, storage, donation, disposal, installation or use of air conditioner**

4. (1) A person shall not manufacture, import, offer for sale, sell, store, donate, or otherwise dispose of, install or use an air conditioner in the country unless the air conditioner meets the minimum energy performance standards set out in Parts One to Three of the Second Schedule.

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- (2) An enforcement authority shall
- (a) detain, cause to be re-exported or seize and destroy an air conditioner imported for use in the country contrary to subregulation (1); or
  - (b) seize and destroy an air conditioner manufactured for use in the country contrary to subregulation (1).

**Category of air conditioner**

5. The category of an air conditioner shall be determined in accordance with the categories set out in Part Three of the Fourth Schedule.

**Energy efficiency star rating of air conditioner**

6. The energy efficiency star rating of an air conditioner shall be determined in accordance with the ratings set out in Part Two of the Second Schedule.

**Voltage, input power or wattage of air conditioner**

7. The manufacturer of an air conditioner shall ensure that the rated voltage, input power or wattage of the air conditioner is printed conspicuously and displayed on the back or side of the air conditioner.

**Measurement methods**

8. The information to be provided pursuant to regulations 12 and 13 shall be obtained by

- (a) a reliable, accurate and reproducible measurement which takes into account recognised state-of-the-art measurements; and
- (b) calculation methods

in accordance with the Standards.

**Use of circumvention device**

9. (1) A manufacturer, an importer or an authorised representative of the manufacturer shall not use a circumvention device during the conduct of a test of an air conditioner.

(2) A person shall not manufacturer, import, offer for sale, sell, store, donate, or otherwise dispose of, install or use an air conditioner which is designed to

- (a) detect that the air conditioner is being tested by recognising the test conditions or test cycle; or

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(b) react specifically by automatically altering the performance of the air conditioner during the test with the aim of reaching a more favourable level for any of the parameters declared by the manufacturer, importer or authorised representative of the manufacturer, in the technical documentation or included in any other documentation provided.

(3) The energy consumption of an air conditioner and any of the other declared parameters shall not deteriorate after a

(a) software; or

(b) firmware

update, when measured with the same test standard originally used for the declaration of conformity, except with the consent of the Commission and the Standards Authority, before the update.

(4) A manufacturer, an importer or an authorised representative of the manufacturer shall inform the Commission and the Standards Authority in writing, with reasons, prior to an update of the software or firmware.

**Solar-boosted air conditioner**

10. A person shall test a solar-boosted air conditioner in accordance with Part Four of the Second Schedule.

**Test simulation software**

11. A person shall use a test simulation software in accordance with Part Four of the Second Schedule.

**Technical documentation**

12. (1) A person shall not manufacture, import, offer for sale, sell, store, distribute, donate or otherwise dispose of an air conditioner for use in the country, unless that person has provided the Commission with sufficient technical documentation to enable the Commission

(a) ascertain the accuracy of the information contained

(i) in the Product Information Sheet; or

(ii) on the label; and

(b) register each model of the air conditioner in the Appliance Energy Efficiency Register.



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- (2) The technical documentation referred to in subregulation (1) shall
- (a) be in the English language;
  - (b) include the Product Information Sheet set out in Part One of the Fourth Schedule; and
  - (c) contain the information set out in Part Three of the Fourth Schedule marked "Technical Documentation".
- (3) The technical documentation shall
- (a) be prepared for each model of an air conditioner placed on the market; and
  - (b) include
    - (i) the name and address of the supplier;
    - (ii) the description of the air conditioner, for purposes of identification;
    - (iii) the model identifier of the manufacturer;
    - (iv) the relevant drawings on the main design features of the model and parameters of the air conditioner that affect the energy consumption of the air conditioner;
    - (v) reports of relevant measurement tests carried out in compliance with the Standards;
    - (vi) details of calculations, extrapolations and tests carried out to verify the accuracy of calculations;
    - (vii) the installation and operating instructions; and
    - (viii) the period within which the model of the air conditioner was manufactured.

**Labelling and information requirements**

13. (1) A person who manufactures, imports, offers for sale, sells, stores, supplies, distributes, donates or otherwise disposes of an air conditioner that
- (a) is in any of the product classes 1 to 12;
  - (b) has a rated standard cooling full capacity of less than 30Kw; and
  - (c) is a single phase

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for use in the country shall ensure that the air conditioner and the packaging of the air conditioner meet the labelling requirements specified in subregulation (2).

(2) A person shall not manufacture, import, offer for sale, sell, store, supply, distribute, donate or otherwise dispose of an air conditioner for use in the country unless the air conditioner and the packaging of the air conditioner meet the following requirements:

- (a) the air conditioner shall bear a label
  - (i) in the form set out in Part Two of the Third Schedule; and
  - (ii) placed at the front of the air conditioner;
- (b) the information in respect of the air conditioner indicated on the packaging of the air conditioner shall be in the English language;
- (c) the Product Information Sheet in respect of the air conditioner shall be as set out in Part One of the Fourth Schedule;
- (d) the label on the packaging containing the air conditioner shall
  - (i) contain the information set out in Part Two of the Third Schedule; and
  - (ii) be printed in colour;
- (e) the labels on the air conditioner and the packaging of the air conditioner shall include the following information:
  - (i) the Quick Response Code;
  - (ii) the name or trade mark of the manufacturer;
  - (iii) the type of air conditioner;
  - (iv) the model identifier of the manufacturer and for a split unit, the model identifier of the indoor and of the outdoor elements of the combination to which the figures quoted in Part One of the Fourth Schedule apply;

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- (v) the energy efficiency star rating of the air conditioner set out in Table 2.2 in Part Two of the Second Schedule and determined in accordance with the test procedures set out in the Standards;
- (vi) the type of air conditioner in terms of ducted or non-ducted split system, multi split system, ducted unitary system, non-ducted unitary system;
- (vii) the type of compressor unit in terms of fixed speed or variable speed or inverter driven compressor;
- (viii) the Cooling Season Total Energy Consumption calculated with the total input power as defined in the Standards, multiplied by an average of two thousand hours per year in cooling mode determined in accordance with the test procedures set out in the Standards;
- (ix) the energy efficiency star rating of the model, determined in accordance with the Standards;
- (x) the cooling output, which is the cooling capacity of the appliance in cooling mode at full-load in kilowatts and determined in accordance with the test procedures set out in the Standards;
- (xi) the Total Cooling Season Performance Factor determined in accordance with the Standards and relevant test procedures prescribed in the Standards;
- (xii) the type of refrigerant and Global Warming Potential of the refrigerant;
- (xiii) the number of stars corresponding to the energy efficiency star rating class in relation to the information referred to in paragraph (b) of subregulation (1) of regulation 3 and shaded in black;

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- (xiv) sound power level expressed in dB(A) re 1 pW and rounded to the nearest integer;
  - (xv) the year of manufacture; and
  - (xvi) the country of origin or manufacture;
  - (f) the label on the air conditioner shall be printed in colour on a waterproof material and pasted conspicuously on the air conditioner;
  - (g) the background of a label printed or pasted on each packaging containing the air conditioner shall be gold in colour;
  - (h) all the stars on the label of the air conditioner shall be shaded in black; and
  - (i) the text on the label of the air conditioner shall be black in colour.
- (3) Despite regulation 23, an update to the Standards shall take precedence over the requirements specified in paragraph (e) of subregulation (1) and Part Two of the Second Schedule.
- (4) Where
- (a) a side of the packaging is not large enough to contain a label and the blank border; or
  - (b) a label would cover more than fifty per cent of the surface area of the largest side of a packaging,
- the label and the blank border shall be reduced to not less than forty per cent of the largest side of the packaging and pasted on the largest side of the packaging.
- (5) A person shall not remove the label on an air conditioner or the packaging containing an air conditioner before the first retail purchase of the air conditioner.
- (6) For the purposes of this regulation, “first retail purchase” means the purchase of an air conditioner by an end user.

*Registration of Air Conditioners*

**Appliance Energy Efficiency Register**

14. (1) The Commission shall establish, keep and maintain an Appliance Energy Efficiency Register.

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(2) The Appliance Energy Efficiency Register shall contain the information specified in subregulation (5) of regulation 15.

**Application for registration**

15. (1) A person who

- (a) manufactures an air conditioner in the country; or
- (b) imports an air conditioner into the country

for use in the country shall, prior to the manufacture or importation, ensure that each model of the air conditioner is registered with the Commission.

(2) A person who

- (a) manufactures an air conditioner in the country; or
- (b) imports an air conditioner into the country

for use in the country shall apply to the Commission for registration of the air conditioner.

(3) An application for registration under subregulation (2) shall be made in writing or electronically on the website of the Commission and accompanied with the prescribed fee.

(4) An application for registration shall be accompanied with a test report from an accredited test laboratory that demonstrates that

- (a) the air conditioner meets the minimum energy performance standards set out in the Second Schedule; and
- (b) the test report corresponds to the energy consumption that is provided on the energy efficiency label of the air conditioner.

(5) The following information shall be provided for each registration of a model of an air conditioner:

- (a) the brand or trademark, if any, used in connection with a supply of the model;
- (b) the model identifier issued by the manufacturer for each model covered by the registration;
- (c) the Product Information Sheet of the model;
- (d) the date the registration takes effect;
- (e) a unique identifier for the registration issued by the Commission;

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- (f) the names and contact details of the applicant and contact person in relation to the registration;
- (g) if the model is to be registered as a replacement model of an earlier registered model, that fact and details to identify the replaced model, including the date the replacement was made;
- (h) if a model to be registered is affected by a replacement, that fact and details to identify the replaced model and replacement model, including the date the replacement was made;
- (i) any information specified in these Regulations in relation to that model of air conditioner; and
- (j) any other information the Commission may consider appropriate.

**Consideration of application**

16. (1) The Commission shall, on receipt of an application for registration of an air conditioner, consider the application.

(2) The Commission shall, in considering the application have regard to the requirements specified in subregulation (5) of regulation 15.

**Grant of application**

17. (1) The Commission may, within fourteen days after receipt of an application, grant or refuse an application.

(2) Where the Commission decides to grant an application, the Commission shall

- (a) within three days after the date of the decision, inform the applicant, in writing or electronically as the case may be, of the decision; and
- (b) enter the information specified in subregulation (5) of regulation 15 in the Appliance Energy Efficiency Register.

(3) Where the Commission refuses to grant an application, the Commission shall within three days after the date of the decision communicate to the applicant, in writing or electronically as the case may be,

- (a) the reason for the refusal; and

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- (b) the applicable Standards the model of the air conditioner is required to meet.

*Duties of Dealers and Suppliers of Air Conditioners*

**Duty of dealer to keep, maintain and provide technical documentation**

18.(1) A dealer shall keep and maintain technical documentation in respect of an air conditioner for a period of not less than two years after the date of manufacture or importation.

(2) A dealer shall, within two days after a request by an enforcement authority, provide the enforcement authority with technical documentation in respect of an air conditioner for inspection.

(3) Where a dealer fails to provide technical documentation in respect of an air conditioner within two days after the request, the enforcement authority shall detain the air conditioner.

(4) A dealer shall ensure that

- (a) each air conditioner, at the point of sale, including at trade fairs, bears the label provided by a supplier in accordance with regulation 3, with the label being displayed conspicuously;
- (b) in the event of distance selling, the label and Product Information Sheet are provided in accordance with Part Four of the Fourth Schedule;
- (c) an audio advertisement, including radio and local information broadcast network, on a specific model of an air conditioner where the brand, capacity, size, category or price is mentioned, includes a comparison of the annual total consumption of the model of the air conditioner to the specified minimum energy performance standard in accordance with Part Five of the Fourth Schedule;
- (d) a visual advertisement for a specific model of air conditioner, including an advertisement on the internet contains information on the annual total energy consumption, and the minimum energy performance of the air conditioner available on the label, in accordance with Part Five of the Fourth Schedule; and

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- (e) a technical promotional material concerning a specific model of an air conditioner, including technical promotional material on the internet, which describes the specific technical parameters of the air conditioner, includes
- (i) the annual total energy consumption; and
  - (ii) the minimum energy performance of the air conditioner made available on the label
- in accordance with Part Five of the Fourth Schedule.

**Duty of supplier to keep, maintain and provide technical documentation**

19. (1) A supplier shall keep and maintain technical documentation in respect of each model of air conditioner for a period of not less than two years after the date of manufacture or importation.

(2) A supplier shall, on request by an enforcement authority, provide the enforcement authority with the technical documentation of the air conditioner for inspection.

(3) Where a supplier fails to provide technical documentation in respect of an air conditioner within two days after the request, the enforcement authority shall detain the air conditioner.

**Duty of supplier to keep, maintain and provide Product Information Sheet**

20. (1) A supplier shall keep and maintain in the possession of the supplier a Product Information Sheet in respect of each air conditioner in the form set out in Part One of the Fourth Schedule.

(2) A supplier shall, on request by an enforcement authority, provide the enforcement authority with a Product Information Sheet which shall be in the

- (a) English language; and
- (b) form set out in Part One of the Fourth Schedule.

**Duty of supplier to provide information for statistical purposes**

21. (1) A person who manufactures in the country, imports into the country or exports out of the country an air conditioner or an assembly of components that incorporates an air conditioner shall provide the



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Commission with the following information not later than four months after the end of each year:

- (a) the number of air conditioners of each model that the person manufactured, exported or imported into the country in the relevant year;
- (b) the number of air conditioners of each model that the person sold in the country in the relevant year;
- (c) the number of air conditioners of each model that the person exported from the country in the relevant year;
- (d) the name of each model that the person discontinued
  - (i) manufacturing in the relevant year;
  - (ii) exporting in the relevant year; or
  - (iii) importing in the relevant year; and
- (e) a copy of an existing test report, or other energy performance data specified by the Commission, for each model specified under paragraph (d).

(2) Upon a written request by the Commission, a person who manufactures an air conditioner for use in the country or imports an air conditioner into the country shall provide the following information to the Commission not later than forty days after receiving the request:

- (a) the number of air conditioners in each product class specified by the Commission that the person sold to a purchaser in the country in each of the preceding three years; and
- (b) the energy performance characteristics of the air conditioners as specified in the request.

**Duty of supplier to ensure accuracy of information**

22. (1) A supplier shall ensure that the information indicated on a

- (a) Product Information Sheet; or
- (b) label

in respect of an air conditioner is accurate.

(2) The duty imposed on a supplier under subregulation (1) does not affect any other right of action which a person may have by law against

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a person with respect to the inaccuracy of information on a Product Information Sheet or on a label.

**Access to information on technical documentation and Product Information Sheet**

**23.** (1) The information required under regulations 12, 13, 18, 19 and 20 shall be obtained in accordance with the test procedures required by the Standards.

(2) Information obtained in a manner other than in accordance with subregulation (1) shall, for the purposes of these Regulations, be invalid.

**Product brochure in respect of air conditioner**

**24.** Where a supplier provides a product brochure in respect of an air conditioner, the brochure shall contain a Product Information Sheet which shall be in the

- (a) English language; and
- (b) form set out in Part One of the Fourth Schedule.

*Information*

**Public information**

**25.** (1) The information provided by a supplier on the Product Information Sheet or on a label of an air conditioner is deemed public information.

(2) A supplier is deemed to have consented to the publication of the information indicated on a Product Information Sheet or on a label in respect of an air conditioner.

**Information in respect of mail order and other distance selling**

**26.** (1) Where a person offers an air conditioner for sale to another person in the country through a medium of communication including a mail order or any other distance selling medium, that person shall provide information in respect of the air conditioner.

(2) The information referred to in subregulation (1) shall

- (a) be in the English language;
- (b) include the product registration number assigned by the Commission upon registration in the Appliance Energy Efficiency Register;

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- (c) include the information set out in Part Four of the Fourth Schedule; and
- (d) be written in a manner that is legible.

**Obligations of audio or audio-visual broadcasting service provider**

27. Where an audio or audio-visual broadcasting service provider advertises an air conditioner, and the information in the advertisement includes the brand, model, size, price and any other information that is specific to a particular model, that service provider shall ensure that

- (a) the advertisement has been vetted and approved by the Commission; and
- (b) the advertisement includes
  - (i) information on the energy efficiency star rating of the air conditioner;
  - (ii) a statement that the advertisement has been vetted and approved by the Commission; and
  - (iii) any other information required under Part Five of the Fourth Schedule.

**Obligations of e-commerce platform**

28. (1) A person shall not offer for sale, sell, supply, distribute or otherwise dispose of an air conditioner through a promotion on the internet unless

- (a) the energy efficiency rating of the air conditioner is posted next to the price of the air conditioner; and
- (b) the label of the air conditioner is made available to consumers in the same medium of communication.

(2) Where an e-commerce service provider allows the direct sale of an air conditioner through the website of the service provider, that service provider shall

- (a) enable the display of the
  - (i) electronic label; and
  - (ii) electronic Product Information Sheet provided by the dealer on the display mechanism in accordance with Part Six of the Fourth Schedule; and

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- (b) inform the dealer of the obligation to display the electronic label and electronic Product Information Sheet.

**Misleading information**

29. (1) A person shall not display a label, mark, symbol or inscription which relates to the energy consumption of an air conditioner, if the display is likely to be

- (a) deceptive;  
(b) misleading; or  
(c) false.

(2) A person shall not broadcast an advertisement relating to the energy performance of an air conditioner if the information in the advertisement is likely to be

- (a) deceptive;  
(b) misleading; or  
(c) false.

(3) Subregulations (1) and (2) do not apply to

- (a) a label;  
(b) a mark;  
(c) a symbol; or  
(d) an inscription

displayed under an environmental labelling scheme or endorsement labelling scheme.

**Restriction on disclosure of information**

30. (1) An enforcement authority shall not disclose information which consists of a

- (a) secret manufacturing process; or  
(b) trade secret

that was obtained by the enforcement authority in the course of the exercise of a power or duty conferred on the enforcement authority by these Regulations.

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(2) Despite subregulation (1), an enforcement authority may disclose information if

- (a) the information is public information; or
- (b) the disclosure is made
  - (i) for the purpose of facilitating the exercise of power by an enforcement authority under these Regulations or any other enactment;
  - (ii) in connection with the investigation of an offence; or
  - (iii) for the purpose of a civil or criminal proceeding.

*Powers of Enforcement*

**Power of enforcement authority to require technical documentation**

31. Where an enforcement authority suspects that the information given

- (a) in a Product Information Sheet; or
- (b) on a label;

in respect of an air conditioner is incorrect, that enforcement authority may, by notice served on the supplier or importer of the air conditioner, require the supplier or importer to furnish the enforcement authority with the technical documentation referred to in regulation 12 within the period stipulated in the notice.

**Power of enforcement authority to inspect air conditioner**

32. An enforcement authority may, at any reasonable time, enter any premises to inspect an air conditioner if the enforcement authority has reason to believe that the premises are being used for a purpose in contravention of these Regulations.

**Power of enforcement authority to detain or seize record or air conditioner**

33. (1) Subject to these Regulations, where an enforcement authority has reasonable cause to suspect that an offence has been committed or is being committed, that enforcement authority may

- (a) at any reasonable time enter premises other than a dwelling place, and conduct an inspection in accordance with subsection (3) of section 52 of the Act;

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- (b) require a person engaged in a business or employed in connection with a business to produce a record in respect of an air conditioner;
- (c) detain or seize an air conditioner that is
  - (i) not labelled;
  - (ii) not properly labelled; or
  - (iii) labelled in a deceptive or misleading manner;
- (d) detain or seize an air conditioner that is imported without technical documentation which justifies the label affixed on the air conditioner;
- (e) detain or seize an air conditioner to enable tests to be carried out;
- (f) detain or seize a record to be used as evidence in proceedings in respect of an offence under these Regulations;
- (g) cause a container to be opened for the purpose of inspection;
- (h) break open a container, where implementation of paragraph (g) is not practicable; or
- (i) detain or seize an air conditioner if the model is not registered in the Appliance Energy Efficiency Register.

(2) For the purposes of paragraphs (b) and (f) of subregulation (1), the enforcement authority may request for information stored electronically to be made available to the enforcement authority in printed form.

**Power of enforcement authority to test air conditioner**

34. (1) An enforcement authority may
- (a) obtain, remove and test an air conditioner; or
  - (b) order the testing of an air conditioner

to ascertain whether a provision of these Regulations has been contravened.

(2) A person who suspects that an air conditioner offered for sale does not comply with the provisions of these Regulations may lodge a complaint with an enforcement authority.

(3) The enforcement authority may, upon receipt of a complaint under subregulation (2), detain and test the air conditioner.

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(4) The test to be conducted in respect of an air conditioner purchased, obtained or detained under regulation 33 shall be carried out in accordance with the test procedures required by the Standards.

*Detention, Re-Exportation and Seizure*

**Procedure for market surveillance and verification**

35. (1) Despite regulation 34, the Commission and the Standards Authority shall conduct market surveillance to ascertain whether an air conditioner on the market conforms to these Regulations.

(2) The Commission and the Standards Authority shall apply the verification procedure specified in the Fifth Schedule to conduct the market surveillance.

**Order to access premises to inspect, detain or seize air conditioner or record**

36. Where

- (a) an enforcement authority is refused entry to premises;
- (b) a notification to enter premises would defeat the purpose of the entry;
- (c) the premises to be entered are unoccupied; or
- (d) the occupier of premises to be entered is temporarily absent,

the enforcement authority may apply to a court for an order to enter the premises to inspect, detain or seize an air conditioner or record, if the enforcement authority has reasonable grounds to believe that an air conditioner or record on the premises may assist in the disclosure of evidence of the commission of an offence under these Regulations.

**Procedure for detention of air conditioner**

37. (1) An enforcement authority that exercises a power of detention under these Regulations shall, immediately give a written notice to the person against whom the power has been exercised.

(2) The written notice shall state

- (a) the air conditioner that has been detained; and
- (b) the reason for the detention.

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(3) Where an enforcement authority detains an air conditioner, that air conditioner may be kept in a warehouse or other secure location reserved for the purpose.

**Procedure for re-labelling of detained air conditioner**

**38.** (1) Subject to these Regulations, where an enforcement authority detains an air conditioner under paragraph (e) of subregulation (1) of regulation 33, the enforcement authority shall

- (a) within two days after the detention, submit a sample of the air conditioner for testing; and
- (b) within two days after receipt of the test results, give a notice in writing to the supplier of the air conditioner to properly label the air conditioner if the minimum energy performance standards have been complied with.

(2) The notice under paragraph (b) of subregulation (1) shall require an air conditioner to be re-labelled in the required manner or exported out of the country within twenty-eight days.

(3) Where a supplier is required under subregulation (2), to re-label an air conditioner, the supplier shall re-label the air conditioner under the supervision of an officer authorised for the purpose by the Commission or the Standards Authority.

- (4) Where a supplier fails to
- (a) re-label the air conditioner; or
  - (b) export the air conditioner

within twenty-eight days after the notice given under paragraph (b) of subregulation (1), the Commission shall, in consultation with the Standards Authority, destroy the air conditioner in a manner that the Commission may determine.

**Procedure for re-exportation of imported air conditioner**

**39.** (1) An enforcement authority that exercises a power of detention or seizure under these Regulations shall, within seven days after the detention or seizure, give an order in writing to the person against whom the power has been exercised to re-export the air conditioner.



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- (2) The order referred to in subregulation (1) shall state
- (a) the air conditioner to be re-exported;
  - (b) the reason for the order;
  - (c) the period within which the air conditioner is to be re-exported; and
  - (d) the fact that the supplier shall be responsible for the cost associated with the re-export.

(3) Where an air conditioner is kept within premises that are under the control of the owner of the air conditioner, the owner shall pay a security deposit against any breach of the re-exportation order.

(4) A security deposit under subregulation (3) shall be forfeited in the event of a breach of the re-exportation order, including the sale or destruction of an air conditioner which has been ordered to be re-exported.

(5) Where a person fails to pay a security deposit imposed under subregulation (3), the Commission may recover the amount imposed as a civil debt.

**Procedure for seizure of air conditioner**

40. (1) An enforcement authority that exercises a power of seizure under these Regulations shall, within seven days after the seizure, give a written notice to the person against whom the power has been exercised.

- (2) The written notice under subregulation (1) shall state
- (a) the air conditioner that has been seized;
  - (b) the reason for the seizure; and
  - (c) the venue and the period within which a petition against the seizure may be brought under regulation 41.

(3) Where an enforcement authority seizes an air conditioner, that air conditioner may be kept in a warehouse or other secure location reserved for the purpose.

(4) The owner of the air conditioner may be required to pay a deposit to cover the cost of destruction, if the air conditioner does not meet the minimum energy performance standards.

(5) Where an air conditioner is kept within premises that are under the control of the owner of the air conditioner, the owner shall pay a security deposit against any breach of the seizure order.

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(6) A security deposit under subregulation (5) shall be forfeited in the event of a breach of the seizure order, including the sale or destruction of an air conditioner which has been seized.

(7) Where a person fails to pay a security deposit imposed under subregulation (5), the Commission may recover the amount imposed as a civil debt.

*Petition and Compensation*

**Petition against seizure**

41. (1) Subject to these Regulations, a person whose air conditioner is seized may, within seven days after receipt of the written notice specified in subregulation (1) of regulation 40, petition the Executive Secretary for the release of the seized air conditioner.

(2) The Executive Secretary shall, within seven days after the receipt of a petition under subregulation (1),

(a) confirm the seizure; or

(b) order the release of the seized air conditioner to the petitioner on a specific day.

(3) A person who is dissatisfied with a decision of the Executive Secretary under subregulation (2) may appeal to the Board within seven days after the receipt of the decision.

(4) The Board shall within thirty days after the receipt of an appeal under subregulation (3)

(a) consult the Standards Authority; and

(b) take a decision on the appeal.

(5) The Board may release the seized air conditioner to the petitioner only if the Commission and the Standards Authority fail to prove that an offence under these Regulations has been committed.

(6) A person who is dissatisfied with

(a) a decision of the Board under subregulation (4) may, within fourteen days after the decision; or

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- (b) the failure of the Board to make a decision within thirty days after receipt of the appeal may, within fourteen days after the failure

apply to the court.

**Forfeiture and destruction of seized air conditioner**

42. (1) Where an appeal to the Board under subregulation (3) of regulation 41 is not successful, the enforcement authority shall, within twenty-eight days after the decision of the Board, notify the owner of the air conditioner of the forfeiture and date of destruction of the seized air conditioner.

(2) The Commission may, in consultation with the Standards Authority, destroy a forfeited air conditioner in a manner that the Commission may determine.

(3) Where under subregulation (6) of regulation 41, the court upholds or affirms the decision of the Board to forfeit and destroy the air conditioner, the Commission shall destroy the air conditioner within the period given by the court.

**Compensation for loss of air conditioner or record seized**

43. (1) Where an enforcement authority exercises power under these Regulations to seize an air conditioner or record, that enforcement authority is liable to pay compensation to the owner of the air conditioner or record for any loss or damage caused by the exercise of the power, if

- (a) these Regulations have not been contravened in relation to the air conditioner or record; and  
(b) the loss or damage is not attributable to the neglect or the fault of the owner but an official of the Commission.

(2) Paragraph (b) of subregulation (1) does not apply in a case of *force majeure*.

(3) The compensation payable under subregulation (1) for a loss or damage shall not exceed the value of the air conditioner or record.

(4) A dispute as to the

- (a) right to compensation; or  
(b) amount of compensation payable to a person under subregulation (1),

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shall be determined in the first instance by arbitration in accordance with the Alternative Dispute Resolution Act, 2010 (Act 798).

**Recovery of expenses by enforcement authority**

**44.** (1) Where an enforcement authority

(a) seizes;

(b) tests; or

(c) supervises the re-labelling or destruction of

an air conditioner, that enforcement authority may surcharge the dealer or supplier of the air conditioner for the expenses incurred for the seizure, testing or supervision.

(2) Despite subregulation (1), where a court convicts a person of an offence in respect of the contravention of a provision of these Regulations, the court may, in addition to any order that the court may make as to costs and expenses, order the person convicted to reimburse the enforcement authority for the expenditure incurred by the enforcement authority in connection with the seizure.

*Miscellaneous Provisions*

**Offences and penalties**

**45.** (1) A person who

(a) manufactures, imports, offers for sale, sells, stores, advertises, distributes, or otherwise disposes of an air conditioner that

(i) does not meet a requirement in respect of the minimum energy performance standards contrary to regulation 3;

(ii) is not accompanied by the required technical documentation contrary to regulation 12;

(iii) is not labelled or properly labelled contrary to regulation 13; or

(iv) is labelled in a deceptive or misleading manner contrary to regulation 29;

(b) uses a circumvention device contrary to regulation 9;

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- (c) fails to comply with a labelling requirement contrary to regulation 13;
  - (d) fails to provide technical documentation contrary to regulation 12, 18 or 19;
  - (e) fails to register a model of an air conditioner contrary to regulation 15;
  - (f) fails to provide a Product Information Sheet contrary to regulation 20;
  - (g) fails to provide information on an air conditioner contrary to regulation 21;
  - (h) provides inaccurate information contrary to regulation 22;
  - (i) advertises an air conditioner without providing accurate information on the energy efficiency star rating of the air conditioner, contrary to regulation 27;
  - (j) offers for sale or sells an air conditioner over the internet or other distance selling medium without providing the information required contrary to regulation 26 or 28;
  - (k) provides misleading information contrary to regulation 29;
  - (l) obstructs or interferes with an enforcement authority in the exercise of the powers of that enforcement authority contrary to regulation 33;
  - (m) fails to comply with the requirements for re-labelling contrary to regulation 38; or
  - (n) violates a seizure order or notice contrary to regulation 40
- commits an offence and is liable on summary conviction to a fine of not less than one hundred and twenty-five penalty units and not more than two hundred and fifty penalty units or to a term of imprisonment of not less than six months and not more than twelve months or to both.

(2) A person who commits a second or subsequent offence under subregulation (1) after an earlier conviction under subregulation (1) is liable on summary conviction to a fine of not less than two hundred and fifty penalty units and not more than five hundred penalty units or to a term of imprisonment of not less than twelve months and not more than twenty-four months or to both.

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(3) Where an offence is committed under these Regulations by a body corporate or by a member of a partnership or other firm, every director or officer of that body corporate or any member of the partnership or any other person concerned with the management of the firm shall be deemed to have committed that offence and is liable, on summary conviction, to a fine of not less than five hundred penalty units and not more than one thousand penalty units, and is in addition liable to the payment of compensation for the damage resulting from the breach.

(4) A person shall not be convicted of an offence under subregulation (3), if it is proved that

- (a) the person exercised due diligence to secure compliance with the provisions of these Regulations, and
- (b) the offence was committed without the knowledge, consent or connivance of the person.

**Interpretation**

46. In these Regulations, unless the context otherwise requires,

“accredited test laboratory” means a test laboratory that is recognised by the Standards Authority for laboratory testing and product certification;

“air conditioner” means a device that

- (a) is capable of cooling a conditioned space using a vapour compression cycle driven by an electric compressor;
- (b) contains one or more condensers, one or more evaporators and one or more fans; and
- (c) is designed for cooling a conditioned space primarily for human comfort

whether or not the device has additional functions including dehumidification, air purification, ventilation, heat recovery, sanitary water heating and supplementary air heating by means of electric resistance heating;

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- “Annual Energy Efficiency Ratio” means the measure of the energy efficiency of the cooling function of an air conditioner including the Weighted Average Inactive Power Consumption;
- “annual total energy consumption” means the electricity consumed by a product over specified periods of time across defined power modes and states;
- “appliance” means a device or machine for performing a specific task;
- “Appliance Energy Efficiency Register” means an official record, kept and maintained by the Commission on energy efficiency information in respect of models of electrical appliances that have been certified by the Commission and the Standards Authority for use in Ghana;
- “audio or audio-visual broadcasting service provider” means a person who provides a service which delivers a radio programme or programmes with hearing and sight components to persons with equipment appropriate for receiving that service, whether the delivery is effected by means of or uses the radio frequency spectrum, cable, optical fibre, satellite, internet radio via streaming media on the internet, or any other means or a combination of those means intended to reach a wide audience;
- “circumvention device” means any control, control device, software, component or part that alters the operating characteristics of an air conditioner during any test procedure, resulting in measurements that are unrepresentative of the true characteristics of the air conditioner that may occur during normal use under comparable conditions;
- “close control air conditioner” means an air conditioner designed for high sensible heat ratio applications that is capable of maintaining close control of temperature and humidity;

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- “conditioned space” means an enclosed space, room or zone to which conditioned air is provided;
- “container” means a receptacle or enclosure for holding a product for storage, packaging and shipping;
- “cooling capacity” means the standard cooling full capacity or standard cooling part-load capacity of an air conditioner in kilowatts;
- “court” means a court of competent jurisdiction;
- “dealer” means a retailer or other person who displays, offers for sale or sells an air conditioner to an end user;
- “dehumidifier” means an encased assembly designed to remove moisture from the surrounding atmosphere using an electrically operated refrigeration system or a desiccant type of material including a means to circulate air and a drain arrangement for collecting, storing or disposing of the condensate;
- “distance selling” means the sale of goods or services without the buyer or seller being physically present simultaneously;
- “duration of a supplementary water tank” means the period the tank can provide water before the tank needs to be refilled;
- “dwelling place” means place of residence;
- “electric mains-operated air conditioner” means an air conditioner that operates on electricity supply from the grid of 230 ( $\pm$  10 per cent) volt of alternating current at 50 Hz;
- “electronic Product Information Sheet” means a document containing the following information in electronic format:
- (a) basic product information;
  - (b) energy label information; and
  - (c) special features and characteristics;
- “end user” means the first user of an air conditioner;
- “endorsement labelling scheme” includes a voluntary labelling scheme that guarantees the performance standards of the air conditioner, that are equal to or exceed the minimum threshold established by a recognised advisory body;



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“energy efficiency ratio” means the ratio of the standard cooling full capacity to electrical power input to the product;

“energy label” means a label that is, or purports to be, designed to assist consumers to compare the energy efficiency and energy consumption of an air conditioner covered by these Regulations;

“energy rating icon” means an energy label whose content and format complies with the requirements of Part Three of the Third Schedule;

“energy rating label” means an energy label that has content and format in compliance with the requirements of Part Two of the Third Schedule;

“enforcement authority” means

- (a) an authorised officer of the Commission;
- (b) an authorised officer of the Standards Authority;
- (c) an authorised officer of the Customs Division of the Ghana Revenue Authority;
- (d) an authorised officer of the Police Service; or
- (e) any other authorised person designated by the Customs Division of the Ghana Revenue Authority, the Commission or the Standards Authority to carry out inspections for the purposes of these Regulations;

“environmental labelling scheme” means a voluntary labelling scheme that provides detailed information on the environment in respect of the performance characteristics of an air conditioner;

“fixed head of a multi split system” means a multi split system

- (a) which has a single outdoor unit that has a dedicated set of refrigeration ports for each individual indoor unit; and
- (b) where the maximum number of indoor units that can be connected is limited by the number of dedicated ports on the outdoor unit;

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- “Global Warming Potential” means the measure of how much one kilogramme of the refrigerant applied in the vapour compression cycle is estimated to contribute to global warming, expressed in kg CO<sub>2</sub> equivalents over a 100 year time horizon;
- “GS” means Ghana Standards;
- “ground-loop air conditioner” means a brine-to-air air conditioner that uses a brine solution circulating through a subsurface piping loop as a heat sink;
- “ground-water air conditioner” means a water-to-air air conditioner that uses water pumped from a well, lake or stream as a heat sink;
- “importer” means a person who places an air conditioner from a foreign country on the Ghanaian market and supplies that air conditioner for use;
- “label” means a material attached to an air conditioner the inscription of which contains information on the energy consumption of the air conditioner;
- “liquid-chilling package” means a factory-made and prefabricated assembly, not necessarily shipped as one package, of one or more compressors, condensers and evaporators, with interconnections and accessories which is designed
- (a) for the purpose of cooling water; and
  - (b) to make use of a vapour compression refrigeration cycle to remove heat from water and reject the heat to a cooling medium, usually air or water;
- “model identifier” means the code, usually alphanumeric, which distinguishes a specific product model from other models with the same trademark or the same name of the manufacturer, importer or authorised representative of the manufacturer;
- “multi-split outdoor unit” means the outdoor unit of a multi-split system, that
- (a) contains the compressor, outdoor heat exchanger, fans, and refrigeration ports;

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- (b) does not contain the indoor heat exchanger; and
- (c) is designed to be connected to two or more individually controlled indoor units;

“multi-split system” referring to an air-to-air air conditioner means an air-to-air air conditioner that

- (a) has separate indoor and outdoor units that are connected with refrigerant piping; and
- (b) has two or more indoor units, each of which can be individually controlled;

“noise” means the sound power level (dB(A)) of a product as determined under GS EN 12102:2013 or GS EN 12102-1:2017;

“non-ducted” means an air conditioner that is designed primarily to provide free delivery of conditioned air to a conditioned space;

“non-residential product” means an air conditioner in any of the product classes from 1 to 12, that

- (a) is designed for non-residential applications;
- (b) is not on display for sale through retail outlets; and
- (c) is not promoted in any catalogue or advertising material that could be interpreted as implying that it is suitable for some residential applications;

“off-mode” means the power demand level in the low power mode which cannot be switched off or influenced by a user, other than through the movement of a mechanical switch, and which may persist for an indefinite period of time when the appliance is connected to the main electricity supply and used in accordance with the instructions of the manufacturer;

“point of sale” means the place at which a retail transaction is carried out;

“portable air conditioner” means an air conditioner that

- (a) is designed to be portable;

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- (b) is supplied and offered for supply for portable applications only;
  - (c) has the following features
    - (i) a casing that encloses the entire air conditioner, including the back;
    - (ii) castors, wheels or feet; and
    - (iii) flexible ductwork that is
      - (A) either supplied with the air conditioner or available as an additional accessory, for adapting to various portable installation situations; and
      - (B) designed to temporarily fit, via specialised attachments, to a partially opened window or door; and
    - (iv) a length of power cord with a mains plug; and
  - (d) does not have any of the following:
    - (i) permanent wall or window mounting brackets, either on the air conditioner, in the packaging, or as a separately supplied accessory;
    - (ii) available instructions that demonstrate how to fix the air conditioner to a wall or window, other than by ductwork; and
    - (iii) other accessories, such as pipes and flanges, designed to allow permanent wall or window mounting;
- “portable unitary double duct air conditioner” means a unitary double duct air conditioner that is portable;
- “premises” means land and any building, store, shop, apartment, or other structure on the land used for the storage of an air conditioner;
- “product brochure” includes a pamphlet or booklet that contains introductory information about a product;
- “Product Information Sheet” means a standard table of information related to an air conditioner;
- “Quick Response Code” means a matrix barcode included on the energy label of a product model that links to the information of the model in the public part of the product database;

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“rated voltage” means the voltage marked on an air conditioner in volts;

“rating plate” means a name plate that indicates the measurable performance capability of an air conditioner;

“record” includes a book, document, label, mark, symbol, inscription or information in electronic form;

“retail premises” means any premises

- (a) that is open to the public on a regular basis;
- (b) that is used for, or in connection with, the supply of one or more energy consuming products; and
- (c) where an air conditioner that is covered by these Regulations is displayed for the purposes of retail supply or offers of retail supply;

“sale” means the exchange of a product for consideration including hire purchase, credit sale and purchase by instalment;

“single-phase air conditioner” means an air conditioner which has all the components of the air conditioner that require an external power supply requiring a single-phase power;

“single-split system” referring to an air-to-air air conditioner means an air-to-air air conditioner that

- (a) has separate indoor and outdoor units that are connected with refrigerant piping; and
- (b) has two or more indoor units that cannot be individually controlled;

“single split outdoor unit” means the outdoor unit of a single split system, that

- (a) contains the compressor, outdoor heat exchanger, fans, and refrigeration ports;
- (b) does not contain the indoor heat exchanger;
- (c) is not designed to be connected to two or more individually controlled indoor units; and
- (d) is supplied or offered for supply as a separate outdoor unit of a single split system, rather than as part of a complete single split system;

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“solar-boosted air conditioner” means an air conditioner that has provision for the input of energy from a solar source and can be configured to operate with little or no solar input;

“split system” means

- (a) a multi split system; or
- (b) a single split system;

“spot cooler” means a unitary air conditioner, which

- (a) is portable;
- (b) lies wholly within a conditioned space;
- (c) draws air for the evaporator and condenser from the conditioned space; and
- (d) expels the air from the evaporator and condenser back into the conditioned space

but does not include a product that can be configured as a portable unitary double duct air conditioner or a portable unitary single duct air conditioner;

“standard cooling capacity test” means the test for the total cooling capacity of the air conditioner in accordance with the relevant test standard at

- (a) T1 temperature conditions; and
- (b) a particular load;

“standard cooling full capacity” means

- (a) the total cooling capacity of the air conditioner when tested in accordance with the standard cooling capacity test at full load; or
- (b) a rated value based on that amount;

“standard cooling part load capacity” means

- (a) the total cooling capacity of the air conditioner when tested in accordance with the standard cooling capacity test at a particular part load point; or
- (b) a rated value based on that amount;

“Standards” means quality specifications for air conditioners as stipulated in the First Schedule;

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“Standards Authority” means the Standards Authority established under the Standards Authority Act, 1973 (N.R.C.D. 173);

“supplier” means a person or organisation that provides a product and includes

(a) a manufacturer or the authorised representative of a manufacturer resident in the country; and

(b) an importer or the person who introduces an air conditioner on the Ghanaian market;

“supply” includes an offer to supply, contract to supply and an advertisement for supply of an air conditioner but excludes the exhibition at a trade fair of an air conditioner that is prohibited by these Regulations;

“test simulation software” means a computer-based software package that uses simplified measurements and other data to estimate relevant product performance without the need for a full, physical test;

“three-phase air conditioner” means an air conditioner that has at least one component requiring an external three phase power supply;

“total cooling capacity of an air conditioner” means the amount of sensible and latent heat that the air conditioner can remove from the conditioned space at particular temperature conditions and at a particular load in a defined interval of time;

“unitary air conditioner” means an air conditioner which has the evaporator, condenser and associated refrigeration components including the compressor, contained within a single housing;

“unitary double duct air conditioner” means a unitary, air-to-air air conditioner that

(a) is designed to

(i) be located wholly within the conditioned space; and

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- (ii) provide free delivery of conditioned air to the conditioned space;
- (b) draws air into the air conditioner from outside the conditioned space using one duct; and
- (c) uses another duct to discharge that air back outside the conditioned space;

“unitary single duct air conditioner” means a unitary, air-to-air air conditioner that

- (a) is designed to
  - (i) be located wholly within the conditioned space; and
  - (ii) provide free delivery of air to the conditioned space;
- (b) draws air into the air conditioner from the conditioned space;
- (c) uses a duct to discharge that air outside the conditioned space whether or not the duct is supplied with the air conditioner; and
- (d) does not include an air conditioner that is designed to enable the air conditioner to be configured as a unitary double duct air conditioner;

“variable refrigerant flow” means a multi-split system that has one or more outdoor units comprising a single refrigerant circuit, each of which has a set of refrigeration ports that services the network of indoor units through branch piping or distribution devices or both;

“wall mounted unitary double duct air conditioner” means a unitary double duct air conditioner that is not portable;

“wall mounted unitary single duct air conditioner” means a unitary single duct air conditioner that is not portable;

“water-loop air conditioner” means a water-to-air air conditioner that uses liquid circulating in a common piping loop which functions as a heat source or a heat sink;



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- “water-to-air air conditioner” means an air conditioner that uses water or brine as the heat sink;
- “wattage” means the power marked on an air conditioner, in watts(W); and
- “year” means the period from 1<sup>st</sup> January to 31<sup>st</sup> December.

**Revocation and savings**

47. (1) The Energy Efficiency Standards and Labelling (Non-ducted Air Conditioners and Self-Ballasted Fluorescent Lamps) Regulations, 2005 (L.I. 1815) are revoked.

(2) Subregulation (1) shall not affect L.I. 1815 in the operation of offences committed, penalties imposed or proceedings commenced before the coming into force of these Regulations.

**Transitional provision**

48. A person who, before the coming into force of these Regulations, has

- (a) manufactured in the country; or
- (b) imported into the country

an air conditioner that does not comply with these Regulations, shall, within one year after the coming into force of these Regulations, sell, distribute, donate or otherwise dispose of that air conditioner.

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**SCHEDULES**

**FIRST SCHEDULE**

**STANDARDS**

*(regulations 1(a)(i), 3(1)(b)(i) and 46)*

1. **GS 362:2018** Electrical appliances and accessories – Non-Ducted Air Conditioners – Testing and rating for performance.
2. **GS ISO 13253:2017**: Ducted air-conditioners and air-to-air heat pumps — Testing and rating for performance.
3. **GS ISO 15042:2017**: Multiple split-system air conditioners and air-to-air heat pumps — Testing and rating for performance.
4. **GS ISO 18326:2018**: Non-ducted portable air-cooled air conditioners and air-to-air heat pumps having a single exhaust duct — Testing and rating for performance.
5. **GS ISO 18326:2018/NP AMD 1**: Non-ducted portable air-cooled air conditioners and air-to-air heat pumps having a single exhaust duct — Testing and rating for performance — Amendment 1.
6. **GS ISO 16358-1:2013**: Air-cooled air conditioners and air-to-air heat pumps — Testing and calculating methods for seasonal performance factors — Part 1: Cooling seasonal performance factor.
7. **GS 1230-2014 WITH ADDENDUM 1**: Performance Rating of Variable Refrigerant Flow (VRF) Multi-split Air-conditioning and Heat Pump Equipment, September 2017.

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8. **GS EN 12102:2013** means European Standard 12102:2013 Air conditioners, liquid chilling packages, heat pumps and dehumidifiers with electrically driven compressors for space heating and cooling. Measurement of airborne noise. Determination of the sound power level.
9. **GS EN 12102-1:2017** means European Standard 12102-1:2017 Air conditioners, liquid chilling packages, heat pumps, process chillers and dehumidifiers with electrically driven compressors - Determination of the sound power level - Part 1: Air conditioners, liquid chilling packages, heat pumps for space heating and cooling, dehumidifiers and process chillers.
10. **GS EN 14511:2018** means European Standard 14511:2018 Air conditioners, liquid chilling packages and heat pumps for space heating and cooling and process chillers, with electrically driven compressors.
11. **GS ISO 13261-2:1998**: Sound power rating of air conditioning and air source heat pump equipment – Part 2: Non-ducted indoor equipment.

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**SECOND SCHEDULE**

**MINIMUM ENERGY PERFORMANCE STANDARDS**

*(regulations 1(a)(i), 1(b), 3(1)(b)(ii), 4(1), 6, 10, 11, 13(2) (e)(v), 13(3) and 15(4)(a))*

**PART ONE**

*(regulations 1(a)(i), 1(b), 3(1)(b)(ii) and 4(1))*

In this Schedule, the following apply:

Meaning of *fixed*, *two-stage*, *multi-stage* and *variable* capacity

- (a) a product is of *fixed capacity* if it is unable to change its capacity;
- (b) a product is of *two-stage capacity* if it can vary its capacity by two steps;
- (c) a product is of *multi-stage capacity* if it can vary its capacity by three or four steps; and
- (d) a product is of *variable capacity* if it can vary its capacity by five or more steps;

Note 1: Unitary air conditioners may be non-ducted such as window or wall units, or ducted such as packaged rooftop units.

Note 2: As a unitary double duct air conditioner provides for the free delivery of conditioned air to the conditioned space, a unitary double duct air conditioner is a non-ducted air conditioner.

Note 3: A unitary double duct air conditioner will, depending on its design features, either be a portable unitary double duct air conditioner or a wall mounted unitary double duct air conditioner.

Note 4: A product that is a unitary double duct air conditioner will be treated as such for the purposes of this Schedule, whether or not it can also operate as a unitary single duct air conditioner.

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Note 5: As a unitary single duct air conditioner provides for the free delivery of conditioned air to the conditioned space, a unitary single duct air conditioner is a non-ducted air conditioner.

Note 6: A unitary single duct air conditioner will, depending on the design features, either be a portable unitary single duct air conditioner or a wall mounted unitary single duct air conditioner.

Note 7: As a wall mounted unitary double duct air conditioner is a unitary double duct air conditioner, a wall mounted unitary double duct air conditioner provides for the free delivery of conditioned air to the conditioned space, and so is a non-ducted air conditioner.

Note 8: A product that is able to be wall mounted as well as portable is considered to be wall mounted for the purposes of this Schedule.

Note 9: As a wall mounted unitary single duct air conditioner is a unitary single duct air conditioner, it provides for the free delivery of conditioned air to the conditioned space, and so is a “non-ducted” air conditioner.

Note 10: A product that is able to be wall mounted as well as portable is considered to be wall mounted for the purposes of this Schedule.

Note 11: The temperature of the liquid loop is usually mechanically controlled within a temperature range of 15 °C to 40 °C.

**Temperature conditions —T1**

*T1* means the following temperature conditions:

- (a) 27 °C dry-bulb and 19 °C wet bulb inside; and
- (b) 35 °C dry-bulb and 24 °C wet bulb outside.

**Meaning of relevant test standard**

For this Schedule, the following are *relevant test standards*:

- (a) for a water-to-air air conditioner—clause 6.1 of GS ISO 13256-1, Ed 01 (1998) MOD;
- (b) for a unitary single duct air conditioner—clause 5.1 of GS 362:2018;

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- (c) for a non-ducted air-to-air air conditioner (other than one covered by paragraph (b))—clause 5.1 of GS 362:2018, MOD;
- (d) for a ducted air-to-air air conditioner—clause 6.1 of GS ISO 13253:2011 MOD;
- (e) for a multi-split system—clause 6.1 of GS ISO 15042:2011, MOD; and
- (f) if applicable—a standard referred to in section 4.8 of part 4 of this Schedule.

**Meaning of *rated* and *tested***

In this Schedule:

***rated***: a ***rated*** value or amount is one that is claimed by the manufacturer and that

- (a) is based on a tested value or amount; and
- (b) in the case of the capacity of the product, satisfies the following:

$$\text{rated capacity} \leq \frac{\text{tested capacity}}{0.95}$$

- (c) in the case of the power input of the product, satisfies the following

$$\text{rated power input} \geq \frac{\text{tested power input}}{1.05}$$

- (d) in the case of any other parameter, is calculated on the basis of rated capacities or power inputs that satisfy paragraph (b) or (c), as appropriate.

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*tested*: a *tested* value or amount is one that is

- (a) determined in accordance with a physical or simulation test conducted in accordance with this Schedule; or
- (b) calculated on the basis of values or amounts that have been determined in accordance with paragraph (a).

Note: Under this Schedule, the following values are tested and may be rated:

- (a) the total cooling capacity; and
- (b) the power input of the product.

The following values are tested, but are not rated:

- (a) the amount  $P_{ia}$  referred to in Part 2 of this Schedule;
- (b) noise (sound) levels;
- (c) average true power factor; and
- (d) the duration of a supplementary water tank of a portable unitary double duct air conditioner or a portable unitary single duct air conditioner.

**Families of models**

- (1) For a particular product class covered by this Schedule, two or more models are in the same family of models if
  - (a) they are members of a family that has been declared and registered with the Commission; and
  - (b) the requirements of this section are satisfied in relation to the models and the family.
- (2) For paragraph (1), the models shall
  - (a) be in the same product class;
  - (b) have the same energy performance characteristics relevant to complying with regulations 3 and 12, including, but not limited to

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- (i) electrical phase;
  - (ii) average true power factor;
  - (iii) rated power inputs; and
  - (iv) rated capacities;
- (c) have the same physical characteristics that are relevant to complying with regulations 3, 12 and 13; and
- (d) be included on a single test report which was prepared prior to the application for registration for the model in accordance with regulation 15.
- (3) For paragraph (1), a family shall not contain more than ten models.

**PART TWO**

*(regulations 1(a)(i), 1(b), 4(1), 6, 13(2)(e)(v) and 13(3))*

**Energy Efficiency Standards for Air Conditioners**

Given that air conditioners are used mainly in part load conditions, seasonal efficiency measurement methods shall be used to determine the energy efficiency of air conditioners, except for single duct air conditioners.

The Energy Efficiency level of an Air Conditioner is determined by the Cooling Season Total Performance Factor (CSTPF) determined in accordance with sections 5 and 6 of **GS** ISO16358-1:2013.

**2.1. Calculation of Annual Energy Efficiency Ratio or AEER**

The AEER of a product is calculated in accordance with the following formula:

$$AEER = \frac{\text{capacity} \times 2000}{(\text{power input} \times 2000) + (P_{ia} \times 6.76)}$$



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where

**capacity** is: the standard cooling full capacity or standard cooling part-load capacity of the product, as appropriate, in kW.

**power input** is the power input, in kW, of the product when determining the relevant capacity.

$P_{ia}$  is the Weighted Average Inactive Power Consumption, in watts, as defined in Annex B of **GS** ISO16358-1:2013.

Note 1: The number 2000 represents the assumed hours of operation per year in cooling mode.

Note 2: The number 6.76 is a factor that converts power (watts) to energy (kWh) for 6760 (that is, 8760 – 2000) hours per year.

**2.2. Calculating Cooling Season Total Energy Consumption**  
*Products other than unitary single duct air conditioners*

(1) For a product other than a unitary single duct air conditioner, the Cooling Season Total Energy Consumption is the amount  $TEC_{CS}$  as calculated in accordance with the following formula:

$$TEC_{CS} = C_{CSE} + 0.6 \times C_{IAE}$$

where:

$C_{CSE}$  is the Cooling Seasonal Energy Consumption (CSEC), as calculated in accordance with clause 6 of ISO 16358-1 and based on rated inputs. The Cooling Seasonal Energy Consumption or CSEC is the total annual amount of energy consumed by the equipment when it is operated for cooling in active mode.

$C_{IAE}$  is the Annual Inactive Energy Consumption, as calculated in accordance with Annex B of **GS** ISO 16358-1:2013 and based on rated inputs.

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The annual inactive energy consumption  $C_{IAE}$  is equal to the product of the weighted average inactive power consumption  $P_{ia}$  and the number of hours of inactive mode,  $H_{ia}$ , as given by **GS ISO 16358-1:2013**.

Note 2: The factor 0.6 represents 60 per cent of the  $C_{IAE}$ , which is attributed to the cooling cycle.

**Temperature bins for energy rating label calculations**

(2) For calculating the Cooling Season Total Energy Consumption using subsection (1) for the purposes of determining the cooling hours per year, calculations shall be based on the temperature bin of clause 6.3 (Table 3) of **GS ISO 16358-1:2013**.

**Unitary single duct air conditioners**

(3) For calculating the Cooling Season Total Energy Consumption using subsection (1) for the purposes of determining the cooling hours per year, for a unitary single duct air conditioner within product classes 3 or 4, the Cooling Season Total Energy Consumption shall be calculated by multiplying the rated power input specified by subsection (4) or subsection (5) by the hours of operation set out in table 2.1: (Table B2 of Annex B of **GS ISO 16358-1:2013**)

**Table 2.1. Default hours by mode for the calculation of reference total cooling seasonal performance factor**

Unit	Active mode (h)	Inactive mode, $H_{ia}$ (h)	Disconnected mode (h)
Cooling only unit	1,817	4077	2866

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(4) A wall mounted unitary single duct air conditioner in product class 3 shall use the rated power input derived from the standard cooling capacity test at full load.

(5) A portable unitary single duct air conditioner in product class 4 shall use the rated power input derived from

- (a) where the duration of the supplementary water tank is 4 hours or longer, the standard cooling full capacity test using the supplementary water tank in accordance with the additional requirements of Appendix B of GS ISO16358-1:2013; and
- (b) in any other case, the standard cooling capacity test at full load.

### **2.3. Calculating the star rating**

#### ***Products other than unitary single duct air conditioners***

(1) For the determination of the Star rating for the Energy label and the Energy Rating Icon, for a product other than a unitary single duct air conditioner, the cooling star rating is based on the Total Cooling Seasonal Performance Factor (TCSPF or  $F_{TCSPF}$ ) calculated in accordance with Annex B of GS ISO 16358-1:2013, and derived from the use of rated values; and

(2) For subsection (1), calculations shall be based on the temperature bins of clause 6.3 of GS ISO 16358-1:2013

(3) The TCSPF correspond to a star rating as per Table 2.2.

#### **Unitary single duct air conditioners**

(4) For the purpose of the Star rating for the Energy label and the Energy Rating Icon, unitary single duct air conditioners within product class 3 or 4 shall always display a star rating of one on the energy rating label or the energy rating icon.

(5) A person shall only manufacture or import a unitary single duct air conditioner that

- (a) is within product class 3 or 4;

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- (b) has a minimum TCSPF value of 2.6 or above; and  
 (c) is labelled in accordance with subparagraph (4).

#### 2.4. Star ratings

The correspondence between the TCSPF and the star ratings is given by the following table:

**Table 2.2. Correspondence between TCSPF and Star rating**

Star rating	TCSPF value
7	$11.5 \leq$ TCSPF
6	$10.0 \leq$ TCSPF $< 11.5$
5	$8.5 \leq$ TCSPF $< 10.0$
4	$7.0 \leq$ TCSPF $< 8.5$
3	$5.5 \leq$ TCSPF $< 7.0$
2	$4.0 \leq$ TCSPF $< 5.5$
1	$2.6 \leq$ TCSPF $< 4.0$

#### 2.5. Content of noise statement

(1) The tested noise level in decibels measured in accordance with GS EN 12102-1:2017 shall be set out as shown in Fig. 2.1. with numbers indicating indoor and outdoor levels as defined in the standard, with any modifications or variations required by this section.






**Fig. 2.1.Noise level**

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(2) For the following product types, the relevant noise (sound power) types and mode of display shall be as shown in Table 2.3:

Table 2.3. Product types and relevant noise (sound power) types

<b>Product type</b>	<b>Noise type</b>	<b>Mode of display</b>
1 Non-ducted single split systems Non-ducted unitary air conditioners (other than those of a kind mentioned in item 3)	indoor and outdoor noise levels	Noise (dB(A)) 
2 Ducted units (including ducted split systems and ducted unitary air conditioners)	outdoor noise level only	Noise (dB(A)) 
3 Unitary double duct air conditioners Unitary single duct air conditioners	indoor noise level only	Noise (dB(A)) 

(3) For non-ducted, single-split systems with two or three indoor units, indoor sound power is required for a single indoor unit only.

(4) For a product in product classes 5, 6, 8, 9 or 11, excluding ducted products, the indoor decibel rating shall be shown inside the house symbol and the outdoor decibel rating shall be shown outside the house symbol, as shown in Fig. 2.1.

(5) For a product in product class 5, 6, 10 or 11, excluding non-ducted products, only the outdoor decibel rating shall be shown outside the house symbol together with the fixed ducted air conditioner symbol, as shown in row 2.

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(6) For a product in product class 1 or 2, only the indoor decibel rating shall be shown together with the double duct symbol, as shown in row 2.

(7) For a product in product class 3 or 4, only the indoor decibel rating shall be shown together with the single duct symbol, as shown in row 3.

(8) The following diagrams in the third column of Table 2.3. show the appropriate decibel rating icons for different types of products, and their dimensions.

**PART THREE**

*(regulations 1(a)(i), 1(b), 3(1)(b)(ii) and 4(1))*

**Product classes and minimum energy performance standards**

(1) In this Schedule a numbered *product class* identified in Table 2.4 consists of products that

- (a) are in the category of products indicated;
- (b) have the characteristics indicated;
- (c) have a value of  $P_{\text{rated}}$  in the indicated range; and
- (d) are not excluded by regulation 2(2) of these Regulations.

(2) For this Schedule,  $P_{\text{rated}}$  is the rated standard cooling full capacity.

(3) For the purposes of determining the relevant product class, the amount  $P_{\text{rated}}$  shall be rounded to the nearest 0.1kW.

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**3.1. Energy Efficiency requirements**

In this part:

*relevant Minimum Energy Performance Standard*, for a product in a particular product class, means the amount specified for the product class in Table 2.4.

**Minimum Energy Performance Standard levels for product classes 2, 3 and 4**

*Cooling requirement*

The rated and tested EER of the product shall be greater than or equal to the relevant MEPS level in Table 2.4.

For products in product classes 2 and 4 with a supplementary water tank designed to provide additional water to an evaporatively-cooled condenser, the EER may be tested using this feature, provided that the duration of the tank is 4 hours or more.

**MEPS levels for products without variable capacity**

If a product is in product class 1 or 5 to 23; and is not of variable capacity, the rated and tested AEER of the product at full load shall be greater than or equal to the relevant MEPS level in Table 2.4.

**MEPS levels for products with variable capacity**

(1) If a product is in product class 1 or 5 to 23 and is of variable capacity then either

- (a) the rated and tested AEER of the product at full load shall be greater than or equal to the relevant MEPS level; or
- (b) both of the following shall be satisfied
  - (i) the rated and tested AEER of the product at full load shall be greater than or equal to 95 per cent of the relevant MEPS level; and

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- (ii) when operating at a part-load point nominated by the manufacturer, either
- (A) for a part-load point between 83.3 per cent and 100 per cent of full load—the tested AEER at that part-load point shall be greater than or equal to the relevant MEPS level; or
  - (B) for a part load point between 50 per cent and 83.3 per cent of full load—the tested AEER at that part load point shall be greater than or equal to the amount  $AEER_{\text{part-load}}$  as calculated in accordance with subsection (2).

(2) The amounts  $AEER_{\text{part-load}}$  at a particular part load point, are calculated in accordance with the following formula:

$$AEER_{\text{part-load}} = \left[ 1.25 - 0.3 \times \frac{\text{capacity}_{\text{part-load}}}{\text{capacity}_{\text{full-load}}} \right] \times MEES$$

where:

$\text{capacity}_{\text{part-load}}$  is:

- (a) in relation to the  $AEER_{\text{part-load}}$  of the product, the standard cooling part load capacity of the product, in kW, at that part load point;

$\text{capacity}_{\text{full-load}}$  is:

- (a) in relation to the  $AEER_{\text{part-load}}$  of the product, the standard cooling full capacity of the product, in kW; and

**MEPS** is the relevant MEPS level.



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Table 2.4. Minimum energy performance standards of Air Conditioners

Category of product	Product class	Characteristics	Value of $P_{rated}$	MEPS value
Air-to-air unitary air conditioners	1	Wall mounted unitary double duct air conditioners	$P_{rated} \leq 65kW$	3.10
	2	Portable unitary double duct air conditioners	$P_{rated} \leq 65kW$	2.60
	3	Wall mounted unitary single duct air conditioners	$P_{rated} \leq 65kW$	3.10
	4	Portable unitary single duct air conditioners	$P_{rated} \leq 65kW$	2.60
	5	Ducted or non-ducted, excluding product classes 1 to 4	$P_{rated} < 10kW$	3.10
	6	Ducted or non-ducted, excluding product classes 1 to 4	$10kW \leq P_{rated} \leq 39kW$	3.10
	7	Ducted or non-ducted, excluding product classes 1 to 4	$39kW < P_{rated} \leq 65kW$	3.00
Air-to-air single-split system	8	Non-ducted	$P_{rated} < 4kW$	3.66
	9	Non-ducted	$4kW \leq P_{rated} < 10kW$	3.22
	10	Ducted	$P_{rated} < 10kW$	3.10
	11	Ducted or non-ducted	$10kW \leq P_{rated} \leq 39kW$	3.10
	12	Ducted or non-ducted	$39kW < P_{rated} \leq 65kW$	3.00

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	13	Supplied or offered for supply to create a non-ducted system		$P_{\text{rated}} < 4\text{kW}$	3.66
Air-to-air single-split outdoor units	14	Supplied or offered for supply to create a non-ducted system	4kW	$P_{\text{rated}} < 10\text{kW}$	3.22
			$\leq$		
	15	Supplied or offered for supply to create a ducted system		$P_{\text{rated}} < 10\text{kW}$	3.10
(not supplied or offered for supply as part of a single-split system)	16	Whether supplied or offered for supply to create a ducted or a non-ducted system	10kW	$P_{\text{rated}} \leq 39\text{kW}$	3.10
			$\leq$		
	17	Whether supplied or offered for supply to create a ducted or a non-ducted system	39kW	$P_{\text{rated}} \leq 65\text{kW}$	3.00
			$<$		
Air-to-air multi-split outdoor units	18			$P_{\text{rated}} < 4\text{kW}$	3.66
	19		4kW	$P_{\text{rated}} < 10\text{kW}$	3.22
			$\leq$		
(whether or not supplied or offered for	20		10kW	$P_{\text{rated}} < 39\text{kW}$	3.10
supply as part of a multi-split system)			$\leq$		
	21		39kW	$P_{\text{rated}} \leq 65\text{kW}$	3.00
			$\leq$		
Water-to-air air conditioners	22			$P_{\text{rated}} < 39\text{kW}$	3.50
	23		39kW	$P_{\text{rated}} \leq 65\text{kW}$	3.20
			$\leq$		

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**PART FOUR**

*(regulations 10 and 11)*

**4.0 Testing Requirements**

**4.1. Conducting tests**

This Part sets out requirements and applies to all tests conducted for the purposes of regulations 3, 12 and 13.

*Definitions*

In this section *relevant physical test standard* means:

- (a) for non-ducted air conditioners—GS 362:2018;
- (b) for ducted air conditioners—GS ISO 13253;
- (c) for multi-split systems—GS ISO 15042:2017 or GS 1230-2014; and
- (d) for water-to-air systems – GS EN 14511:2018

*test simulation software* means a computer-based software package that uses simplified measurements and other data to estimate relevant product performance without the need for a full, physical test;

*type*: the following are the *types* of products

- (a) ducted split systems;
- (b) non-ducted split systems;
- (c) multi-split systems;
- (d) ducted unitary systems; and
- (e) non-ducted unitary systems.

*Rounding and significant figures*

(1) Unless otherwise stated, numbers shall be rounded and recorded to five significant figures.

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*Use of circumvention devices*

- (2) Circumvention devices shall not be used.

*Solar-boosted air conditioners*

- (3) Solar-boosted air conditioners shall be tested with any solar input minimised or disconnected, as far as possible.

**4.2. Test simulation software**

- (1) This paragraph applies to all tests conducted for the purposes of regulations 3 and 12 of these Regulations.

*Restriction on use of test simulation software*

- (2) Test simulation software shall not be used other than in accordance with this section.

- (3) Test simulation software shall not be used for a product in product class 3, 4, 22 or 23.

- (4) Test simulation software shall not be used:

- (a) to test noise (sound power); or  
(b) to test average true power factor.

*Use of test simulation software—product classes other than 3, 4, 22 and 23*

- (5) The Commission or the Standards Authority may authorise, in writing, a particular test simulation software package for a product that:

- (a) is in a product class other than 3, 4, 22 or 23; and  
(b) is of a particular type;

where the Commission or the Standards Authority is satisfied that the software package has an accuracy equivalent to the relevant physical test standard for a product that is in a product class other than 3, 4, 22 or 23.

Evidence of accuracy to this level may include a full physical test report and a full simulation test report on the same product.

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The Commission or the Standards Authority may require separate evidence of the accuracy of the software package for each product class or type combination for which the supplier wishes to use the software package.

(6) Test simulation software that has been so authorised may be used for:

- (a) a product
  - (i) that has a rated standard cooling full capacity or, for a heating-only product, a rated standard heating full capacity, of  $\geq 30\text{kW}$ ;
  - (ii) that is of the same type as the product for which the software has been authorised; and
  - (iii) that is in the product classes specified in the authorisation; or
- (b) a product
  - (i) that has a rated standard cooling full capacity or, for a heating only product, a rated standard heating full capacity, of less than  $30\text{kW}$ ;
  - (ii) that is of the same type as the product for which the software has been authorised;
  - (iii) that is in the product classes specified in the authorisation, but that is not in product class 1 or 2; and
  - (iv) for which the sales of the model of the product has been or will be less than 10 units in the financial year in which registration occurred, and each subsequent financial year.

(7) The Standards Authority or the Commission may request evidence of sales volumes to demonstrate compliance with paragraph (6)(b)(iv).

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**4.3. Use of calorimeter and air enthalpy test methods**

(1) This paragraph applies in relation to all tests undertaken for the purposes of regulations 3 and 12 other than sound testing of these Regulations.

(2) This paragraph does not apply in relation to a simulation test that was conducted in accordance with paragraph 2 of this Part.

(3) For a test of a kind indicated in the following table that is conducted in relation to a product indicated in the corresponding row of the table, the test method, or any of the test methods, indicated in the corresponding row of the table shall be used (refer to **GS ISO 16358**).

Tests	Products	Indoor enthalpy test method	Calorimeter room test method	Shortened calorimeter room test spanning 3 complete defrost cycles
the following tests for the purposes of regulation 6:	(a) products in product class 3 or 4 (whether single-phase or three-phase);		X	
	(b) single-phase, non-ducted products in product class 1, 2, 5, 6 or 7, other than such products that are registered on the basis that a label will not be displayed at the time of supply or offer of supply;		X	

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Tests	Products	Indoor enthalpy test method	Calorimeter room test method	Shortened calorimeter room test spanning 3 complete defrost cycles
	(c) single-phase, non ducted products in product class 8, 9, 11 or 12, other than such products: (i) with a ceiling cassette as the indoor unit; or (ii) that are registered on the basis that a label will not be displayed at the time of supply or offer of supply		X	
	(d) any product not covered by paragraph (a), (b) or (c)	X	X	

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**4.4. Rating variable capacity products as fixed capacity products**

For regulation 5 of these Regulations, variable capacity, two-stage capacity, and multi-stage capacity units may elect to be tested and rated as a fixed capacity product for the purposes of testing to Table 1 of GS ISO 16358-1:2013.

**4.5. Degradation coefficient of GS ISO 16358.4:2013**

For regulation 5 of these Regulations, the value for the Degradation Coefficient ( $C_D$ ) of Table 1 in both GS ISO 16358-1:2013 and GS ISO 16358-2:2013 may not be changed from the default value of 0.25.

**4.6. Noise (sound power) testing**

(1) Sound power tests shall be conducted according to either GS EN 12102:2013 or GS EN 12102-1:2017.

(2) Tests shall be conducted using the installation and operating conditions of the standard cooling full capacity test.

**4.7. Specific requirements for multi-split outdoor units**

(1) This paragraph applies to multi-split outdoor units of product classes 18 to 21 “Air to air multi-split outdoor units, whether or not supplied or offered for supply as part of a multi-split system,” in relation to all tests undertaken for the purposes of regulations 3 and 12 of these Regulations.

(2) Each of these product classes covers only the multi-split outdoor unit itself; the unit may be supplied or offered for supply in relation to any appropriate system of outdoor and indoor units, including a system with a single indoor unit.

(3) The test results for a multi-split outdoor unit are based on a multi-split system. The outdoor unit model is to be tested using a representative combination of indoor units. The representative combination of indoor units shall



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- (a) consist of units that are readily available for possible check-testing purposes;
  - (b) for a VRF type unit, not be less than the specified minimum number of indoor units of the manufacturer;
  - (c) for a fixed head product, consist of a dedicated indoor unit for each refrigeration port on the outdoor unit;
  - (d) be one for which the ratio of
    - (i) the sum of the nominated rated capacities of the manufacturer for the indoor units; and
    - (ii) the nominated rated capacity of the manufacturer for the outdoor unit;is equal to 1, or is as close as possible to 1 within the range of the specified connectable indoor units of the manufacturer;
  - (e) be the same for all heating and cooling tests; and
  - (f) be configured with a remote control for each indoor unit (unless the controls are integral to the indoor unit).
- (4) The documentation of the test shall also specify:
- (a) the make and model number of each indoor unit; /
  - (b) the rated capacity for each indoor unit when used in the representative combination; and
  - (c) the configuration and test setup and the complete setup instructions, including but not limited to piping lengths and layouts, capacity fixing methods, refrigerant charge and system specifications shall be included, which may take the form of a printout from the sales selection software of the manufacturer.

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**4.8. Alternative test methods for VRF type multi-split outdoor units and products > 30kW**

(1) This paragraph applies in relation to all tests undertaken for the purposes of regulations 3 and 6 of these Regulations and applies to:

- (a) variable refrigerant flow (VRF) type multi-split outdoor units; and
- (b) a product that
  - (i) is in a product class other than 3, 4, 22 or 23; and
  - (ii) has a rated standard cooling full capacity of more than 30kW.

(2) Subject to this paragraph and paragraph 3 of this Schedule, tests for the purposes of regulations 3 and 6 of these Regulations may be undertaken according to the methods set out in the following:

- (a) **GS EN 14511:2018**;
- (b) a standard based on **GS ISO 5151:2017** (non-ducted air conditioners, any VRF multi-split and fixed head multi-split outdoor unit greater than 30kW rated standard cooling full capacity or, for heating-only products, rated standard heating full capacity);
- (c) a standard based on **GS ISO 13253:2017** (ducted air conditioners);
- (d) a standard based on **GS ISO 15042:2017** (multi-split outdoor units); and
- (e) **GS 1230:2010**.

(3) Subject to this paragraph, information set out in any of the following certificates may be relied on for the purposes of regulations 5 and 7 of these Regulations without further testing being conducted:

- (a) an AHRI certificate, being a certified test certificate from the Air-Conditioning, Heating, and Refrigeration Institute; and

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- (b) a Eurovent certificate, being a certified test certificate from the European Association of Air Handling and Refrigerating Equipment Manufacturers.
- (4) A standard or certificate mentioned in this paragraph may be relied on only in relation to testing at:
  - (a) an electrical supply voltage of 230V single-phase or 400V three-phase;
  - (b) a frequency of 50Hz; and
  - (c) T1 temperature conditions.

**4.9. Specific requirements for unitary double duct air conditioners**

- (1) This paragraph applies in relation to all tests undertaken for the purposes of regulations 3, 12 and 13 of these Regulations.

*Specific requirements for wall mounted unitary double duct air conditioners*

- (2) Wall mounted unitary double duct air conditioners shall use the test procedures of GS ISO 5151:2010, MOD. They shall be installed on the wall of the test chamber as per the installation instructions of the manufacturer.

*Specific requirements for portable unitary double duct air conditioners*

- (3) Portable unitary double duct air conditioners shall use the general test procedures of GS ISO 5151:2010, MOD. However, both the exhaust and inlet ducts shall be installed as per Appendices A2.1 to A2.5 of GS ISO 5151:2010.
- (4) Portable unitary double duct air conditioners that contain a condensate container shall not have a test interrupted by a full condensate container triggering a cut-off switch. If necessary, condensate containers shall be modified to drain away excess condensate into a larger container in the test chamber before the volume that activates the cut-off switch is reached.

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Note 1: Some portable unitary double duct air conditioners may have an in-built hose to facilitate the draining of condensate.

Note 2: Some portable unitary double duct air conditioners are designed to collect condensate and evaporate it on the condenser. This process should be allowed to occur during testing.

Note 3: The testing requirements of this subsection mirror the requirements for unitary single duct air conditioners as detailed in GS ISO 5151:2010, MOD.

(5) For a portable unitary double duct air conditioner that contains a supplementary water tank:

- (a) the duration of the tank shall be determined during the standard cooling full capacity test; and
- (b) in determining this period
  - (i) the test setup and test conditions shall be as per GS ISO 5151:2010; and
  - (ii) the duration shall be determined as per Appendix B of GS ISO 5151:2010, MOD;
- (c) where the duration of the tank is greater than or equal to four hours
  - (i) all tests may be performed using this feature as per the instructions of the manufacturer;
  - (ii) where a test is performed using the tank, any water added to the tank shall be  $27^{\circ}\text{C} \pm 1^{\circ}\text{C}$ ; and
  - (iii) where the product can operate both with and without the tank, the standard cooling full capacity shall be determined both with and without the tank being used; and
- (d) if the duration of the tank is less than four hours, the tank

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shall not be used when determining whether the product meets the MEPS level requirement specified in Table 2.4. of this Schedule.

Note 1: where the duration of the tank is less than four hours, and the portable unitary double duct air conditioner cannot operate without the tank, the product will not comply with the requirements of these Regulations.

Note 3: This provision is not applicable to wall mounted unitary double duct air conditioners within product class 1.

Note 4: The testing requirements of this subsection mirror the requirements for unitary single duct air conditioners as detailed in GS ISO 5151:2010, MOD

**4.10. Specific requirements for portable unitary single duct unit air conditioners**

(1) This paragraph applies in relation to all tests undertaken for the purposes of regulations 3, 5 and 6 of these Regulations.

(2) For a portable unitary single duct air conditioner, product class four, that contains a supplementary water tank

(a) if the duration of the tank is greater than or equal to four hours

(i) all tests may be performed using this feature as per the Instructions of the manufacturer; and

(ii) if the product can operate both with and without the tank, the standard cooling full capacity shall be determined both with or without the tank being used; and

(b) if the duration of the tank is less than four hours, the tank shall not be used when determining whether the product meets the minimum energy performance requirements of these Regulations.

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**4.11. Specific requirements for water-to-air air conditioners**

(1) This paragraph applies for the purposes of regulation 3 of these Regulations.

(2) Water-to-air air conditioners (product classes 22 and 23) shall be tested to the cooling capacity tests of **GS 2130: 2013**.

**4.12. Specific requirements for single-split outdoor units**

(1) This paragraph applies in relation to all tests undertaken for the purposes of regulations 3, 12 and 13 of these Regulations.

(2) A single-split outdoor unit shall be tested using a representative indoor unit which shall

- (a) be of the same type of indoor air distribution unit for the outdoor unit being supplied or offered to be supplied for, being ducted or non-ducted;
- (b) be specified by make and model number and be readily available for possible check-testing purposes;
- (c) be the same for all cooling tests; and
- (d) be configured with a remote control, unless the controls are integral to the indoor unit.

**4.13. Specific requirements for testing for average true power factor**

(1) This paragraph applies in relation to tests undertaken for the purposes of regulation 12 of these Regulations.

(2) The average true power factor shall be determined over a period of not less than five minutes of operation.

(3) The calculation of the average true power factor value shall be based on the results of the standard cooling capacity test at full load. The values shall not be calculated through simulation testing.

*average true power factor* means the average ratio over a given time of the tested kilowatt hours (kWh) divided by the tested kilo volt ampere hours (kVAh).

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**THIRD SCHEDULE**

**THE LABEL**

*(regulations 3(1)(b)(iii), 13(2)(a)(i), 13(2)(d)(i), 18(4)(b) and 46)*

**1.1. Purpose of Schedule**

This Schedule specifies labelling requirements, content and format of the Energy Label in accordance with regulation 13 of these Regulations.

**1.2. Requirements relating to energy labels**

All air conditioners shall be labelled in accordance with regulation 13.

***Energy rating icons***

An energy rating icon shall be used in an online or print advertisement for a product covered by these Regulations.

**1.3. Format of energy rating icon**

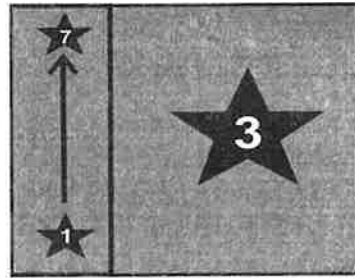
**(1) Meaning of certain details in the diagrams**

In a diagram in this Schedule, numbers are illustrative only; the actual numbers for the energy rating icon for a particular product shall be those specified in paragraph 2.4. of the Second Schedule.

**(2) Elements of the energy rating icon**

An energy rating icon shall be in substantially the format shown in figure 3.1.

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**Fig. 1. Format of Energy Icon**

**(3) Colours for the energy rating icon**

The energy rating icon shall use the colours in the elements in accordance with table 3.1:

**Table 3.1. Colours of the Energy Icon**

<b>Colour</b>	<b>For a printed label—the following pantone colours</b>	<b>For a label that appears in digital media—the following RGB colours, or equivalent colours</b>
Yellow	Pantone 116	252 - 217 - 11
Red	Pantone Warm red	238 - 59 - 36
Black	Pantone Black	0 - 0 - 0

Note: The Pantone colours are illustrated in the energy rating labels that are reproduced in the Third Schedule. The RGB colours are illustrated in the energy rating icons that are reproduced in this Schedule.



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**(4) Fonts for the energy rating icon**

(1) The entire icon shall be in only one font, which may be any one of the following:

- (a) Gill Sans; and
- (b) Humanist 521.

(2) The text in an energy rating icon shall have the following weights and cases:

Element	Weight	Case
"ENERGY RATING"	Regular	Capital
Star ratings	Bold	—

**(5) Size of the energy rating icon**

(1) Subject to this paragraph, an energy rating icon may be of any size.

(2) The dimensions of the icon, and of the text in the icon, shall be proportional to the dimensions of the icon as illustrated in paragraph 2.

**(6) Content of energy rating icon**

(1) Subject to this paragraph, an energy rating icon shall list the cooling star ratings, as illustrated in paragraph 2.

**Part Two**

*(regulations 13(2)(a)(i) and 13(2)(d)(i))*

**2.0 Energy Rating Label**

The Energy Rating Label shall be used in accordance with regulation 6.

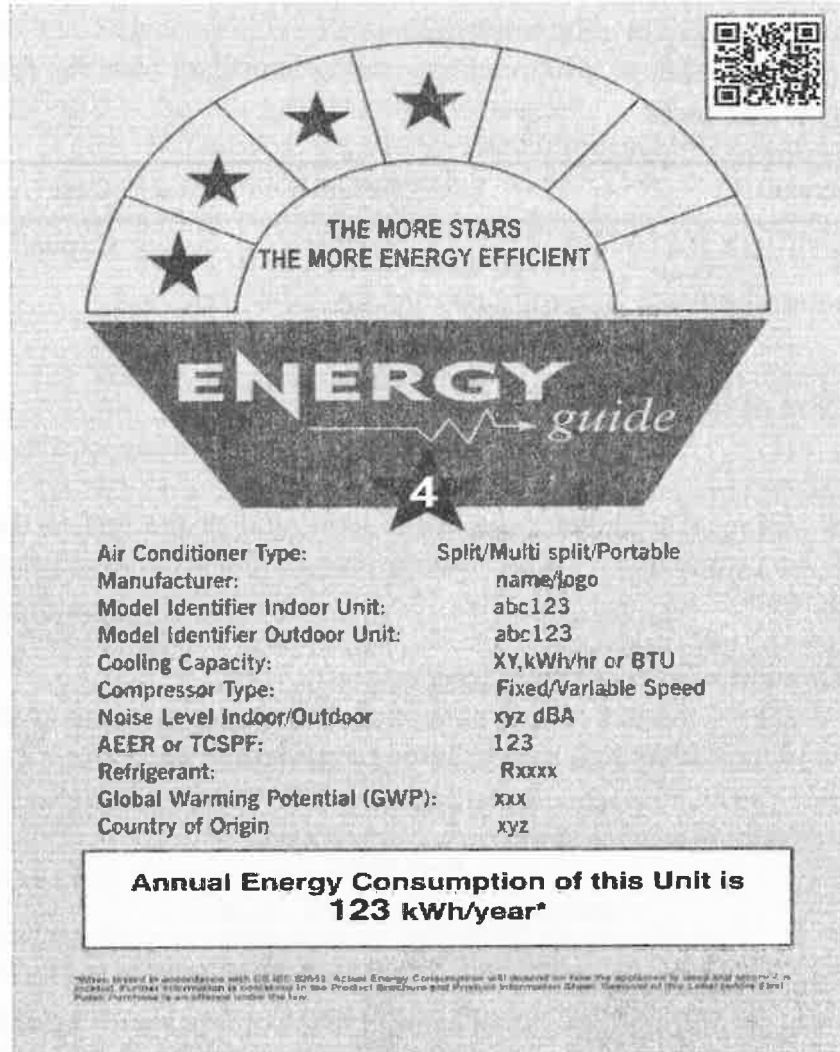
**Star ratings**

The Star Ratings shall be determined in accordance with Table 2.2.

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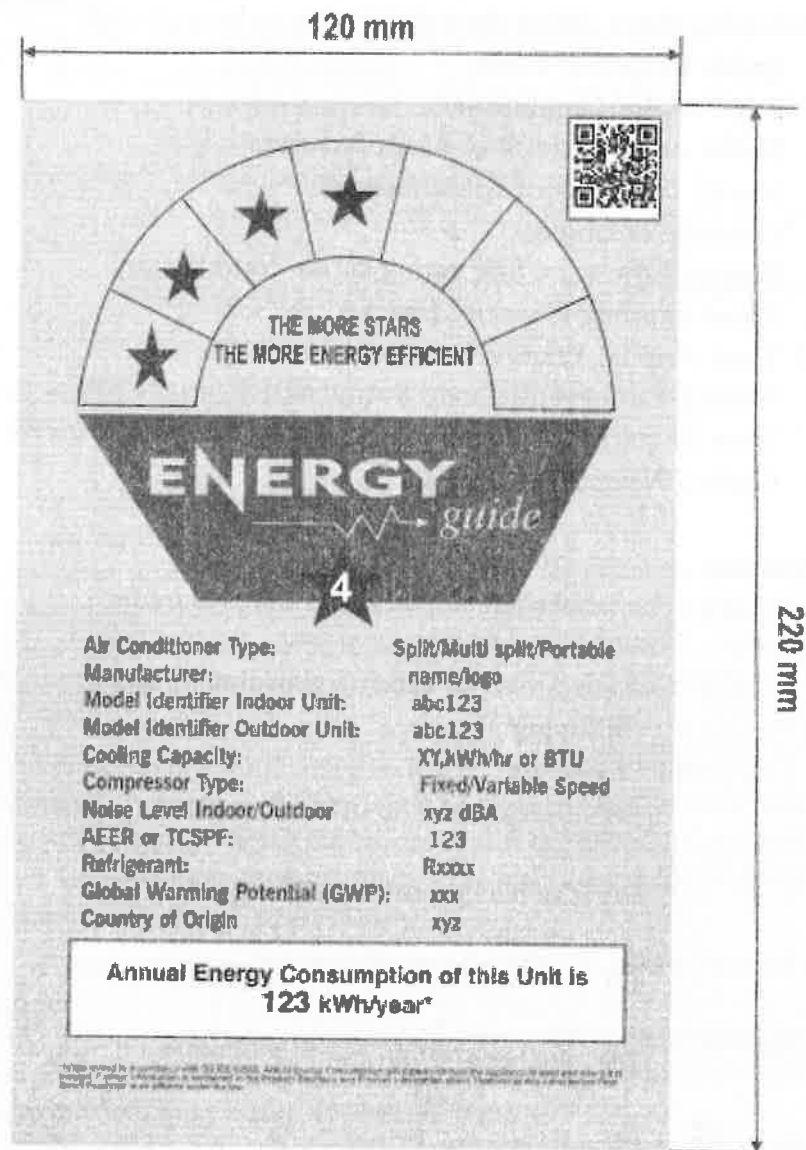
**Manner of communication of energy rating labels**

An energy rating label shall be communicated in accordance with regulation 6.



**Figure 1a: Label for Air Conditioner**

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**Figure 1b: Dimensions for Air Conditioner Label**

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**2.1 Notes to label of Air Conditioner**

The following notes define the information to be included:

- (i) Quick Response Code;
- (ii) Type of Air Conditioner;
- (iii) Name or trade mark of Manufacturer;
- (iv) Model Identifier of Manufacturer;
- (v) Country of origin;
- (vi) Energy Efficiency Star rating of air conditioner;
- (vii) Rated Cooling Capacity (marked in “kW”);
- (viii) Total Annual Energy Consumption (kWh/yr);
- (ix) Annual Energy Efficiency Ratio (AEER) or TCSPF;
- (x) Type of refrigerant; and
- (xi) Global Warming Potential.

**2.3 Printing**

- (1) The label shall be placed on the packaging.
- (2) Colours are to be used on the label in accordance with the following:
  - (a) all text shall be in black or gold as illustrated;
  - (b) the background shall be gold;
  - (c) all stars shall be in black; and
  - (d) the border line shall be in black.

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**FOURTH SCHEDULE**

**PRODUCT INFORMATION SHEET**

*(regulations 3(1)(b)(iv), 3(2), 5, 12(2)(b), 12(2)(c), 13(2)(c), 13(2)(e)(iv), 18(4)(b), 18(4)(c), 18(4)(d), 18(4)(e), 20(1), 20(2)(b), 24(b), 26(2)(c), 27(b)(iii) and 28(2)(a))*

**PART ONE**

*(regulations 12(2)(b), 13(2)(c), 13(2)(e)(iv), 20(1), 20(2)(b) and 24(b))*

The Product Information Sheet shall contain the information specified below. The information may be given in the form of a table covering a number of air conditioners or a family of models supplied by the same supplier, in which case it shall be given in the order specified, or given in the description of the air conditioner.

- (a) Name or trade mark of the supplier;
- (b) Model identifier of the supplier of the indoor air conditioner or of the indoor and outdoor elements of the air conditioner;
- (c) Type of air conditioner as specified in Part Two of this Schedule;
- (d) Inside and outside sound power levels at standard rating conditions, on cooling or heating modes;
- (e) The name and global warming potential (GWP) of the refrigerant used and a standard text as follows:

Refrigerant leakage contributes to climate change. Refrigerant with lower global warming potential (GWP) would contribute less to global warming than a refrigerant with higher GWP, if leaked to the atmosphere. This appliance contains a refrigerant fluid with a GWP equal to [xxx].

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This means that if 1 kg of this refrigerant fluid would be leaked to the atmosphere, the impact on global warming would be [xxx] times higher than 1 kg of CO<sub>2</sub>, over a period of 100 years. Never try to interfere with the refrigerant circuit yourself or disassemble the product yourself and always ask a professional;

- (f) User instructions including disposal if necessary;
- (g) Additionally, the following information shall be included in the product information sheet of an air conditioner:
  - (i) testing methods, test conditions and corresponding results associated with the model;
  - (ii) Total Annual Energy consumption calculated with the total input power as defined in GS 362:2018 multiplied by an average of 2000 hours per year in cooling mode at full load, determined in accordance with the test procedures of the relevant Standard in the First Schedule;
  - (iii) the total annual electricity consumption  $Q_{CE}$  in kWh/a, determined in accordance with definitions and test procedures in the Second Schedule. It shall be described as: 'Energy consumption "XYZ" kWh per year, based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located';
  - (iv) the rated cooling capacity  $P_{rated}$  in kW of the appliance determined in accordance with definitions and test procedures in the Second Schedule;
  - (v) the TCSPF and the energy efficiency class of the model (model of a unit or of a combination of units) determined in accordance with definitions and test procedures in the Second Schedule;

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- (vi) for double ducts, the total annual electricity consumption  $Q_{DD}$  in kWh/annum determined in accordance with definitions and test procedures in the Second Schedule. It shall be described as: 'Annual Energy Consumption "X,Y" kWh per annum, based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located';
  - (vii) for single ducts, the total annual electricity consumption  $Q_{SD}$  in kWh/annum determined in accordance with definitions and test procedures in the Second Schedule. It shall be described as: 'Energy consumption "X,Y" kWh per annum, based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located';
  - (viii) minimum duration of the guarantee offered by the manufacturer; and
  - (ix) the weblink to the website of the manufacturer where the information on the model of the appliance is found.
- (h) One Product Information Sheet may cover a number of appliance models supplied by the same supplier.

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**PART TWO**  
**Types and Categories of Air conditioners**

<b>Type</b>	<b>Description in information sheet</b>
1	ducted split systems;
2	non-ducted
3	split systems;
4	multi-split systems;
5	ducted unitary systems;
6	non-ducted unitary systems.
<b>Category</b>	<b>Description</b>
1	Fixed capacity
2	Two-stage capacity
3	Variable capacity

**PART THREE**  
*(regulations 5 and 12(2)(c))*

**Technical documentation**

The technical documentation referred to in regulation 12 shall include at least the following items:

- (a) the name and address of the supplier;



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- (b) a general description of the air conditioner model, sufficient for it to be unequivocally and easily identified. Single ducts shall be referred to as '*local air conditioners*';
- (c) where appropriate, the references for the standards applied;
- (d) where appropriate, the other calculation methods, measurement standards and specifications used;
- (e) identification and signature of the person empowered to bind the supplier;
- (f) where appropriate the technical parameters for measurements, established in accordance with the Second Schedule;
- (g) overall dimensions;
- (h) specification of the type of the air conditioner;
- (i) the energy efficiency class of the model as defined in the Second Schedule;
- (j) the Annual energy efficiency ratio (AEER<sub>rated</sub>) for single and double duct air conditioners or (TCSPF) for other air conditioners;
- (k) sound power levels expressed in dB(A) re1 pW, rounded to the nearest integer;
- (l) the name and GWP of refrigerant used; and
- (m) the results of calculations performed in accordance with the Second Schedule.

Suppliers may include additional information at the end of the above list.

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Where the information included in the technical documentation file for a particular air conditioner model has been obtained by calculation on the basis of design, or extrapolation from other equivalent appliances, or both, the documentation shall include details of such calculations or extrapolations, or both, and of tests undertaken by suppliers to verify the accuracy of the calculations undertaken and the information shall also include a list of all other equivalent appliance models where the information was obtained on the same basis.

**PART FOUR**

*(regulation 26(2)(c))*

**Mail Order and Other Distance Selling**

The information to be provided where the end user cannot be expected to see the product displayed shall be provided in the following order:

- (a) the energy efficiency class of the model as defined in the Second Schedule;
- (b) for air conditioners other than single ducts and double ducts:
  - (i) the rated capacity in kW;
  - (ii) the TCSPF; and
  - (iii) the total annual electricity consumption in kWh;
- (c) for single duct and double duct air conditioners, the annual energy efficiency ratio (AEER);
- (d) sound power levels expressed in dB(A) re1 pW, rounded to the nearest integer; and
- (e) the name and GWP of refrigerant used.

Where other information contained in the Product Information Sheet is also provided, the information shall be in the form and order specified in Part One of this Schedule.

The information referred in this Part shall be in legible form.

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**PART FIVE**

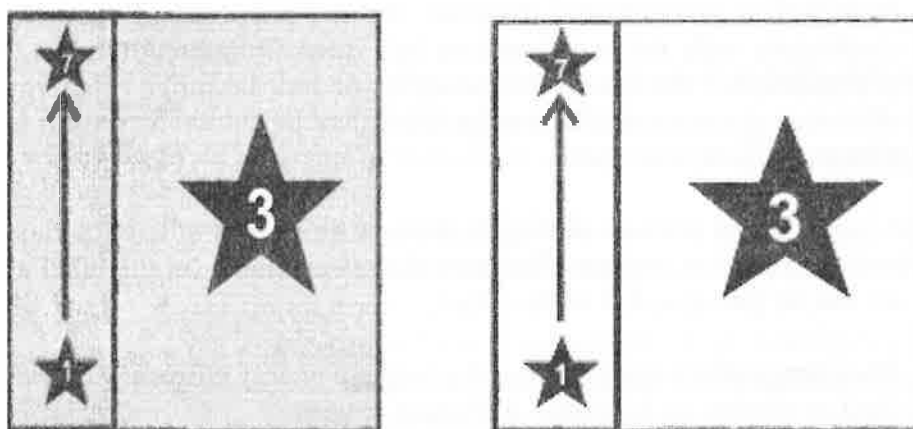
*(regulations 3(2), 18(4)(c), 18(4)(d), 18(4)(e) and 27(b)(iii))*

**Information to be provided in audio advertisements, visual advertisements, in technical promotional material, in distance selling, except distance selling on the internet**

1. In audio advertisements, for the purposes of ensuring conformity with the requirements laid down in subregulation (2) of regulation 3, the energy efficiency class of the model or models of appliance being advertised and the range of energy efficiency classes available on the market shall be stated in the advertisement.
2. In visual advertisements, for the purposes of ensuring conformity with the requirements laid down in subregulation (2) of regulation 3, the energy efficiency class and the range of energy efficiency classes available on the label shall be shown as set out in paragraph 5 of this Part.
3. In technical promotional material, for the purposes of ensuring conformity with the requirements laid down in subregulation (2) of regulation 3 the energy efficiency class and the range of energy efficiency classes available on the label shall be shown as set out in paragraph 5 of this Part.
4. A paper-based distance selling shall show the energy efficiency class and the range of energy efficiency classes available on the label as set out in paragraph 5 of this Part.
5. The energy efficiency class and the range of energy efficiency classes shall be shown as indicated in Figure 1, with
  - (a) an arrow, containing the letter of the energy efficiency class in white, **calibri bold** and in a font size at least equivalent to that of the price, when the price is shown;

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- (b) the colour of the box shall be gold;
  - (c) the range of available energy efficiency classes in black; and
  - (d) the size shall be such that the box is clearly visible and legible.
6. The number embedded in the black star corresponding with the energy efficiency class of the appliance star shall be in white and positioned in the center of the black star in the box, with a border of 0.5 pt in black placed around the box and the star showing the energy efficiency star rating class.
7. By way of derogation, where the visual advertisement, technical promotional material or paper-based distance selling material is printed in monochrome, the box can be in monochrome in that visual advertisement, technical promotional material or paper-based distance selling.



**Figure 1: Coloured / monochrome Star Rating with range of energy efficiency classes indicated**

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8. Telemarketing-based distance selling shall inform the customer
  - (a) of the energy efficiency class of the product and of the range of energy efficiency classes available on the label; and
  - (b) that the customer can access the full label and the Product Information Sheet through a free access website, the public part of the Appliance Energy Efficiency Register of the Commission or by requesting a printed copy.
9. For all the situations mentioned in paragraphs 2 to 4 and paragraph 8, it shall be possible for the customer to obtain, on request, a printed copy of the label and the product information sheet.

**PART SIX**

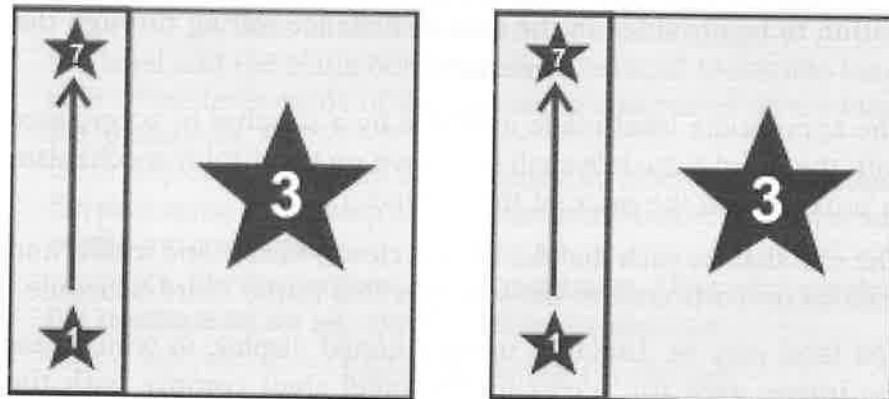
*(regulation 28(2)(a))*

**Information to be provided in the case of distance selling through the Internet**

1. The appropriate label made available by a supplier in accordance with the Third Schedule shall be shown on the display mechanism in proximity to the price of the product.
2. The size shall be such that the label is clearly visible and legible and shall be proportionate to the size specified in the Third Schedule.
3. The label may be displayed using a nested display, in which case the image used for accessing the label shall comply with the specifications laid down in paragraph 5 of this Part.
4. If nested display is applied, the label shall appear on the first mouse click, mouse roll-over or tactile screen expansion on the image.

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5. The image used for accessing the label in the case of nested display, as indicated in Figure 2, shall
- be a box in gold colour with a black star and an embedded number corresponding to the energy efficiency star rating of the product on the label;
  - indicate the energy efficiency star rating of the product in the box in black, Calibri Bold and in a font size equivalent to that of the price;
  - have the range of available energy efficiency classes in black; and
  - have one of the following two formats, and its size shall be such that the box is clearly visible and legible. The number showing the energy efficiency star rating shall be positioned in the centre of the box, with a visible border in black placed around the box and the number of the energy efficiency star rating:



**Figure 2: Coloured Star Rating, with range of energy efficiency classes indicated**

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6. In the case of a nested display, the sequence of display of the label shall be as follows:
  - (a) the image referred to in paragraph 5 of this Part shall be shown on the display mechanism in proximity to the price of the product;
  - (b) the image shall link to the label set out in the Third Schedule;
  - (c) the label shall be displayed after a mouse click, mouse roll-over or tactile screen expansion on the image;
  - (d) the label shall be displayed by pop up, new tab, new page or inset screen display;
  - (e) for magnification of the label on tactile screens, the device conventions for tactile magnification shall apply;
  - (f) the label shall cease to be displayed by means of a close option or other standard closing mechanism;
  - (g) the alternative text for the graphic, to be displayed on failure to display the label, shall be the energy efficiency class of the product in a font size equivalent to that of the price.
  
7. The electronic Product Information Sheet made available by suppliers in accordance with subregulation (2) of regulation 28 shall be shown on the display mechanism in proximity to the price of the product. The size shall be such that the Product Information Sheet is clearly visible and legible. The Product Information Sheet may be displayed using a nested display or by referring to the product database, in which case the link used for accessing the Product Information Sheet shall clearly and legibly indicate 'Product Information Sheet'. If a nested display is used, the Product Information Sheet shall appear on the first mouse click, mouse roll-over or tactile screen expansion on the link.

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**PART SEVEN**

**Measurements and calculations**

1. For the purposes of compliance and verification of compliance with the requirements of these Regulations, measurements and calculations shall be made using standards referenced in the First Schedule.
2. The determination of the Total Cooling Seasonal Performance Factor and Annual Energy Efficiency Ratio shall take into account:
  - (a) Tropical Climate conditions, as defined in Table 1 of this Part;
  - (b) reference design conditions, as defined in Table 3 of this Part;
  - (c) electric energy consumption for all relevant modes of operation, using time periods as defined in Table 4 of this Part; and
  - (d) effects of the degradation of the energy efficiency caused by on or off cycling, if applicable, depending on the type of control of the cooling capacity. This default value is 0.25.
3. Where the information relating to a specific model, being a combination of indoor and outdoor units, has been obtained by calculation on the basis of design, extrapolation from other combinations or both, the documentation should include details of such calculations extrapolations or both, and of tests undertaken to verify the accuracy of the calculations undertaken, including details of the mathematical model



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for calculating performance of such combinations, and of measurements taken to verify this model.

4. The annual energy efficiency ratio ( $AEER_{rated}$ ) for double ducts and single ducts shall be established at the standard rating conditions as defined in Table 2 of this Part.

5. The calculation of electricity consumption shall take into account electric energy consumption of all relevant modes of operation, when appropriate, using time periods as defined in Table 4 of this Part.

**Table 1: Reference outdoor temperature bin distribution**

Bin number, j	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
Outdoor temperature $t_j$ °C	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	-
Fractional bin hours	0,0 55	0,0 76	0,0 91	0,1 08	0,1 16	0,1 18	0,1 16	0,1 00	0,0 83	0,0 66	0,0 41	0,0 19	0,0 06	0,0 03	0,0 02	
Bin hours $n_j$	$n_1$	$n_2$	$n_3$	$n_4$	$n_5$	$n_6$	$n_7$	$n_8$	$n_9$	$n_{10}$	$n_{11}$	$n_{12}$	$n_{13}$	$n_{14}$	$n_{15}$	
Reference bin hours $(n_j)h$	10 0	13 9	16 5	19 6	21 0	21 5	21 0	18 1	15 0	12 0	75	35	11	6	4	1 81 7

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**Table 2: Standard rating conditions, temperatures in ‘dry bulb’ air temperature (‘wet bulb’ indicated in brackets)**

<b>Appliance</b>	<b>Function</b>	<b>Indoor air temperature(°C)</b>	<b>Outdoor air temperature(°C)</b>
air conditioners, excluding single duct	Cooling	27 (19)	35 (24)
single duct	Cooling	35 (24)	35 (24) <u>(1)</u>

**Table 3: Reference design conditions, temperatures in ‘dry bulb’ air temperature (‘wet bulb’ indicated in brackets)**

<b>Function of AC</b>	<b>Indoor air temperature(°C)</b>	<b>Outdoor air temperature(°C)</b>
	<b>T<sub>in</sub></b>	<b>T<sub>designc</sub></b>
Cooling	27 (19)	T <sub>designc</sub> = 35 (24)

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**Table 4: Operational hours per type of appliance per functional mode to be used for calculation of electricity consumption**

Type of appliance	Unit	Active mode	Inactive mode	Disconnected mode	
Air Conditioner (Cooling only )	h/annum	1817	4077	2866	

(1) In case of single ducts, the condenser is not supplied with outdoor air, but indoor air.

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**FIFTH SCHEDULE**

**VERIFICATION PROCEDURE FOR MARKET SURVEILLANCE**

*(regulation 35 (2))*

1. The verification tolerances set out in this Schedule relate only to the verification of the declared parameters by the Commission and the Standards Authority and shall not be used by the supplier as an allowed tolerance to establish the values in the technical documentation.
2. The values and classes on the label or in the Product Information Sheet shall not be more favourable for the supplier than the values reported in the technical documentation.
3. Where a model has been designed to be able to detect the model is being tested, by recognising the test conditions or test cycle, and to react specifically by automatically altering the performance during the test with the objective of reaching a more favourable level for any of the parameters specified in these Regulations or included in the technical documentation or included in any of the documentation provided, the model and all equivalent models shall be considered not compliant.
4. When verifying the compliance of a product model with the requirements laid down in these Regulations, the Commission and the Standards Authority shall apply the following procedure:
  - (a) the Commission and the Standards Authority shall verify one single unit of the model;
  - (b) the model of the air conditioner shall be considered to comply with the applicable requirements if

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- (i) the Total Cooling Seasonal Performance Factor (TCSPF) or the Annual Energy Efficiency Ratio (AEER), is not less than the declared value less eight percent;
  - (ii) the maximum sound power level does not exceed 2 dB(A) of the declared value; or
  - (iii) the average of the three units for the Annual Energy Efficiency Ratio (AEER) or Total Cooling Seasonal Performance Factor (TCSPF) is not less than the declared value less eight percent;
- (c) the Total Cooling Seasonal Performance Factor (TCSPF) or the Annual Energy Efficiency Ratio (AEER), shall be established in accordance with the test procedures in the Second Schedule;
- (d) if the result referred to in paragraph 4(b)(i) is not achieved, the Commission and the Standards Authority shall randomly select three additional units of the same model for testing;
- (e) the Annual Energy Efficiency Ratio (AEER) and Total Cooling Seasonal Performance Factor (TCSPF) values shall be established in accordance with the Second Schedule; and
- (f) if the results referred to in paragraph 4(b)(iii) are not achieved, the model shall be considered not to comply with these Regulations.

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**HON. DR. MATTHEW OPOKU PREMPEH**

*Minister responsible for Energy*

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