Commission Delegated Regulation (EU) No 626/2011 of 4 May 2011 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of air conditioners

COMMISSION DELEGATED REGULATION (EU) No 626/2011

of 4 May 2011

supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of air conditioners

THE EUROPEAN COMMISSION,

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

Having regard to Directive 2010/30/EU of 19 May 2010 of the European Parliament and of the Council on the indication by labelling and standard product information of the consumption of energy and other resources energy-related products[(1)], and in particular Article 10 thereof,

Whereas:

(1) Directive 2010/30/EU requires the Commission to adopt delegated acts as regards the labelling of energy-related products representing significant potential for energy savings and having a wide disparity in performance levels with equivalent functionality.

(2) Provisions for the energy labelling of air conditioners were established by Commission Directive 2002/31/EC of 22 March 2002 implementing Council Directive 92/75/EEC with regard to energy labelling of household air-conditioners[(2)]. The implementing Directive establishes different labelling scales for air conditioners using different technologies and the determination of energy efficiency is based on full load operation only.

(3) The electricity used by air conditioners accounts for a significant part of total household and commercial electricity demand in the Union. In addition to the energy efficiency improvements already achieved, the scope for further reducing the energy consumption of air conditioners is substantial.

(4) Directive 2002/31/EC should be repealed and new provisions should be laid down by this Regulation in order to ensure that the energy label provides dynamic incentives for manufacturers to further improve the energy efficiency of air conditioners and to accelerate the market transformation towards energy-efficient technologies.

(5) The provisions of this Regulation should apply to air-to-air air conditioners up to 12 kW cooling power output (or heating power output, if only heating function is provided).

(6) Technological developments in the energy efficiency improvement of air conditioners have been very rapid in recent years. This has allowed several third-countries to introduce stringent minimum energy efficiency requirements and led to a process of introducing new energy labelling schemes based on seasonal performance. Today's appliances, excluding single and double duct air conditioners, that achieve the highest

efficiency levels have largely surpassed the A efficiency levels established by Directive 2002/31/EC.

(7) This Regulation introduces two energy efficiency scales based on the primary function and on specific aspects important to consumer. Given that air conditioners are used mainly in part-load conditions, the efficiency testing should be changed to a seasonal efficiency measurement method, except for single and double duct air conditioners. The seasonal measurement method takes better into account the benefits of the inverter driven technology and the conditions in which these appliances are used. The new efficiency calculation method with an Ecodesign implementing measure setting minimum energy efficiency requirements higher than the current A level, will lead to a reclassification of these appliances. Consequently, split, window and wall air conditioners should have a new A-G energy efficiency class scale with a '+' added on the top of the scale every two years until the A+++ class has been reached.

(8) For double duct and single duct air conditioners, steady-state energy efficiency performance indicators should continue to be applied, as there are currently no inverter units on the market. As no reclassification of these appliances is appropriate, single and double duct air conditioners should have an A+++-D scale. While these, inherently less efficient than split appliances, can go only up to an A+ energy efficiency class in a scale of A+++-D, the more efficient split appliances can reach up to the A+++ energy efficiency class.

(9) This Regulation should ensure that consumers get more accurate comparative information about the performance of air conditioners.

(10) The combined effect of energy labeling set out in this Regulation and of Regulation implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for air conditioners[(3)] is expected to result in annual electricity savings of 11 TWh by 2020, compared to the situation if no measures are taken.

(11) The noise level of an air conditioner could be an important aspect for end-users. In order to enable them to make an informed decision, information on noise emissions should be included on the label of air conditioners.

(12) The information provided on the label should be obtained through reliable, accurate and reproducible measurement procedures, which take into account the recognised state of the art measurement methods including, where available, harmonised standards adopted by the European standardisation bodies, as listed in Annex I to Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations[(4)].

(13) This Regulation should specify a uniform design and requirements as to the content of labels for air conditioners.

(14) In addition, this Regulation should specify requirements as to the technical documentation and the fiche for air conditioners.

(15) Moreover, this Regulation should specify requirements as to the information to be provided for any form of distance selling, advertisements and technical promotional material of air conditioners.

(16) It is appropriate to provide for a review of the provisions of this Regulation taking into account technological progress.

(17) In order to facilitate the transition from Directive 2002/31/EC to this Regulation, air conditioners labelled in accordance with this Regulation should be considered compliant with Directive 2002/31/EC.

(18) Suppliers wishing to place on the market air conditioners that can meet the requirements for higher energy efficiency classes should be allowed to provide labels showing those classes in advance of the date for mandatory display of such classes.

(19) Directive 2002/31/EC should therefore be repealed,

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter and scope

1 This Regulation establishes requirements for the labelling and the provision of supplementary product information for electric mains-operated air conditioners with a rated capacity of ≤ 12 kW for cooling, or heating, if the product has no cooling function.

2 This Regulation shall not apply to:

a) appliances that use non-electric energy sources;

b) air conditioners of which the condensor- or evaporator-side, or both, do not use air for heat transfer medium.

Article 2

Definitions

In addition to the definitions set out in Article 2 of Directive 2010/30/EU of the European Parliament and of the Council[(5)], the following definitions shall apply:

(1) '*air conditioner*' means a device capable of cooling or heating, or both, indoor air, using a vapour compression cycle driven by an electric compressor, including air conditioners that provide additional functionalities such as dehumidification, air-purification, ventilation or supplemental air-heating by means of electric resistance heating and appliances that may use water (either condensate water that is formed on the evaporator side or externally added water) for evaporation on the condensor, provided that the device is also able to function without the use of additional water, using air only;

(2) '*double duct air conditioner*' means an air conditioner in which, during cooling or heating, the condensor or evaporator intake air is introduced from the outdoor environment to the unit by a duct and rejected to the outdoor environment by a second duct, and which is placed wholly inside the space to be conditioned, near a wall;

(3) '*single duct air conditioner*' means an air conditioner in which, during cooling or heating, the condensor or evaporator intake air is introduced from the space containing the unit and discharged outside this space;

(4) '*rated capacity*' (P_{rated}) means the cooling or heating capacity of the vapour compression cycle of the unit at standard rating conditions;

(5) '*end-user*' means a consumer buying or expected to buy an air conditioner;

(6) '*point of sale*' means a location where air conditioners are displayed or offered for sale, hire or hire-purchase.

Additional definitions for the purpose of Annexes II to VIII are set out in Annex I.

Article 3

Responsibilities of suppliers

1 Suppliers shall take action as described in points (a) to (g):

a a printed label is provided for each air conditioner respecting energy efficiency classes as set out in Annex II. The label shall comply with the format and content of information as set out in Annex III. For air conditioners, except single and double duct air conditioners, a printed label must be provided, at least in the packaging of the outdoor unit, for at least one combination of indoor and outdoor units at capacity ratio 1. For other combinations, the information can be alternatively provided on a free access web site;

b a product fiche, as set out in Annex IV, is made available. For air conditioners, except single and double duct air conditioners, a product fiche must be provided at least in the packaging of the out door unit, for at least one combination of indoor and outdoor units at capacity ratio 1. For other combinations, the information can be alternatively provided on a free access web site;

c technical documentation as set out in Annex V is made available electronically on request to the authorities of the Member States and to the Commission;

d any advertisement for a specific model of an air conditioner shall contain the energy efficiency class, if the advertisement discloses energy-related or price information. Where more than one efficiency class is possible, the supplier or the manufacturer, as appropriate, shall declare the energy efficiency class for heating at least in 'Average' heating season. Information in the cases where end-users cannot be expected to see the product displayed is to be provided as set out in Annex VI;

e any technical promotional material concerning a specific model of an air conditioner which describes its specific technical parameters shall include the energy efficiency class of that model as set out Annex II;

f instructions for use are made available;

g single ducts shall be named '*local air conditioners*' in packaging, product documentation and in any advertisement material, whether electronic or in paper.

2 The energy efficiency class shall be determined as set out in Annex VII.

3 The format of the label for air conditioners except for single and double duct air conditioners shall be as set out in Annex III.

4 For the air conditioners, except for single and double duct air conditioners, the format of the label set out in Annex III shall be applied according to the following timetable:

a as regards air conditioners, except single duct and double duct air conditioners, placed on the market from 1 January 2013, labels with energy efficiency classes A, B, C, D, E, F, G shall be in accordance with point 1.1 of Annex III for reversible air conditioners, with point 2.1 of Annex III for cooling-only air conditioners and with point 3.1 of Annex III for heating-only air conditioners;

b as regards air conditioners, except single duct and double duct air conditioners, placed on the market from 1 January 2015, labels with energy efficiency classes A+, A, B, C, D, E, F, shall be in accordance with point 1.2 of Annex III for reversible air conditioners, with point 2.2 of Annex III for cooling-only air conditioners and with point 3.2 of Annex III for heating-only air conditioners;

c as regards air conditioners, except single duct and double duct air conditioners, placed on the market from 1 January 2017, labels with energy efficiency classes A++, A+, A, B, C, D, E, shall be in accordance with point 1.3 of Annex III for reversible air conditioners, with point 2.3 of Annex III for cooling-only air conditioners and with point 3.3 of Annex III for heating-only air conditioners;

d as regards air conditioners, except single duct and double duct air conditioners, placed on the market from 1 January 2019, labels with energy efficiency classes A+++, A++, A+, A, B, C, D shall be in accordance with point 1.4 of Annex III for reversible air conditioners, with point 2.4 of Annex III for cooling-only air conditioners and with point 3.4 of Annex III for heating-only air conditioners.

5 The format of the label for double duct air conditioners placed on the market from 1 January 2013 with energy efficiency classes A+++, A++, A+, A, B, C, D shall be in accordance with point 4.1 of Annex III for reversible double duct air conditioners, with point 4.3 of Annex III for cooling-only double duct air conditioners and with point 4.5 of Annex III for heating-only double duct air conditioners.

6 The format of the label for single duct air conditioners placed on the market from 1 January 2013 with energy efficiency classes A+++, A++, A+, A, B, C, D shall be in accordance with point 5.1 of Annex III for reversible single duct air conditioners, with point 5.3 of Annex III for cooling-only single ducts air conditioners and with point 5.5 of Annex III heating-only single duct air conditioners.

Article 4

Responsibilities of dealers

Dealers shall ensure that:

(a) air conditioners, at the point of sale, bear the label provided by suppliers in accordance with Article 3(1) on the outside of the front or top of the appliance, in such a way as to be clearly visible;

(b) air conditioners offered for sale, hire or hire purchase where the end-user cannot be expected to see the product displayed, are marketed with the information provided by suppliers in accordance with Annexes V and VI;

(c) any advertisement for a specific model of air conditioner contains a reference to the energy efficiency class, if the advertisement discloses energy-related or price information. Where more than one efficiency class is possible, the supplier/manufacturer will declare the energy efficiency class at least in ‘Average’ season zone;

(d) any technical promotional material concerning a specific model which describes the technical parameters of an air conditioner includes a reference to the energy efficiency

class(es) of the model and the instructions for use provided by the supplier. Where more than one efficiency class is possible, the supplier/manufacturer will declare the energy efficiency class at least in 'Average' season zone;

(e) single ducts shall be named '*local air conditioners*' in packaging, product documentation and in any promotional or advertisement material, whether electronic or in paper.

Article 5

Measurement methods

The information to be provided under Article 3 shall be obtained by reliable, accurate and reproducible measurement procedures, which take into account the recognised state of the art calculation and measurement methods, as set out in Annex VII.

Article 6

Verification procedure for market surveillance purposes

When Member States assess the conformity of the declared energy efficiency class, the annual or hourly energy consumption, as appropriate, and the noise emissions, they shall apply the procedure laid down in Annex VIII.

Article 7

Revision

The Commission shall review this Regulation in the light of technological progress no later than five years after its entry into force. In particular, attention will be paid to any significant changes in market shares of various types of appliances.

Article 8

Repeal

Directive 2002/31/EC is repealed from 1 January 2013.

Article 9

Transitional provision

1 Air conditioners placed on the market before 1 January 2013 shall comply with the provisions set out in Directive 2002/31/EC.

Article 10

Entry into force and application

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

2 It shall apply from 1 January 2013.

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

Done at Brussels, 4 May 2011.

For the Commission

The President

José Manuel BARROSO

ANNEX I

Definitions applicable for the purposes of Annexes II to VII

For the purposes of Annexes II to VII, the following definitions shall apply:

(1) '*Reversible air conditioner*' means an air conditioner capable of both cooling and heating;

(2) '*Standard rating conditions*' means the combination of indoor (Tin) and outdoor temperatures (*Tj*) that describe the operating conditions while establishing the sound power level, rated capacity, rated air flow rate, rated energy efficiency ratio (EER_{rated}) and/or rated coefficient of performance (COP_{rated}), as set out in Annex VII, table 2;

(3) '*Indoor temperature*' (*Tin*) means the dry bulb indoor air temperature [°*C*] (with the relative humidity indicated by the corresponding wet bulb temperature);

(4) '*Outdoor temperature*' (*Tj*) means the dry bulb outdoor air temperature [°*C*] (with the relative humidity indicated by the corresponding wet bulb temperature);

(5) '*Rated energy efficiency ratio*' (EER_{rated}) means the *declared capacity* for cooling [kW] divided by the *rated power input for cooling* [kW] of a unit when providing cooling at *standard rating conditions*;

(6) '*Rated coefficient of performance*' (COP_{rated}) means the declared capacity for heating [kW] divided by the *rated power input for heating* [kW] of a unit when providing heating at *standard rating conditions*;

(7) '*Global warming potential*' (*GWP*) means the measure of how much 1 kg of the refrigerant applied in the vapour compression cycle is estimated to contribute to global warming, expressed in kg CO_2 equivalents over a 100 year time horizon;

GWP values considered will be those set out in Annex I of Regulation (EC) No 842/2006 of the European Parliament and of the Council[(6)];

for fluorinated refrigerants, the GWP values shall be those published in the Third Assessment Report (TAR), adopted by the Intergovernmental Panel on Climate Change[(7)] (2001 IPCC GWP values for a 100 year period);

for non-fluorinated gases, the GWP values are those published in the first IPCC assessment[(8)] over a 100 year period;

total GWP values for mixtures of refrigerants shall be based on the formula stated in Annex I of the Regulation (EC) No 842/2006;

for refrigerants not included in the above references, the IPCC UNEP 2010 report on Refrigeration, Air Conditioning and Heat Pumps, dated February 2011, or newer, shall be used as a reference;

(8) '*Off mode*' is a condition in which the air conditioner or comfort fan is connected to the mains power source and is not providing any function. As off mode also are considered conditions providing only an indication of off mode condition, as well as conditions providing only functionalities intended to ensure electromagnetic compatibility pursuant to Directive 2004/108/EC of the European Parliament and of the Council[(9)];

(9) '*Standby mode*' means a condition where the equipment is connected to the mains power source, depends on energy input from the mains power source to work as intended and provides only the following functions, which may persist for an indefinite time: reactivation function, or reactivation function and only an indication of enabled reactivation function, and/or information or status display;

(10) '*Reactivation function*' means a function facilitating the activation of other modes, including active mode, by remote switch including remote control, internal sensor, timer to a condition providing additional functions, including the main function;

(11) '*Information or status display*' is a continuous function providing information or indicating the status of the equipment on a display, including clocks;

(12) '*Sound power level*' means the A-weighted sound power level [*dB(A)*] indoors and/or outdoors measured at *standard rating conditions* for cooling (or heating, if the product has no cooling function);

(13) '*Reference design conditions*' means the combination of requirements for the *reference design temperature*, the maximum *bivalent temperature* and the maximum *operation limit temperature*, as set out in Annex VII, Table 3;

(14) '*Reference design temperature*' means the *outdoor temperature* [*°C*] for either cooling (*Tdesignc*) or heating (*Tdesignh*) as described in Annex VII, Table 3, at which the *part load ratio* shall be equal to 1, and which varies according the designated cooling or heating *season*;

(15) 'Part load ratio' (*pl(Tj)*) means the *outdoor temperature minus* 16°C, divided by the *reference design temperature* minus 16°C, for either cooling or heating;

(16) '*Season*' means one of the four sets of operating conditions (available for four seasons: one *cooling season*, three *heating seasons*: *average / colder / warmer*) describing per *bin* the combination of *outdoor temperatures* and the number of hours these temperatures occur per season for which the unit is declared fit for purpose;

(17) '*Bin*' (with index '*j*') means a combination of an *outdoor temperature* (*Tj*) and *bin hours (hj*), as set out in Annex VII, Table 1;

(18) '*Bin hours*' means the hours per season (*hj*) the *outdoor temperature* occurs for each bin, as set out in Annex VII, Table 1;

(19) '*Seasonal energy efficiency ratio*' (*SEER*) is the overall energy efficiency ratio of the unit, representative for the whole cooling season, calculated as the *reference annual cooling demand* divided by the *annual electricity consumption for cooling*;

(20) '*Reference annual cooling demand*' (*QC*) means the reference cooling demand [kWh/a] to be used as basis for calculation of SEER and calculated as the product of the *design load for cooling* (*Pdesignc*) and the *equivalent active mode hours* for cooling (*HCE*);

(21) '*Equivalent active mode hours for cooling*' (*HCE*) means the assumed annual number of hours [h/a] the unit must provide the *design load for cooling* (*Pdesignc*) in order to satisfy the *reference annual cooling demand*, as set out in Annex VII, Table 4;

(22) '*Annual electricity consumption for cooling*' (*QCE*) means the electricity consumption [kWh/a] required to meet the *reference annual cooling* demand and is calculated as the *reference annual cooling demand* divided by the *active mode seasonal energy*

efficiency ratio (*SEERon*), and the electricity consumption of the unit for *thermostat off-, standby-, off- and crankcase heater-mode* during the cooling season;

(23) '*Active seasonal mode energy efficiency ratio*' (*SEERon*) means the average energy efficiency ratio of the unit in active mode for the cooling function, constructed from *part load* and *bin-specific energy efficiency ratio's* (EERbin(Tj)) and weighted by the *bin hours* the *bin* condition occurs;

(24) '*Part load*' means the cooling load (*Pc(Tj)*) or the heating load (*Ph(Tj)*) [kW] at a specific outdoor temperature *Tj*, calculated as the design load multiplied by the *part load ratio*;

(25) '*Bin-specific energy efficiency ratio*' (*EERbin(Tj)*) means the energy efficiency ratio specific for every *bin* j with *outdoor temperature* Tj in a season, derived from the *part load*, *declared capacity* and *declared energy efficiency ratio* (*EERd(Tj)*) for specified *bins* (j) and calculated for other *bin*s through inter/extrapolation, when necessary corrected by the *degradation coefficient*;

(26) '*Seasonal coefficient of performance*' (*SCOP*) is the overall coefficient of performance of the unit, representative for the whole designated heating season (the value of SCOP pertains to a designated heating season), calculated as the *reference annual heating demand* divided by the *annual electricity consumption for heating*;

(27) '*Reference annual heating demand*' (*QH*) means the reference heating demand [kWh/a], pertaining to a designated *heating season*, to be used as basis for calculation of SCOP and calculated as the product of the *design load for heating* (*Pdesignh*) and the *seasonal equivalent active mode hours for heating* (H_{HE});

(28) '*Equivalent active mode hours for heating*' (H_{HE}) means the assumed annual number of hours [h/a] the unit must provide the *design load for heating* (*Pdesignh*) in order to satisfy the *reference annual heating demand*, as set out in Annex VII, Table 4;

(29) '*Annual electricity consumption for heating*' (Q_{HE}) means the electricity consumption [kWh/a] required to meet the indicated *reference annual heating demand* and which pertains to a designated heating season; and is calculated as the *reference annual heating demand* divided by the *active mode seasonal coefficient of performance* (*SCOPon*), and the electricity consumption of the unit for *thermostat off-, standby-, off- and crankcase heater-mode* during the heating season;

(30) '*Active mode seasonal coefficient of performance*' (*SCOPon*) means the average coefficient of performance of the unit in active mode for the designated heating season, constructed from the *part load, electric back up heating capacity* (where required) and *bin-specific coefficients of performance* (*COPbin(Tj)*) and weighted by the bin hours the bin condition occurs;

(31) '*Electric back-up heater capacity*' (*elbu(Tj)*) is the heating capacity [kW] of a real or assumed electric back-up heater with COP of 1 that supplements the *declared capacity for heating* (*Pdh(Tj)*) in order to meet the *part load for heating* (*Ph(Tj)*) in case *Pdh(Tj)* is less than Ph(Tj), for the *outdoor temperature* (Tj);

(32) '*Bin-specific coefficient of performance*' (*COPbin(Tj)*) means the coefficient of performance specific for every *bin j with outdoor temperature* Tj in a season, derived from the *part load, declared capacity* and *declared coefficient of performance* (*COPd(Tj)*) for specified *bins* (*j*) and calculated for other *bins* through inter/extrapolation, when necessary corrected by the *degradation coefficient*;

(33) '*Declared capacity*' [kW] is the capacity of the vapour compression cycle of the unit for cooling (*Pdc(Tj)*) or heating (*Pdh(Tj)*), pertaining to an outdoor temperature Tj and indoor temperature (*Tin*), as declared by the manufacturer;

(34) '*Function*' means the indication of whether the unit is capable of indoor air cooling, indoor air heating or both;

(35) '*Design load*' means the declared cooling load (*Pdesignc*) and/or declared heating load (*Pdesignh*) [kW] at the *reference design temperature*, whereby

(a) for cooling mode, *Pdesignc* is equal to the *declared capacity* for cooling at *Tj* equal to *Tdesignc*;

(b) for heating mode, *Pdesignh* is equal to the *part load* at *Tj* equal to *Tdesignh*;

(36) '*Declared energy efficiency ratio*' (*EERd(Tj)*) means the energy efficiency ratio at a limited number of specified *bins* (*j*) with outdoor temperature (*Tj*), as declared by the manufacturer;

(37) '*Declared coefficient of performance*' (*COPd(Tj)*) means the *coefficient of performance* at a limited number of specified *bins* (*j*) with *outdoor temperature* (*Tj*), as declared by the manufacturer;

(38) '*Bivalent temperature*' (*Tbiv*) means the *outdoor temperature* (*Tj*) [°C] declared by the manufacturer for heating at which the *declared capacity* equals the *part load* and below which the *declared capacity* must be supplemented with *electric back up heater capacity* in order to meet the *part load* for heating;

(39) '*Operation limit temperature*' (*Tol*) means the *outdoor temperature* [°C] declared by the manufacturer for heating, below which air conditioner will not be able to deliver any heating capacity. Below this temperature, the *declared capacity* is equal to zero;

(40) '*Active mode*' means the mode corresponding to the hours with a cooling or heating load of the building and whereby the cooling or heating function of the unit is activated. This condition may involve on/off-cycling of the unit in order to reach or maintain a required indoor air temperature;

(41) '*Thermostat-off mode*' means a mode corresponding to the hours with no cooling or heating load whereby the cooling or heating function of the unit is switched on but the unit is not operational as there is no cooling or heating load. This condition is therefore related to outdoor temperatures and not to indoor loads. Cycling on / off in active mode is not considered as thermostat off;

(42) '*Crankcase heater operation mode*' means a condition where the unit has activated a heating device to avoid the refrigerant migrating to the compressor in order to limit the refrigerant concentration in oil at compressor start;

(43) '*Thermostat-off mode operating hours*' (*HTO*) means the annual number of hours [h/a] the unit is considered to be in *thermostat-off mode*, the value of which depends on the designated season and function;

(44) '*Standby mode operating hours*' (*HSB*) means the annual number of hours [h/a] the unit is considered to be in *standby* mode, the value of which depends on the designated season and function;

(45) '*Off-mode hours*' (*HOFF*) means the annual number of hours [h/a] the unit is considered to be in off-mode, the value of which depends on the designated season and function;

(46) '*Crankcase heater mode operating hours*' (*HCK*) means the annual number of hours [h/a] the unit is considered to be in *crankcase heater operation mode*, the value of which depends on the designated season and function;

(47) '*Electricity consumption of single and double ducts*' (*QSD* respectively *QDD*) means the electricity consumption of single or double duct air conditioners for the cooling and/or heating mode (whichever applies) [single duct in kWh/h, double duct in kWh/a];

(48) '*Capacity ratio*' means the ratio of the total declared cooling or heating capacity of all operating indoor units to the declared cooling or heating capacity of the outdoor unit at standard rating conditions.

ANNEX II

Energy efficiency classes

1. The energy efficiency of air conditioners shall be determined on the basis of measurements and calculations set out Annex VII.

Both the SEER and SCOP shall take into account the *reference design conditions* and the *operational hours* per relevant mode of operation, and the SCOP shall relate to the heating season '*average*', as laid down in Annex VII. The rated energy efficiency ratio (EER_{rated}) and the rated coefficient of performance (COP_{rated}) shall relate to *standard rating conditions*, as laid down in Annex VII.

TABLE 1

Energy efficiency classes for air conditioners, except double ducts and single ducts

Energy Efficiency Class	SEER	SCOP
A+++	SEER ≥ 8,50	SCOP ≥ 5,10
A++	6,10 ≤ SEER < 8,50	4,60 ≤ SCOP < 5,10
A+	5,60 ≤ SEER < 6,10	4,00 ≤ SCOP < 4,60
A	5,10 ≤ SEER < 5,60	3,40 ≤ SCOP < 4,00
B	4,60 ≤ SEER < 5,10	3,10 ≤ SCOP < 3,40
C	4,10 ≤ SEER < 4,60	2,80 ≤ SCOP < 3,10
D	3,60 ≤ SEER < 4,10	2,50 ≤ SCOP < 2,80
E	3,10 ≤ SEER < 3,60	2,20 ≤ SCOP < 2,50
F	2,60 ≤ SEER < 3,10	1,90 ≤ SCOP < 2,20
G	SEER < 2,60	SCOP < 1,90

TABLE 2

Energy efficiency classes for double ducts and single ducts

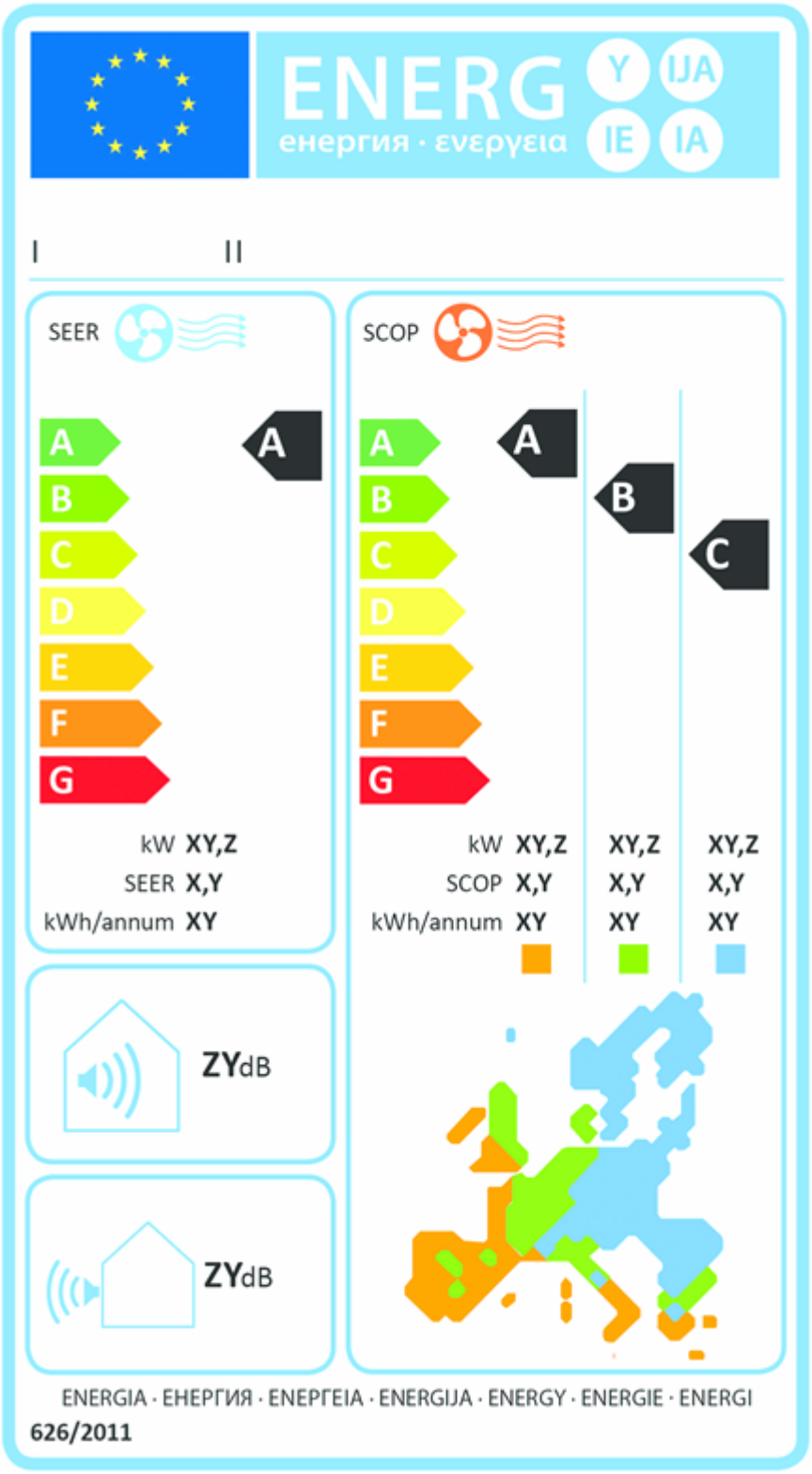
Energy Efficiency Class	**Double ducts**		**Single ducts**	
	EER_{rated}	**COP_{rated}**	**EER_{rated}**	**COP_{rated}**
A+++	≥ 4,10	≥ 4,60	≥ 4,10	≥ 3,60
A++	3,60 ≤ EER < 4,10	4,10 ≤ COP < 4,60	3,60 ≤ EER < 4,10	3,10 ≤ COP < 3,60
A+	3,10 ≤ EER < 3,60	3,60 ≤ COP < 4,10	3,10 ≤ EER < 3,60	2,60 ≤ COP < 3,10
A	2,60 ≤ EER < 3,10	3,10 ≤ COP < 3,60	2,60 ≤ EER < 3,10	2,30 ≤ COP < 2,60
B	2,40 ≤ EER < 2,60	2,60 ≤ COP < 3,10	2,40 ≤ EER < 2,60	2,00 ≤ COP < 2,30
C	2,10 ≤ EER < 2,40	2,40 ≤ COP < 2,60	2,10 ≤ EER < 2,40	1,80 ≤ COP < 2,00
D	1,80 ≤ EER < 2,10	2,00 ≤ COP < 2,40	1,80 ≤ EER < 2,10	1,60 ≤ COP < 1,80
E	1,60 ≤ EER < 1,80	1,80 ≤ COP < 2,00	1,60 ≤ EER < 1,80	1,40 ≤ COP < 1,60
F	1,40 ≤ EER < 1,60	1,60 ≤ COP < 1,80	1,40 ≤ EER < 1,60	1,20 ≤ COP < 1,40
G	< 1,40	< 1,60	< 1,40	< 1,20

ANNEX III

The label

1. LABEL OF AIR CONDITIONERS, EXCEPT SINGLE DUCT AND DOUBLE DUCT AIR CONDITIONERS

1.1. **Reversible air conditioners classified in energy efficiency classes A to G**



(a) The following information shall be included in the label:

I. supplier's name or trade mark;

II. supplier's model identifier;

III. text 'SEER' and 'SCOP' for cooling and heating, with a blue fan and air wave indication for SEER and red fan and air wave indication for SCOP;

IV. the energy efficiency; the head of the arrow containing the energy efficiency class of the appliance shall be placed at the same height as the head of the arrow of the relevant energy efficiency class. Energy efficiency must be indicated for cooling and heating. For heating, energy efficiency for Average heating season is mandatory. Indication of efficiency for Warmer and Colder seasons is optional;

V. for cooling mode: *design load* in kW, rounded up to one decimal;

VI. for heating mode: *design load* in kW, for up to 3 heating seasons rounded up to one decimal. Values for heating seasons for which the *design load* is not provided shall be indicated as 'X';

VII. for cooling mode: seasonal energy efficiency ratio (SEER value), rounded up to one decimal;

VIII. for heating mode: seasonal coefficient of performance (SCOP value), for up to 3 heating seasons rounded up to one decimal. Values for heating seasons for which SCOP is not provided shall be indicated as 'X';

IX. annual energy consumption in kWh per year, for cooling and heating, rounded up to the nearest integer. Values for climate profiles for which annual energy consumption is not provided shall be indicated as 'X';

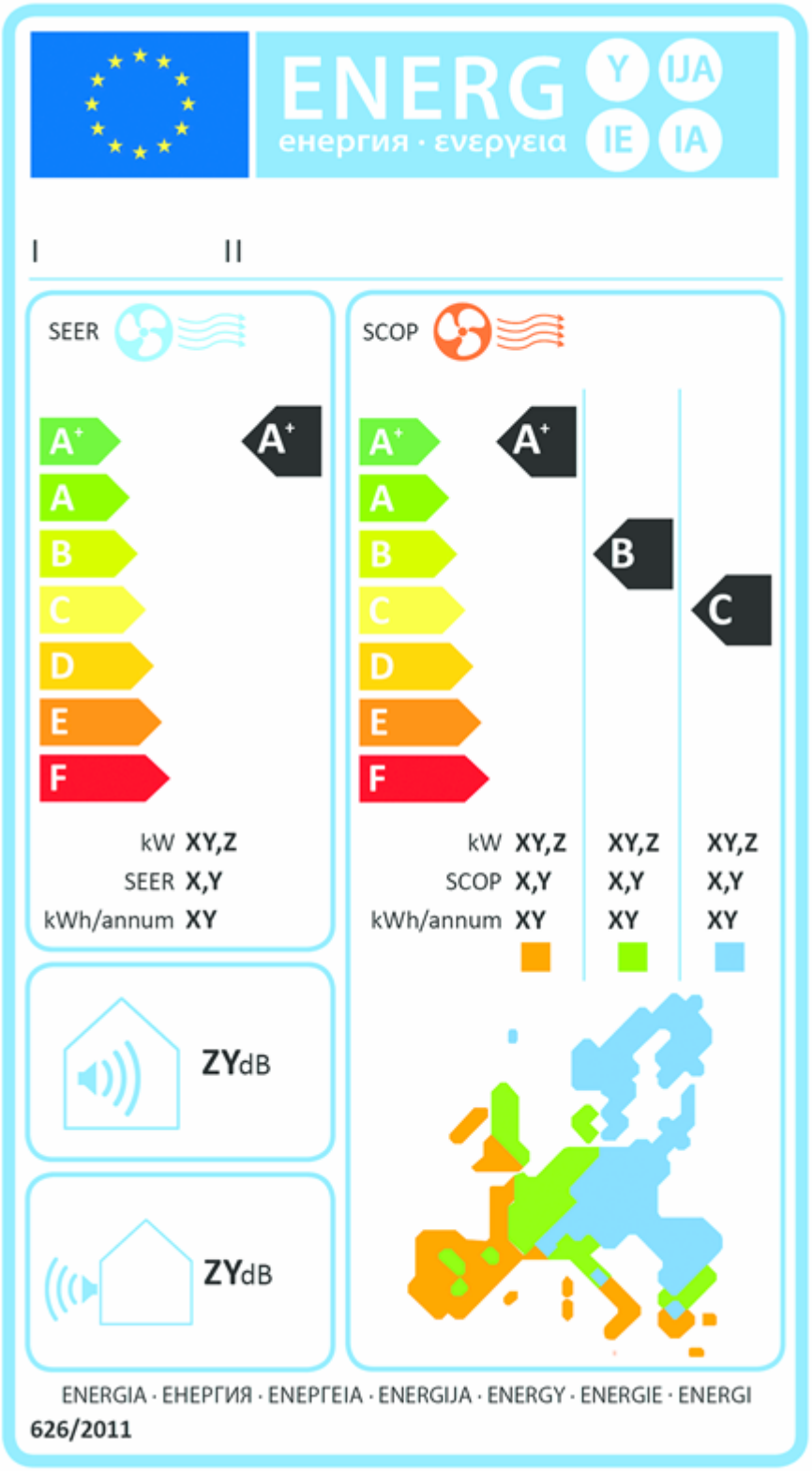
X. sound power levels for indoor and outdoor units expressed in dB(A) re1 pW, rounded to the nearest integer;

XI European map with a display of three indicative heating seasons and corresponding colour squares.

All the requested values shall be determined in accordance with Annex VII.

(b) The design of the label shall be in accordance with point 1.5. By way of derogation, where a model has been granted an 'EU eco-label' under Regulation (EC) No 66/2010 of the European Parliament and of the Council[(10)], a copy of the EU eco-label may be added.

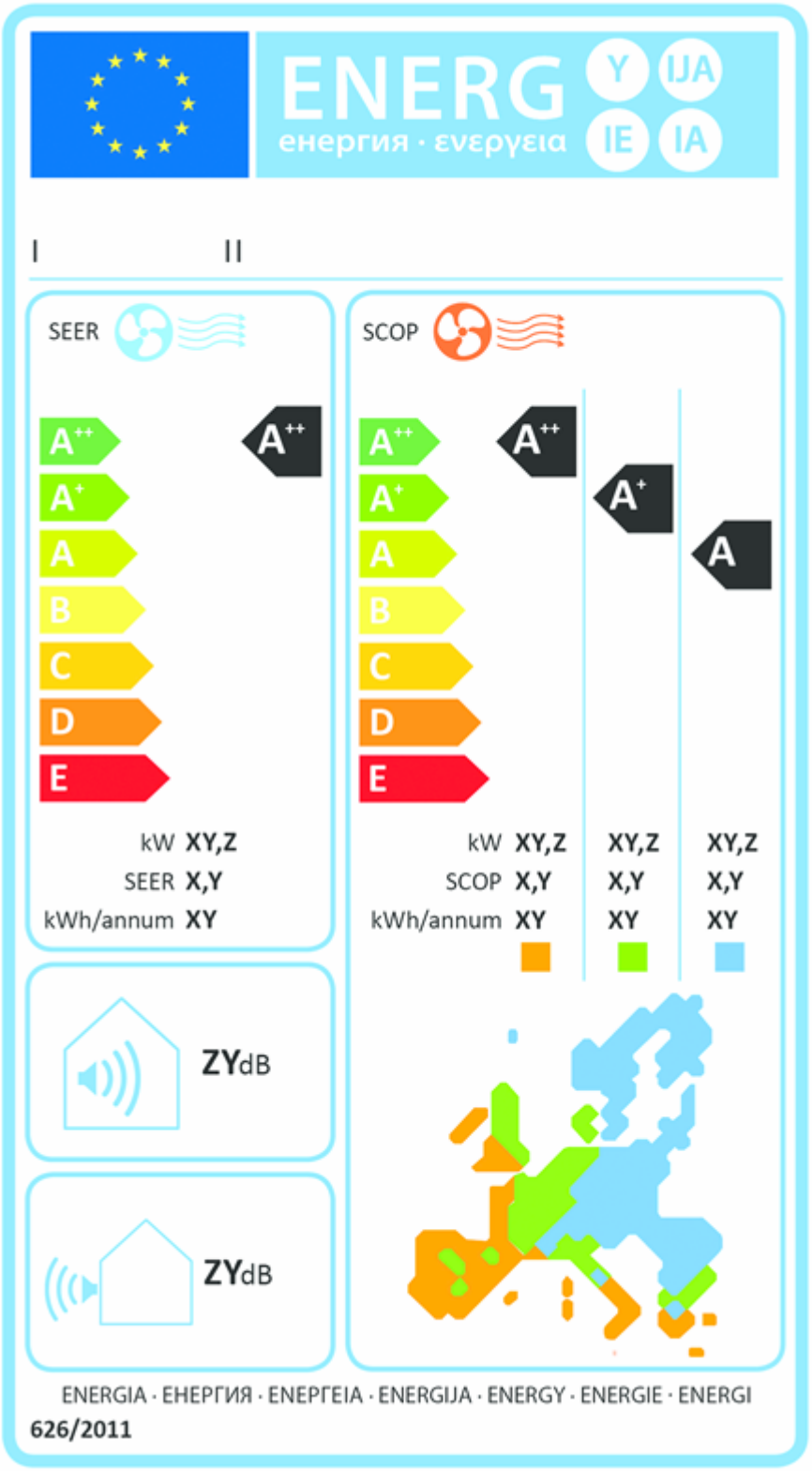
1.2. **Reversible air conditioners classified in energy efficiency classes A+ to F**



(a) The information listed in point 1.1 shall be included in the label.

(b) The design aspects of the label shall be in accordance with point 1.5.

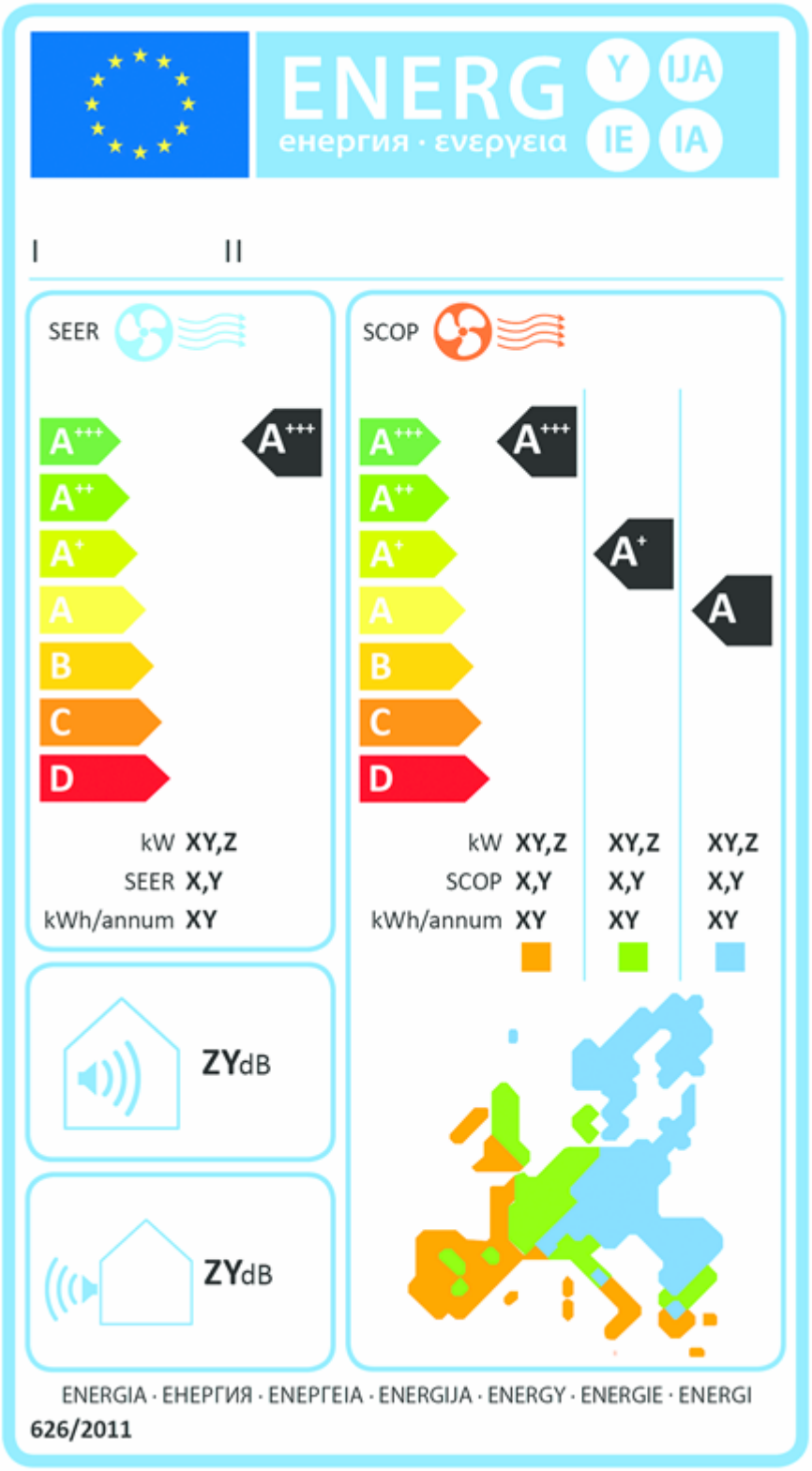
1.3. **Reversible air conditioners classified in energy efficiency classes A++ to E**



(a) The information listed in point 1.1 shall be included in the label.

(b) The design aspects of the label shall be in accordance with point 1.5.

1.4. **Reversible air conditioners classified in energy efficiency classes A+++ to D**

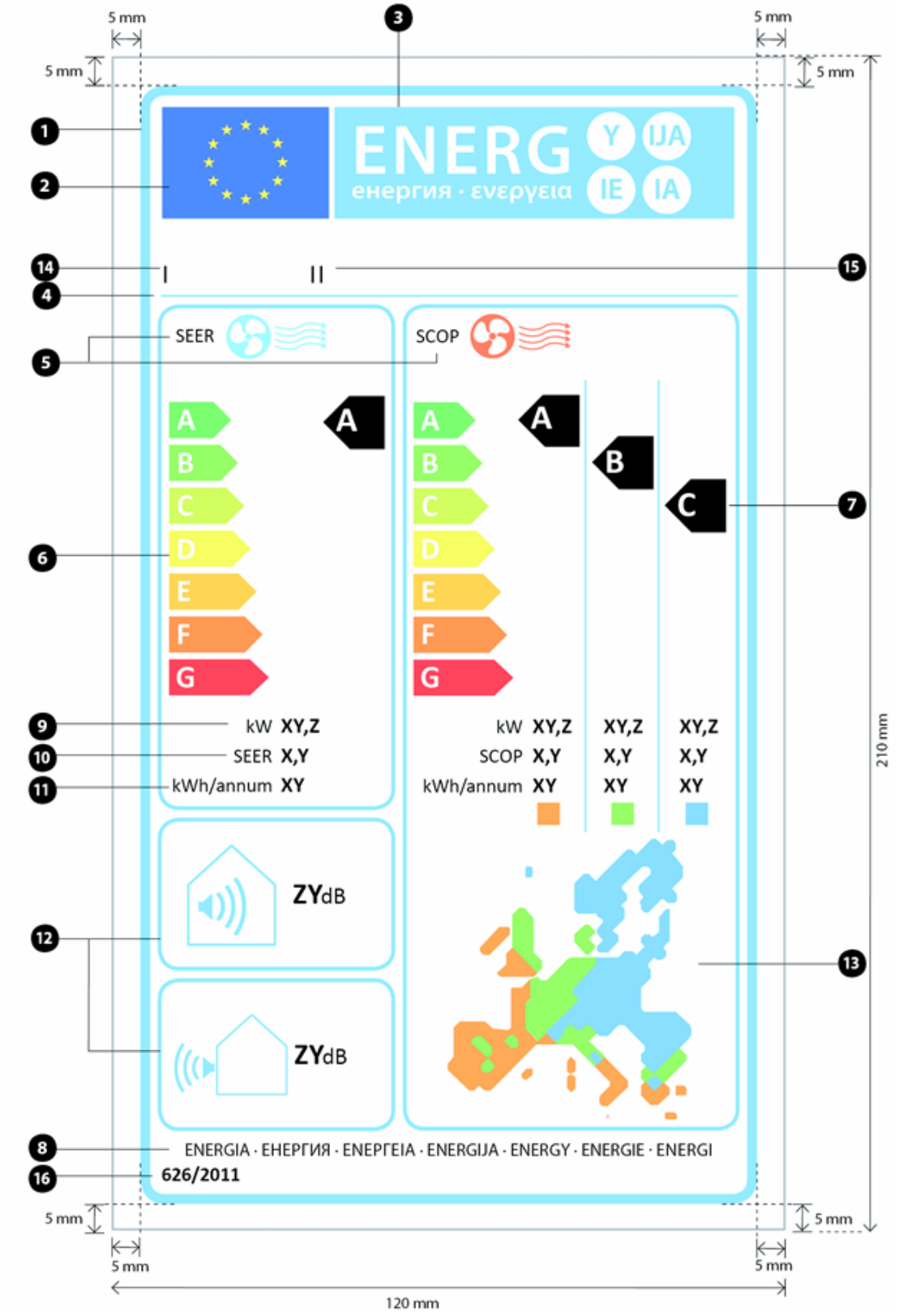


I
II
III
IV
V
VI
VII
VIII
IX
X
XI

(a) The information listed in point 1.1 shall be included in the label.

(b) The design aspects of the label shall be in accordance with point 1.5.

1.5. **Label design**


5 mm
5 mm
5 mm
5 mm
ENERG
Y
IJA
IE
IA
енергия · ενεργεια
I
II
SEER
SCOP
A
B
C
D
E
F
G
kW XY,Z
SEER X,Y
kWh/annum XY
kW XY,Z XY,Z XY,Z
SCOP X,Y X,Y X,Y
kWh/annum XY XY XY
ZYdB
ZYdB
ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI
626/2011
210 mm
5 mm
5 mm
5 mm
5 mm
120 mm

Whereby:

(i) The label shall be at least 120 mm wide and 210 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above.

(ii) The background shall be white.

(iii) Colours are coded as CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.

(iv) The label shall fulfil all of the following requirements (numbers refer to the figure above):

1 **EU label border:** stroke 5 pt – colour: cyan 100 % – round corners: 3,5 mm.

2 **EU logo:** Colours: X-80-00-00 and 00-00-X-00.

3 **Energy label:** Colour: X-00-00-00.

Pictogram as depicted: EU logo + energy label:

width: 102 mm, height: 20 mm.

4 **Sub-logos border:** 1 pt – colour: cyan 100 % – length: 103,6 mm.

5 **SEER and SCOP indication:**
Border: 2 pt – colour: cyan 100 % – round corners: 3,5 mm.
Text: Calibri regular 10 pt, capitals, 100 % black.

6 **A-G scale:**
— **Arrow:** height: 7 mm, gap: 1 mm – colours:
Highest class: X-00-X-00
Second class: 70-00-X-00,
Third class: 30-00-X-00,
Fourth class: 00-00-X-00,
Fifth class: 00-30-X-00,
Sixth class: 00-70-X-00,
Last class(es): 00-X-X-00.
— **Text:** Calibri bold 16 pt, capitals, white.

7 **Energy efficiency class(es):**
— **Arrow:** width: 11 mm, height: 10 mm, 100 % black;
— **Text:** Calibri bold 18 pt, capitals, white.

8 **Energy**
— **Text:** Calibri regular 9 pt, capitals, 100 % black.

9 **Rated capacity for cooling and heating in kW**:
— **Text 'kW':** Calibri regular 10 pt, 100 % black.
— **Value 'XY,Z':** Calibri bold 11 pt, 100 % black.

10 **SCOP and SEER values, rounded up to one decimal:**
— **Text 'SEER'/'SCOP':** Calibri regular 10 pt, capitals, 100 % black.
— **Value 'X,Y':** Calibri bold 11 pt, 100 % black.

11 **Annual energy consumption in kWh/annum**:

— **Text 'kWh/annum':** Calibri regular 10 pt, 100 % black.
— **Value 'XY':** Calibri bold 11 pt, 100 % black.

12 **Noise emissions**:
— **Border:** 2 pt – colour: cyan 100 % – round corners: 3,5 mm.
—

Value:	Calibri bold 15 pt, 100 % black;
	Calibri regular 12 pt, 100 % black.

13 **European map and colour squares**:
— **Colours**:
Orange: 00-46-46-00.
Green: 59-00-47-00.
Blue: 54-08-00-00.

14 **Supplier's name or trademark.**

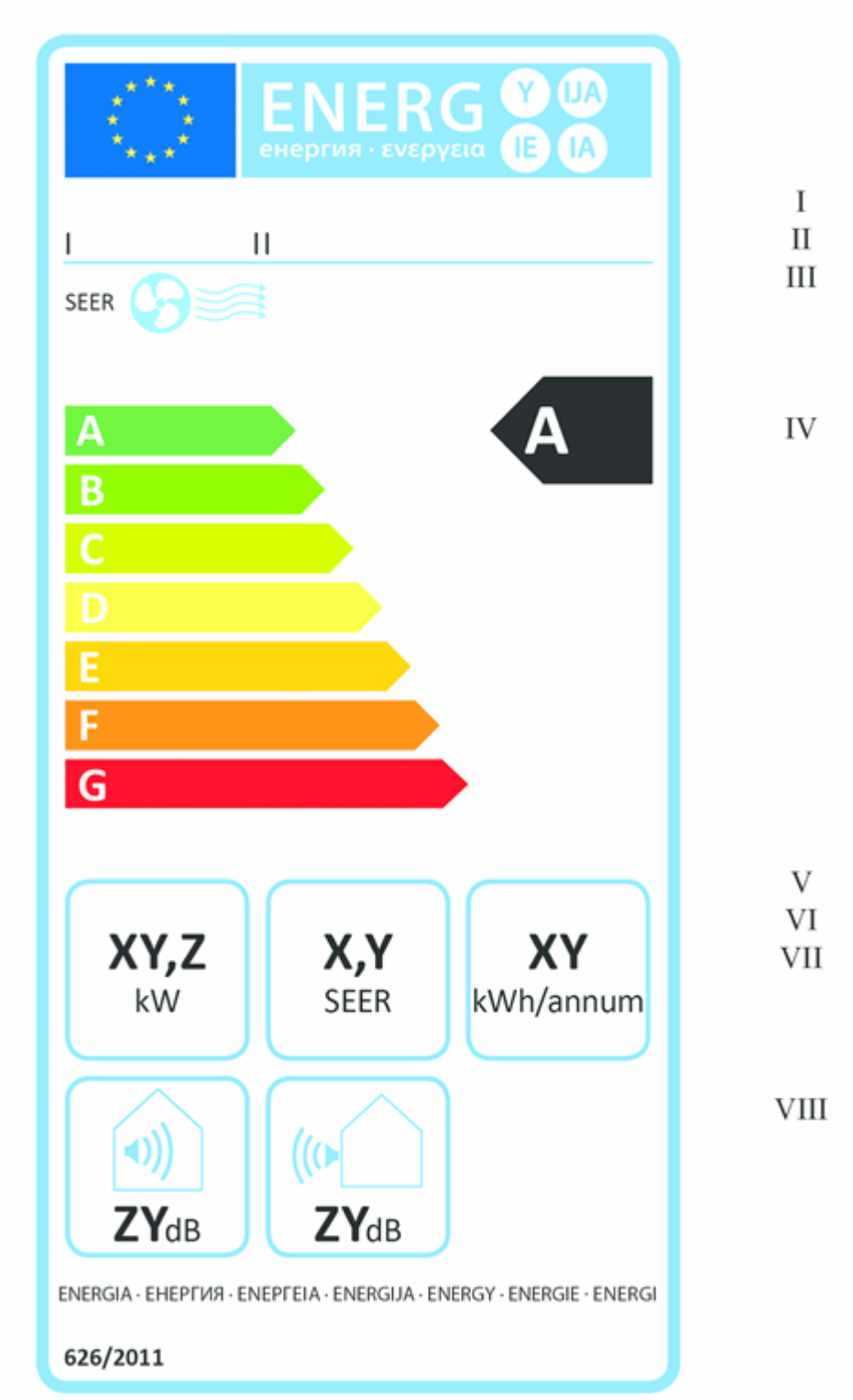
15 **Supplier's model identifier:**

The suppliers' name or trade mark and model identifier should fit in a space of 102 × 13 mm.

16 **Reference period:**
— **Text:** Calibri bold 10 pt.

2. LABEL OF AIR CONDITIONERS, EXCEPT SINGLE DUCT AND DOUBLE DUCT AIR CONDITIONERS

2.1. **Cooling-only air conditioners classified in energy efficiency classes A to G**



(a) The following information shall be included in the label:

I. supplier’s name or trade mark;

II. supplier's model identifier;

III. text 'SEER', with a blue fan and air wave indication;

IV. the energy efficiency; the head of the arrow containing the energy efficiency class of the appliance shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;

V. design load for cooling in kW, rounded up to one decimal;

VI. seasonal energy efficiency ratio (SEER value), rounded up to one decimal;

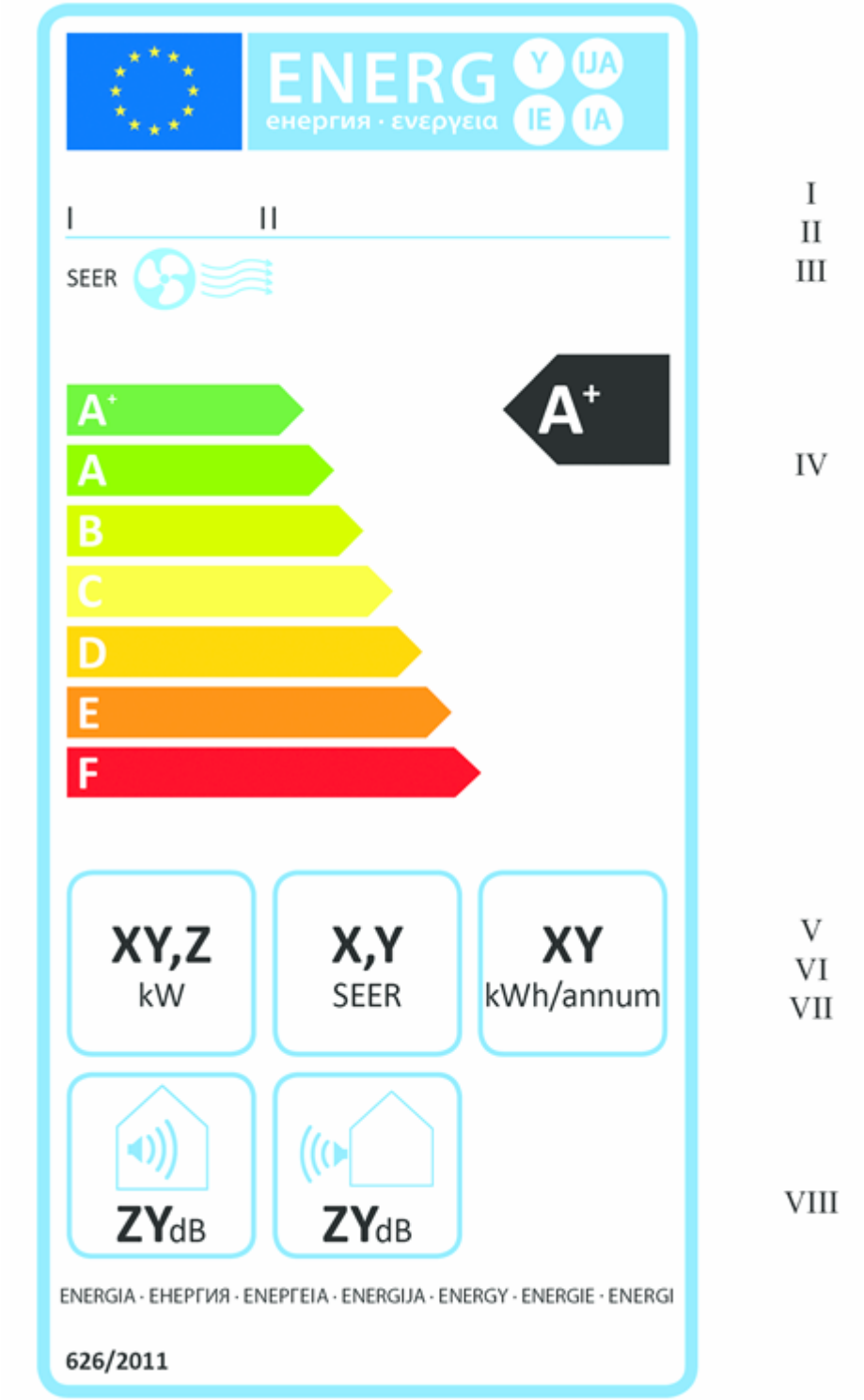
VII. annual energy consumption in kWh per year, rounded up to the nearest integer;

VIII. sound power levels for indoor and outdoor units expressed in dB(A) re1 pW, rounded to the nearest integer.

All the requested values shall be determined in accordance with Annex VII.

(b) The design of the label shall be in accordance with point 2.5. By way of derogation, where a model has been granted an 'EU eco-label' under Regulation (EC) No 66/2010, a copy of the EU eco-label may be added.

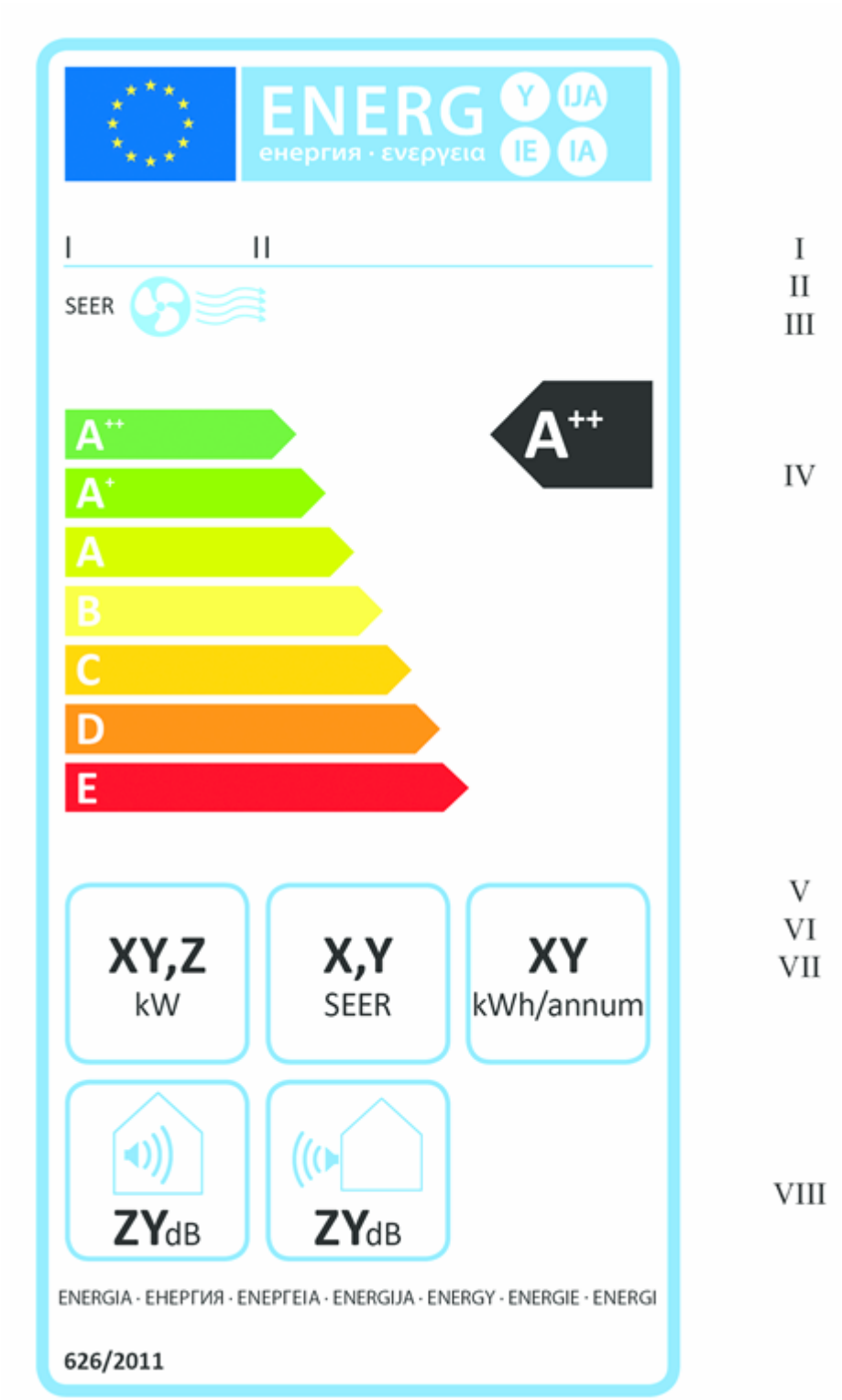
2.2. **Cooling-only air conditioners classified in energy efficiency classes A+ to F**



(a) The information listed in point 2.1 shall be included in the label.

(b) The design aspects of the label shall be in accordance with point 2.5.

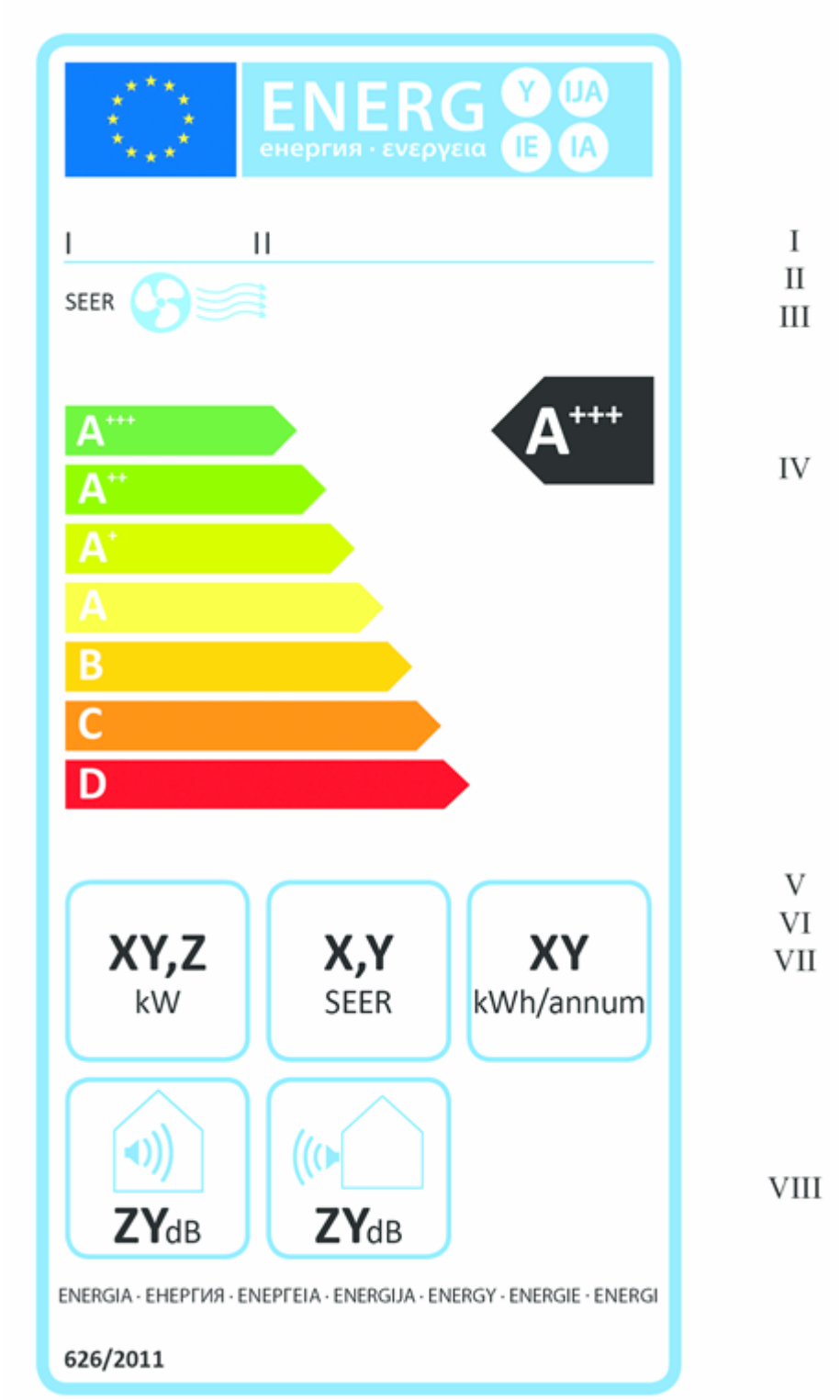
2.3. **Cooling-only air conditioners classified in energy efficiency classes A++ to E**



(a) The information listed in point 2.1 shall be included in the label.

(b) The design aspects of the label shall be in accordance with point 2.5.

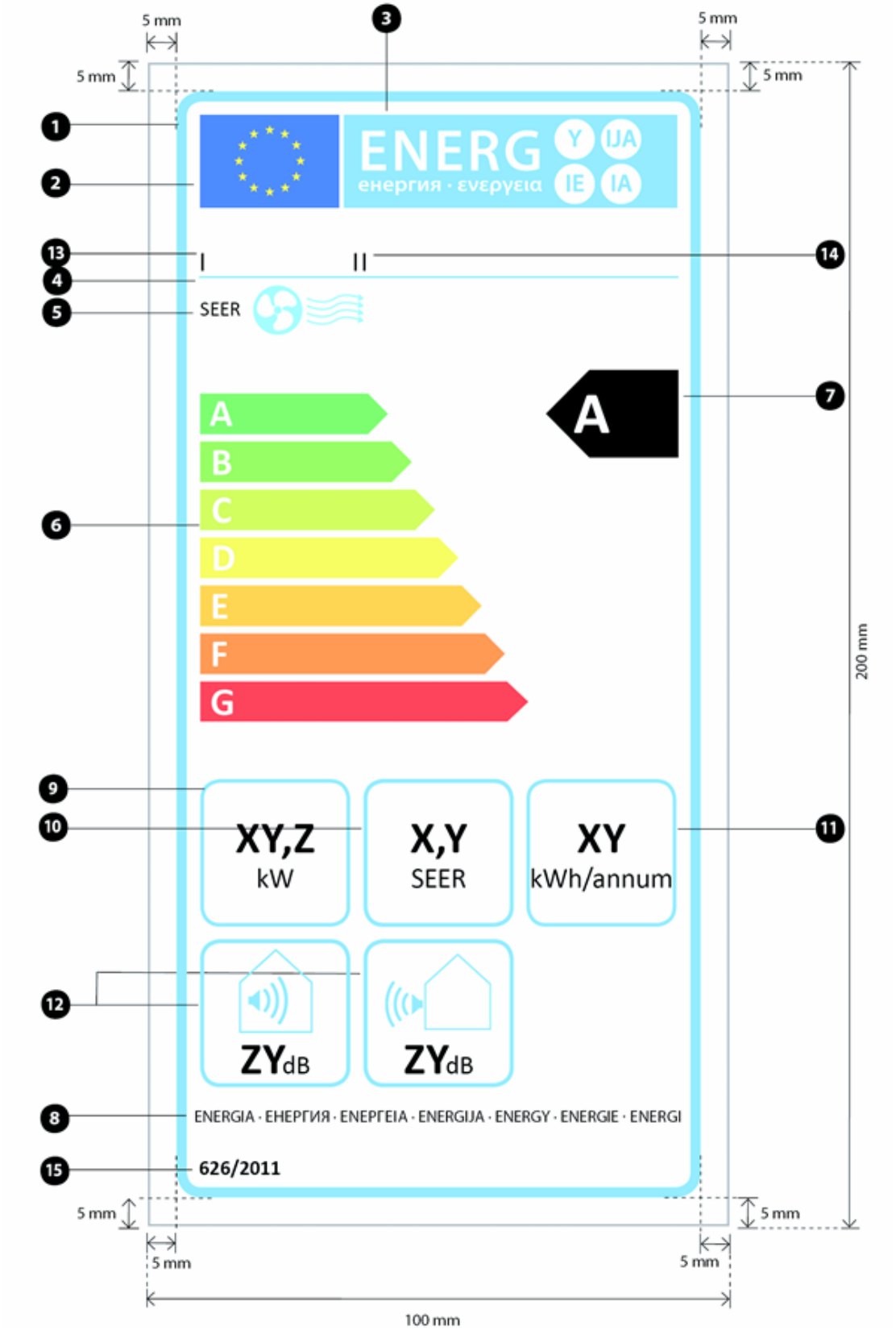
2.4. **Cooling-only air conditioners classified in energy efficiency classes A+++ to D**



(a) The information listed in point 2.1 shall be included in the label.

(b) The design aspects of the label shall be in accordance with point 2.5.

2.5. **Label design**


5 mm
5 mm
5 mm
5 mm
3
1
2
ENERG
енергия · ενεργεια
Y
IJA
IE
IA
13
14
I
II
4
5
SEER
A
7
A
B
C
D
E
F
G
6
9
10
XY,Z
kW
X,Y
SEER
XY
kWh/annum
11
12
ZYdB
ZYdB
8
ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI
15
626/2011
200 mm
5 mm
5 mm
5 mm
5 mm
100 mm

Whereby:

(i) The label shall be at least 100 mm wide and 200 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above.

(ii) The background shall be white.

(iii) Colours are coded as CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.

(iv) The label shall fulfil all of the following requirements (numbers refer to the figure above):

1 **EU label border:** stroke: 5 pt – colour: cyan 100 % – round corners: 3,5 mm.

2 **EU logo:** Colours: X-80-00-00 and 00-00-X-00.

3 **Energy label:**
Colour: X-00-00-00.
Pictogram as depicted: EU logo + energy label: width: 93 mm, height: 18 mm.

4 **Sub-logos border:** 1 pt – colour: cyan 100 % – length: 93,7 mm.

5 **SEER indication:**

Text: Calibri regular 10 pt, capitals, 100 % black.

6 **A-G scale:**
— **Arrow:** height: 7 mm, gap: 1,3 mm – colours:
Highest class: X-00-X-00,
Second class: 70-00-X-00,
Third class: 30-00-X-00,
Fourth class: 00-00-X-00,
Fifth class: 00-30-X-00,
Sixth class: 00-70-X-00,
Last class(es): 00-X-X-00.
— **Text:** Calibri bold 18 pt, capitals, white.

7 **Energy efficiency class:**
— **Arrow:** Width: 23 mm, height: 15 mm, 100 % black;
— **Text:** Calibri bold 29 pt, capitals, white.

8 **Energy:**
— **Text:** Calibri regular 8 pt, capitals, 100 % black.

9 **Rated capacity in kW:**
Text 'kW': Calibri regular 14 pt, 100 % black.
Value 'XY,Z': Calibri bold 22 pt, 100 % black.

10 **SEER value rounded up to one decimal:**
— **Border:** 3 pt – colour: cyan 100 % – round corners: 3,5 mm.
— **Text 'SEER':** Calibri regular 14 pt, capitals, 100 % black.

— **Value 'X,Y':** Calibri bold 22 pt, 100 % black.

11 **Annual energy consumption in kWh/annum:**

— **Text 'kWh/annum':** Calibri regular 14 pt, 100 % black.

— **Value 'XY'**: Calibri bold 22 pt, 100 % black.

12 **Noise emissions:**

— **Border:** 2 pt – colour: cyan 100 % – round corners: 3,5 mm.

— **Value:** Calibri bold 22 pt, 100 % black.

— **Text:** Calibri regular 14 pt, 100 % black.

13 **Supplier's name or trademark.**

14 **Supplier's model identifier:**

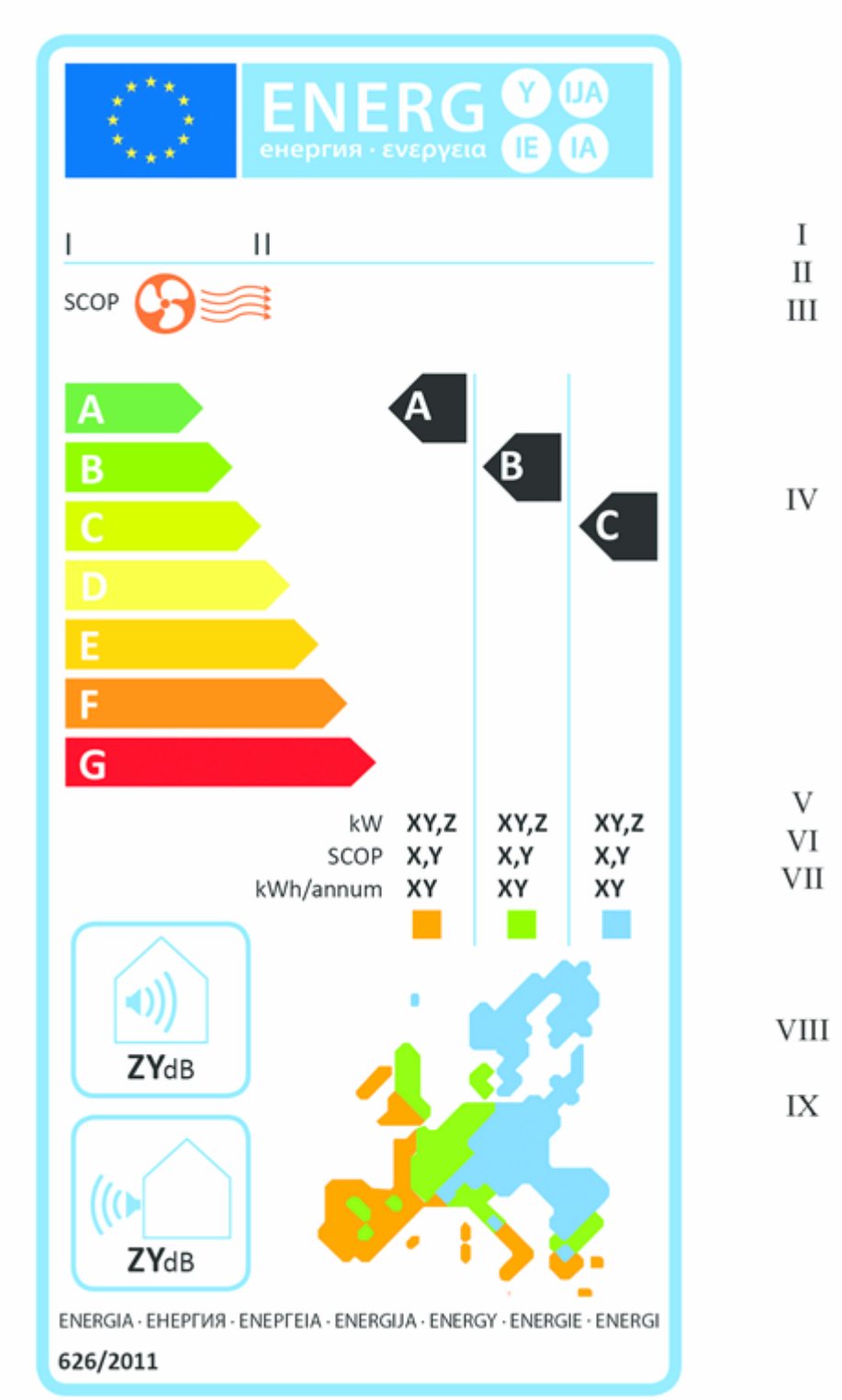
The suppliers' name or trade mark and model identifier should fit in a space of 90 × 15 mm.

15 **Reference period:**

— **Text:** Calibri bold 10 pt.

3. LABEL OF AIR CONDITIONERS, EXCEPT SINGLE DUCT AND DOUBLE DUCT AIR CONDITIONERS

3.1. **Heating-only air conditioners classified in energy efficiency classes A to G**



(a) The following information shall be included in the label:

I. supplier’s name or trade mark;

II. supplier's model identifier;

III. text 'SCOP', with red fan and air wave indication;

IV. the energy efficiency; the head of the arrow containing the energy efficiency class of the appliance shall be placed at the same height as the head of the arrow of the relevant energy efficiency class. Energy efficiency for Average heating season is mandatory. Indication of efficiency for Warmer and Colder climates is optional;

V. design load for heating in kW, for up to 3 heating seasons rounded up to one decimal. Values for heating seasons for which design load is not provided shall be indicated as 'X';

VI. seasonal coefficient of performance (SCOP) for up to 3 heating seasons rounded up to one decimal. Values for heating seasons for which SCOP is not provided shall be indicated as 'X';

VII. annual energy consumption in kWh per year, rounded up to the nearest integer. Values for heating seasons for which annual energy consumption is not provided shall be indicated as 'X';

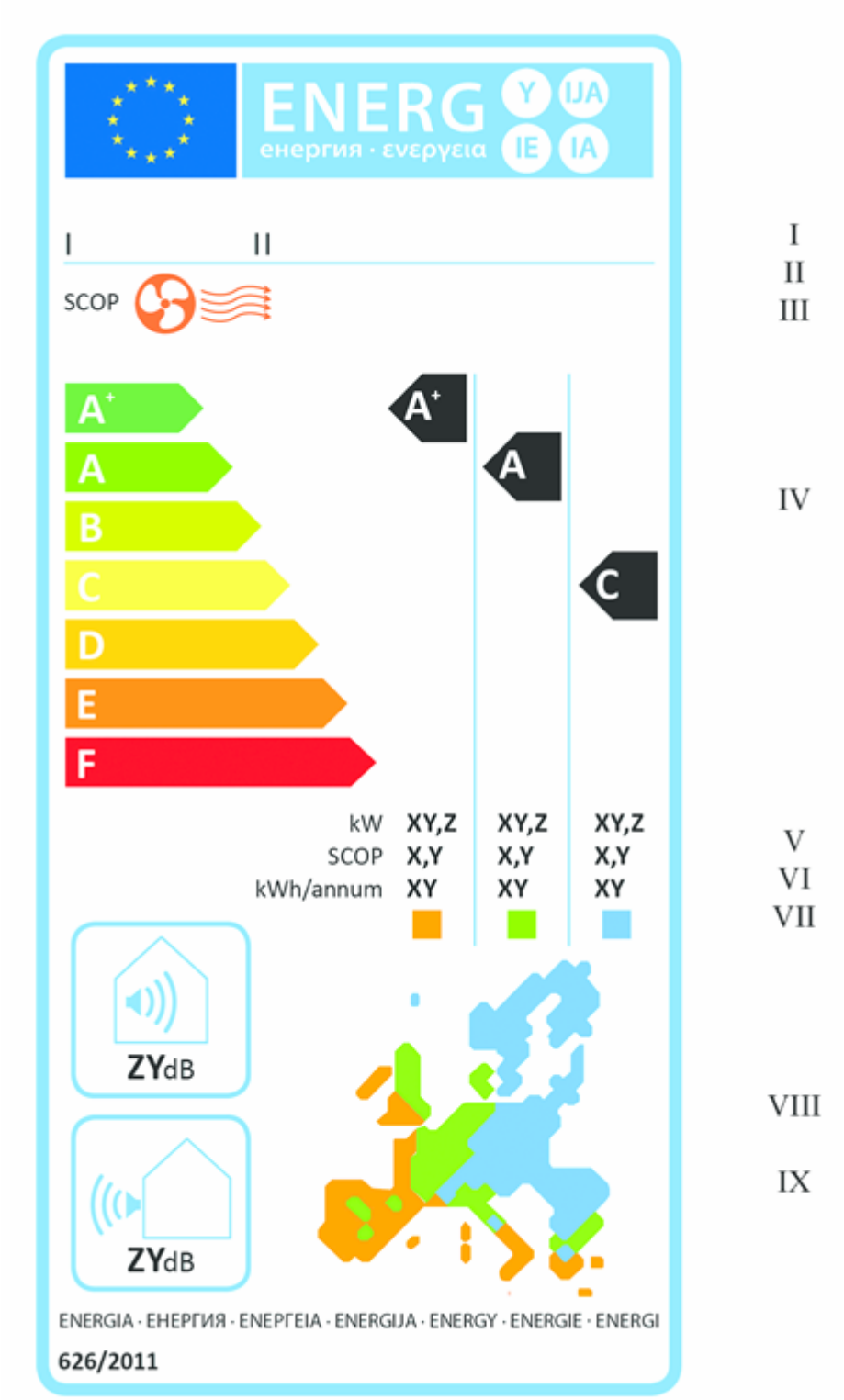
VIII. sound power levels for indoor and outdoor units expressed in dB(A) re1 pW, rounded to the nearest integer;

IX. European map with a display of three indicative heating seasons and corresponding colour squares.

All the requested values shall be determined in accordance with Annex VII.

(b) The design of the label shall be in accordance with point 3.5. By way of derogation, where a model has been granted an 'EU eco-label' under Regulation (EC) No 66/2010, a copy of the EU eco-label may be added.

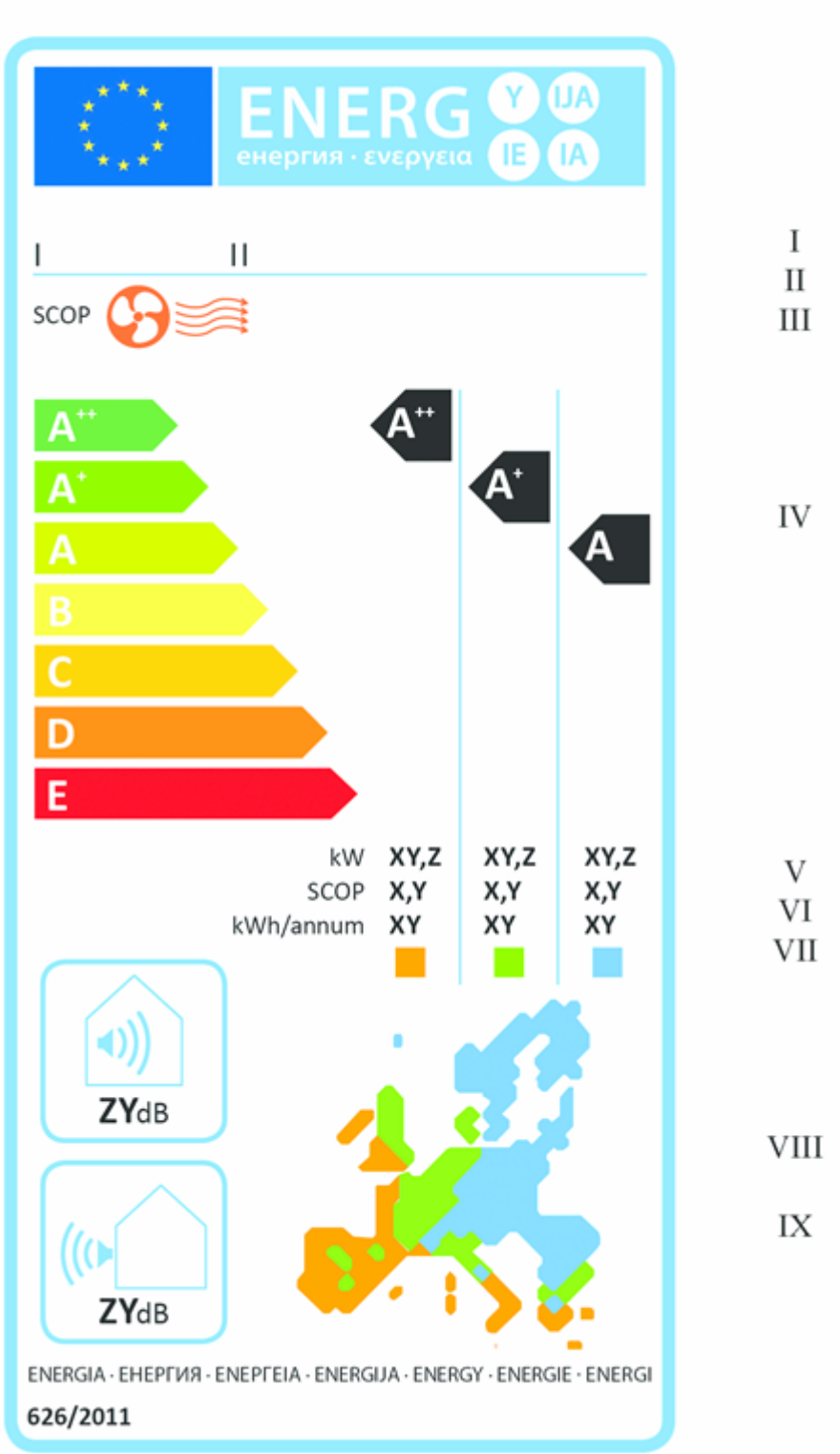
3.2. **Heating-only air conditioners classified in energy efficiency classes A+ to F**



(a) The information listed in point 3.1 shall be included in the label.

(b) The design aspects of the label shall be in accordance with point 3.5.

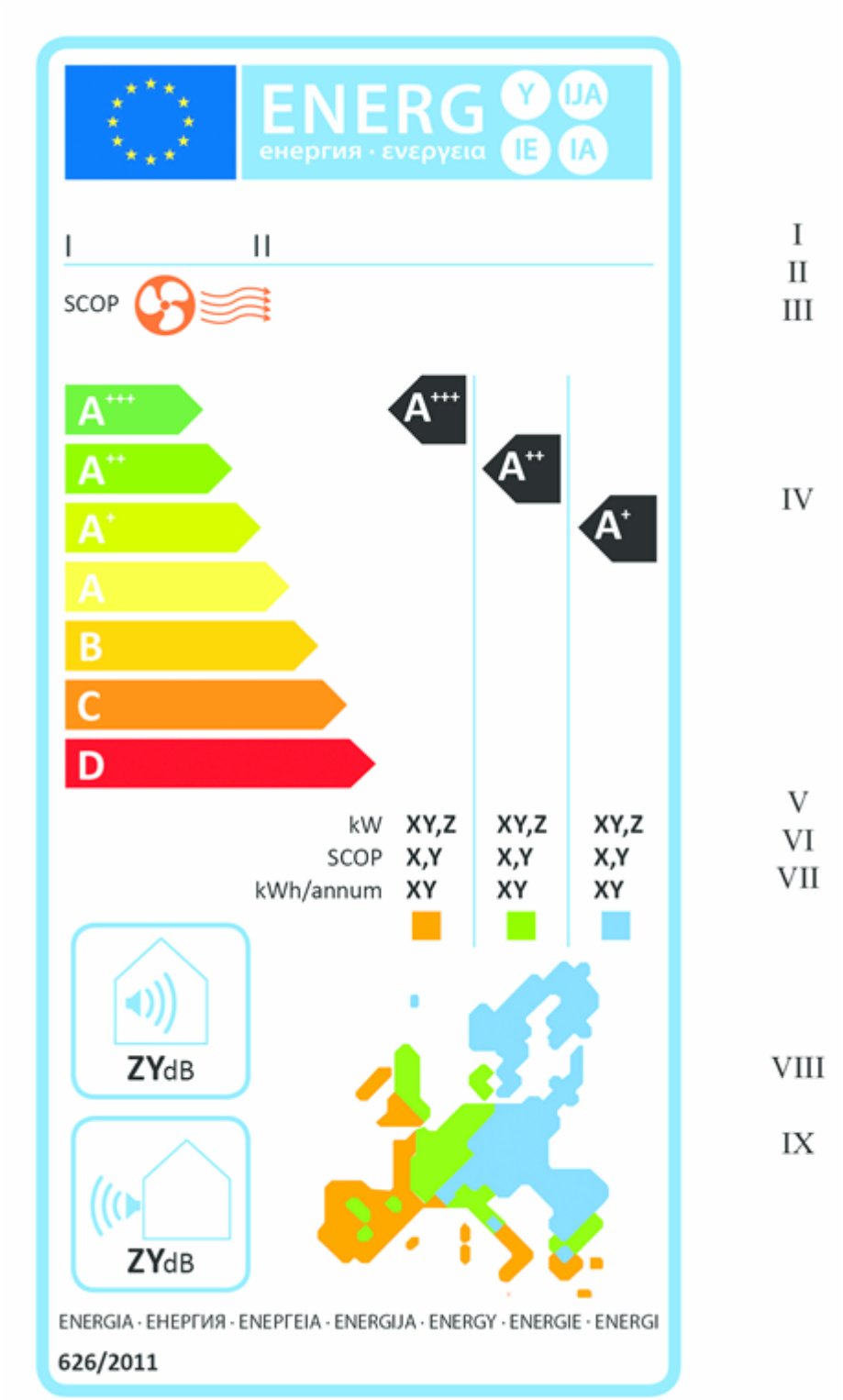
3.3. **Heating-only air conditioners classified in energy efficiency classes A++ to E**



(a) The information listed in point 3.1 shall be included in the label.

(b) The design aspects of the label shall be in accordance with point 3.5.

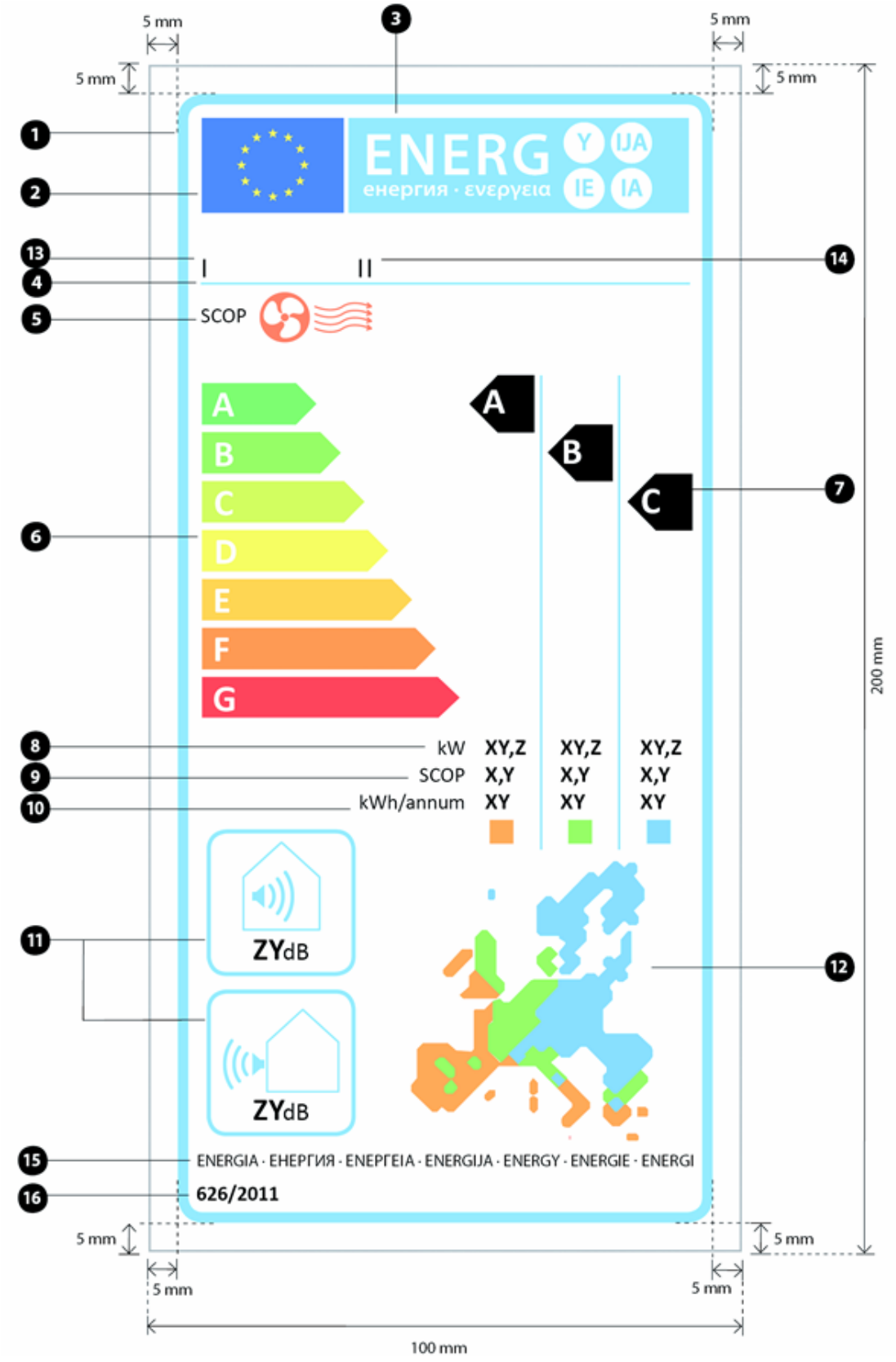
3.4. **Heating-only air conditioners classified in energy efficiency classes A+++ to D**



(a) The information listed in point 3.1 shall be included in the label.

(b) The design aspects of the label shall be in accordance with point 3.5.

3.5. **Label design**


5 mm
5 mm
5 mm
5 mm
3
1
2
ENERG
енергия · ενεργεια
Y
IJA
IE
IA
13
I
II
14
4
5
SCOP
A
B
C
D
E
F
G
A
B
C
7
6
8
kW
XY,Z
XY,Z
XY,Z
9
SCOP
X,Y
X,Y
X,Y
10
kWh/annum
XY
XY
XY
11
ZYdB
ZYdB
12
200 mm
15
ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI
16
626/2011
5 mm
5 mm
5 mm
5 mm
100 mm

Whereby:

(i) The label shall be at least 100 mm wide and 200 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above.

(ii) The background shall be white.

(iii) Colours shall be CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.

(iv) The label shall fulfil all of the following requirements (numbers refer to the figure above):

1 **EU label border:** stroke: 5 pt – colour: cyan 100 % – round corners: 3,5 mm.

2 **EU logo:** Colours: X-80-00-00 and 00-00-X-00.

3 **Energy label:** Colour: X-00-00-00.

Pictogram as depicted: EU logo + energy label: width: 93 mm, height: 18 mm.

4 **Sub-logos border:** 1 pt – colour: cyan 100 % – length: 93,7 mm.

5 **SCOP indication:**

Text: Calibri regular 10 pt, capitals, 100 % black.

6 **A-G scale:**

— **Arrow:** height: 7 mm, gap: 1,3 mm – **colours**:
Highest class: X-00-X-00,
Second class: 70-00-X-00,
Third class: 30-00-X-00,
Fourth class: 00-00-X-00,
Fifth class: 00-30-X-00,
Sixth class: 00-70-X-00,
Last class(es): 00-X-X-00.

— **Text:** Calibri bold 18 pt, capitals, white.

7 **Energy efficiency class(es):**

— **Arrow:** width: 11 mm, height: 10 mm, 100 % black;

— **Text:** Calibri bold 18 pt, capitals, white.

8 **Rated capacity in kW:**

— **Text 'kW':** Calibri regular 10 pt, 100 % black.

— **Value 'XY,Z':** Calibri bold 11 pt, 100 % black.

9 **SCOP values, rounded up to one decimal:**

— **Text 'SCOP':** Calibri regular 10 pt, capitals, 100 % black.

— **Value 'X,Y':** Calibri bold 11 pt, 100 % black.

10 **Annual energy consumption in kWh/annum:**

— **Text 'kWh/annum':** Calibri regular 10 pt, 100 % black.

— **Value 'XY':** Calibri bold 11 pt, 100 % black.

11 **Noise emissions:**

— **Border:** 2 pt – colour: cyan 100 % – round corners: 3,5 mm.

— **Value:** Calibri bold 15 pt, 100 % black.

— **Text:** Calibri regular 12 pt, 100 % black.

12 **European map and colour squares:**

Colours:

Orange: 00-46-46-00.

Green: 59-00-47-00.

Blue: 54-08-00-00.

13 **Supplier's name or trademark**.

14 **Supplier's model identifier:**

The suppliers' name or trade mark and model identifier should fit in a space of 90 × 15 mm.

15 **Energy:**

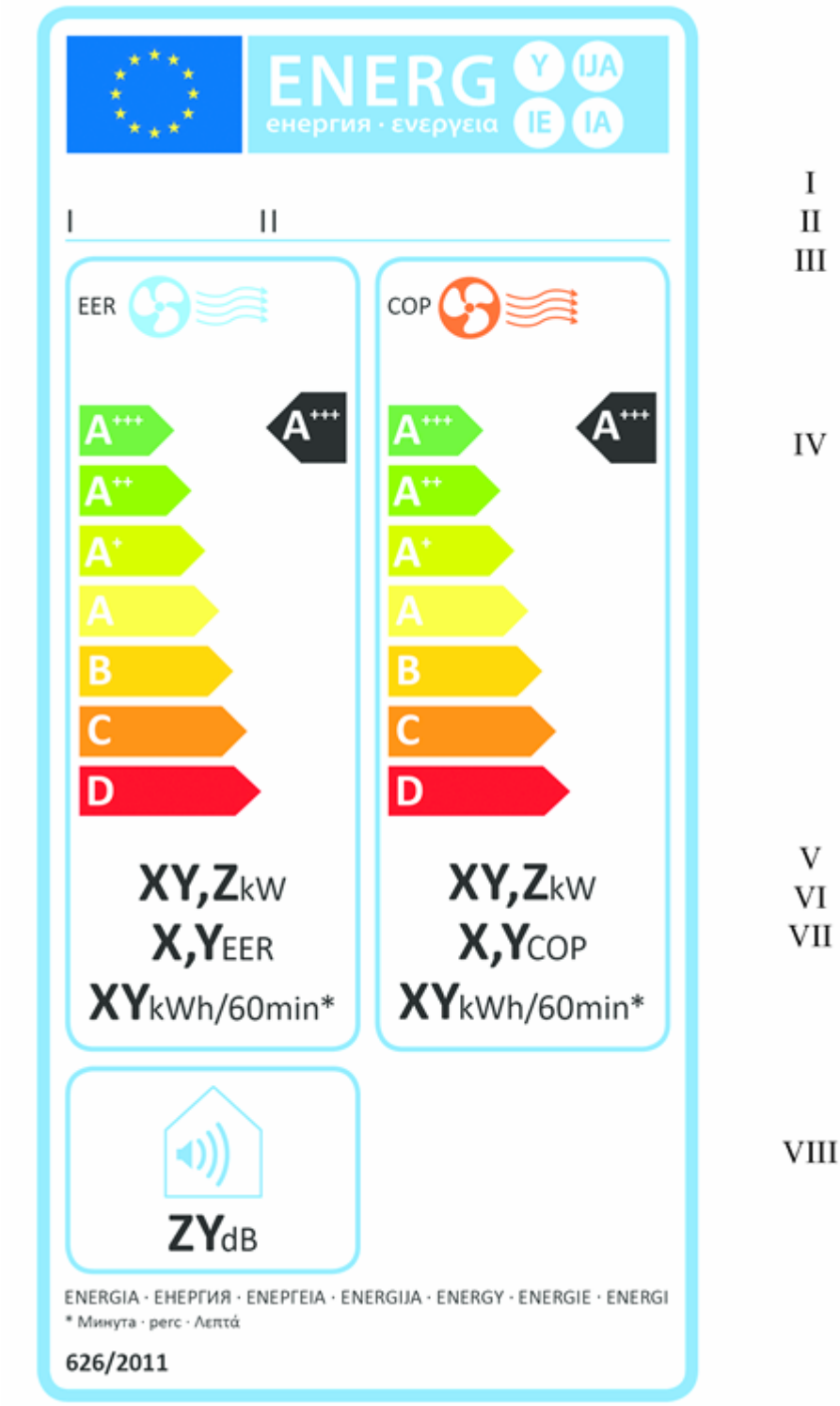
— **Text:** Calibri regular 8 pt, capitals, 100 % black.

16 **Reference period:**

— **Text:** Calibri bold 10, pt.

4. LABEL OF DOUBLE DUCT AIR CONDITIONERS

4.1. **Reversible double duct air conditioners classified in energy efficiency classes A +++ to D**



(a) The following information shall be included in the label:

I. supplier’s name or trade mark;

II. supplier's model identifier;

III. text 'EER' and 'COP' for cooling and heating, with a blue fan and air wave indication for EER and red fan and air wave indication for COP;

IV. the energy efficiency; the head of the arrow containing the energy efficiency class of the appliance shall be placed at the same height as the head of the arrow of the relevant energy efficiency class. Energy efficiency must be indicated for cooling and heating;

V. Rated capacity for cooling and heating mode in kW, rounded up to one decimal;

VI. EER_{rated} and COP_{rated}, rounded up to one decimal;

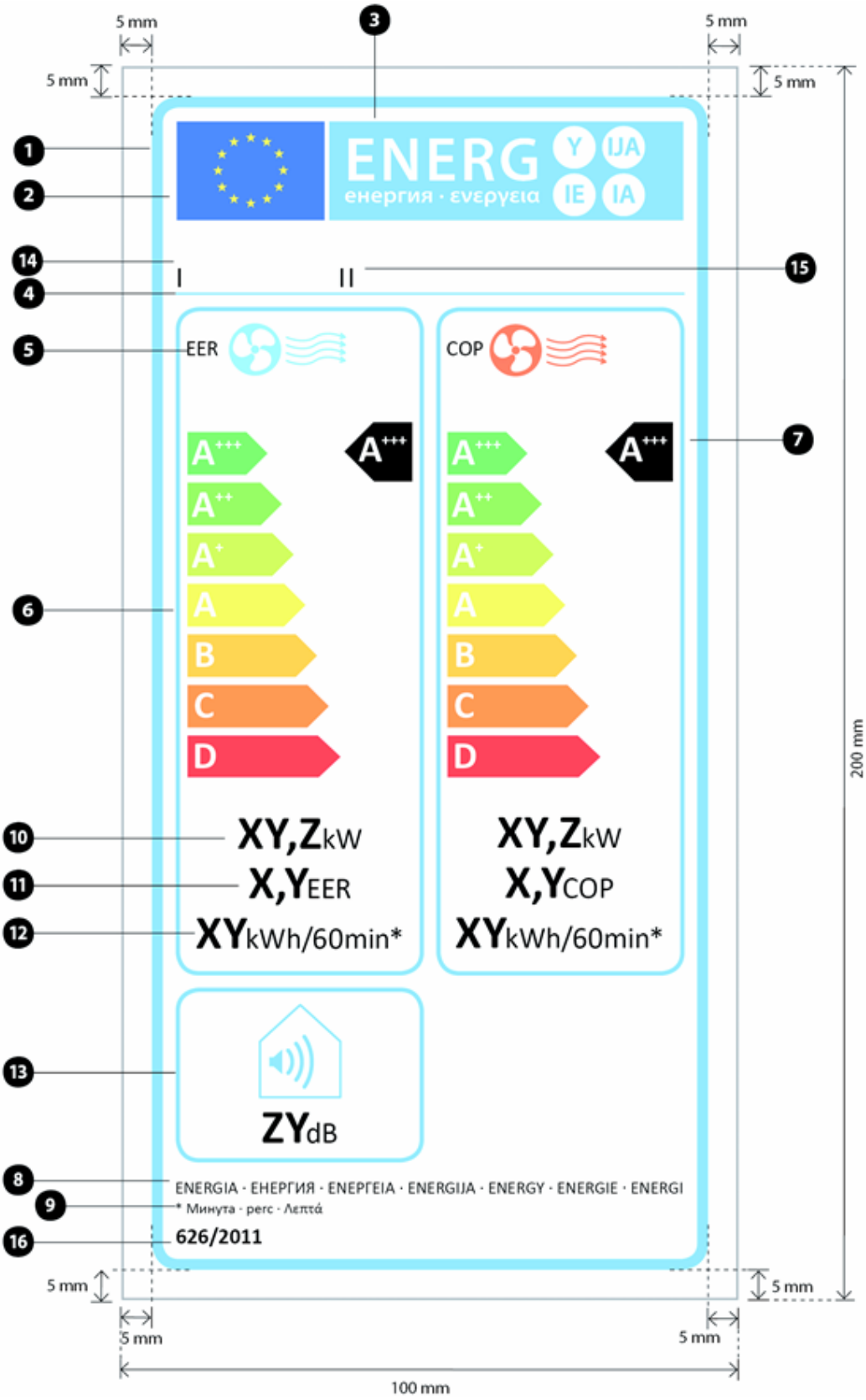
VII. hourly energy consumption in kWh per 60 minutes, for cooling and heating mode, rounded up to the nearest integer;

VIII. sound power level for indoor unit expressed in dB(A) re1 pW, rounded to the nearest integer.

All the requested values shall be determined in accordance with Annex VII.

(b) The design of the label shall be in accordance with point 4.2. By way of derogation, where a model has been granted an 'EU eco-label' under Regulation (EC) No 66/2010, a copy of the EU eco-label may be added.

4.2. **Label Design**


5 mm
5 mm
5 mm
5 mm
3
1
2
ENERG
енергия · ενεργεια
Y
IJA
IE
IA
14
15
I
II
4
5
EER
COP
A+++
A++
A+
A
B
C
D
7
6
10
XY,ZkW
11
X,YEER
12
XYkWh/60min*
X,YCOP
13
ZYdB
8
ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI
9
* Минута · perc · Λεπτά
16
626/2011
200 mm
100 mm

Whereby:

(i) The label shall be at least 100 mm wide and 200 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above.

(ii) The background shall be white.

(iii) Colours shall be CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.

(iv) The label shall fulfil all of the following requirements (numbers refer to the figure above):

1 **EU label border:** stroke: 5 pt – colour: cyan 100 % – round corners: 3,5 mm.

2 **EU logo:** Colours: X-80-00-00 and 00-00-X-00.

3 **Energy label:** Colour: X-00-00-00.

Pictogram as depicted: EU logo + energy label: width: 82 mm, height: 16 mm.

4 **Sub-logos border:** 1 pt – colour: cyan 100 % – length: 92,5 mm.

5 **EER and COP indication:**

Text: Calibri regular 10 pt, 100 % black

6 **A-G scale:**

— **Arrow:** height: 7 mm, gap: 1,3 mm – colours:
Highest class: X-00-X-00,
Second class: 70-00-X-00,
Third class: 30-00-X-00,
Fourth class: 00-00-X-00,
Fifth class: 00-30-X-00,
Sixth class: 00-70-X-00,
Last class(es): 00-X-X-00.

—

Text:	Calibri bold 18 pt, capitals, white;
	Calibri bold 7 pt, white.

7 **Energy efficiency classes:**

— **Arrow:** width: 11 mm, height: 10 mm, 100 % black;

—

Text:	Calibri bold 18 pt, capitals, white.
	Calibri bold 7 pt, white.

8 **Energy:**

— **Text:** Calibri regular 8 pt, capitals, 100 % black.

9 **‘Minutes’-translation:**

— **Text:** Calibri regular 7 pt, 100 % black.

10 **Rated capacity for cooling and heating mode in kW:**
- **Text 'kW':** Calibri regular 14 pt, 100 % black.
- **Value 'XY,Z':** Calibri bold 22 pt, 100 % black.

11 **COP and EER values, rounded up to one decimal:**
- **Text 'EER'/'COP':** Calibri regular 14 pt, capitals, 100 % black.
- **Value 'X,Y':** Calibri bold 22 pt, 100 % black.

12 **Hourly energy consumption in kWh/60min:**
- **Text 'kWh/60min*':** Calibri regular 14 pt, 100 % black.
- **Value 'XY':** Calibri bold 22 pt, 100 % black.

13 **Noise emissions:**
- **Border:** 2 pt – colour: cyan 100 % – round corners: 3,5 mm.
- **Value:** Calibri bold 22 pt, 100 % black.
- **Text:** Calibri regular 14 pt, 100 % black.

14 **Supplier's name or trademark.**

15 **Supplier's model identifier:**

The suppliers' name or trade mark and model identifier should fit in a space of 82 × 10,5 mm.

16 **Reference period:**
- **Text:** Calibri bold 10 pt.

4.3. **Cooling-only double duct air conditioners classified in energy efficiency classes A+++ to D**

(a) The following information shall be included in the label:

I. supplier’s name or trade mark;

II. supplier's model identifier;

III. text 'EER', with a blue fan and air wave indication;

IV. the energy efficiency; the head of the arrow containing the energy efficiency class of the appliance shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;

V. Rated capacity for cooling in kW, rounded up to one decimal;

VI. EER_{rated}, rounded up to one decimal;

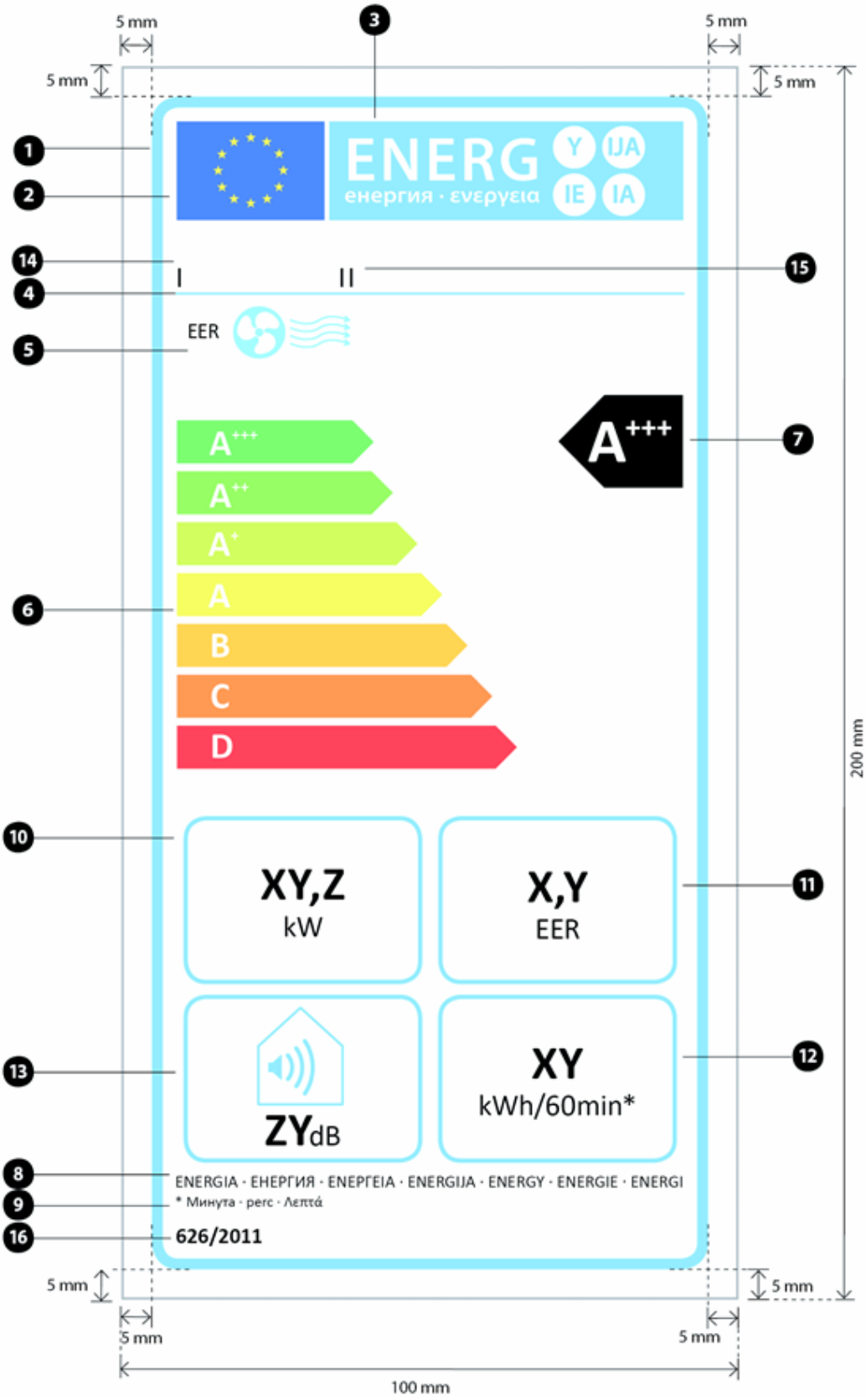
VII. hourly energy consumption in kWh per 60 minutes, rounded up to the nearest integer;

VIII. sound power level for indoor unit expressed in dB(A) re1 pW, rounded to the nearest integer;

All the requested values shall be determined in accordance with Annex VII.

(b) The design of the label shall be in accordance with point 4.4. By way of derogation, where a model has been granted an 'EU eco-label' under Regulation (EC) No 66/2010, a copy of the EU eco-label may be added.

4.4. **Label Design**


5 mm
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енергия · ενεργεια
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IA
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EER
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A+++
7
A+++
A++
A+
A
B
C
D
6
10
XY,Z
kW
X,Y
EER
11
13
ZYdB
XY
kWh/60min*
12
8
ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI
9
* Минута · perc · Λεπτά
16
626/2011
200 mm
5 mm
5 mm
5 mm
5 mm
100 mm

Whereby:

(i) The label shall be at least 100 mm wide and 200 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above.

(ii) The background shall be white.

(iii) Colours are coded as CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.

(iv) The label shall fulfil all of the following requirements (numbers refer to the figure above):

1 **EU label border:** stroke: 5 pt – colour: Cyan 100 % – round corners: 3,5 mm.

2 **EU logo:** Colours: X-80-00-00 and 00-00-X-00.

3 **Energy label:** Colour: X-00-00-00.

Pictogram as depicted: EU logo + energy label: width: 82 mm, height: 16 mm.

4 **Sub-logos border:** 1 pt – colour: cyan 100 % – length: 92,5 mm.

5 **EER indication**:

Text: Calibri regular 10 pt, capitals, 100 % black

6 **A-G scale:**

— **Arrow:** height: 7 mm, gap: 1,3 mm – **colours**:
Highest class: X-00-X-00,
Second class: 70-00-X-00,
Third class: 30-00-X-00,
Fourth class: 00-00-X-00,
Fifth class: 00-30-X-00,
Sixth class: 00-70-X-00,
Last class(es): 00-X-X-00.

—

Text:	Calibri bold 18 pt, capitals, white;
	Calibri bold 7 pt, white.

7 **Energy efficiency class:**

— **Arrow:** width: 20 mm, height: 15 mm, 100 % black;

—

Text:	Calibri bold 30 pt, capitals, white;
	Calibri bold 14 pt, white.

8 **Energy**

— **Text:** Calibri regular 8 pt, capitals, 100 % black.

9 **‘Minutes’-translation:**

— **Text:** Calibri regular 7 pt, 100 % black.

10 **Rated capacity in kW:**
- **Text 'kW':** Calibri regular 14 pt, 100 % black.
- **Value 'XY,Z':** Calibri bold 22 pt, 100 % black.

11 **EER value, rounded up to one decimal:**
- **Text 'EER':** Calibri regular 14 pt, capitals, 100 % black.
- **Value 'X,Y':** Calibri bold 22 pt, 100 % black.

12 **Hourly energy consumption in kWh/60min**:
- **Text 'kWh/60min*':** Calibri regular 14 pt, 100 % black.
- **Value 'XY':** Calibri bold 22 pt, 100 % black.

13 **Noise emissions:**
- **Border:** 2 pt – colour: 100 % cyan – round corners: 3,5 mm.
- **Value:** Calibri bold 22 pt, 100 % black.
- **Text:** Calibri regular 14 pt, 100 % black.

14 **Supplier's name or trademark.**

15 **Supplier's model identifier:**

The suppliers' name or trade mark and model identifier should fit in a space of 82 × 10,5 mm.

16 **Reference period:**
- **Text:** Calibri bold 10 pt.

4.5. **Heating-only double duct air conditioners classified in energy efficiency classes A+++ to D**

(a) The following information shall be included in the label:

I. supplier’s name or trade mark;

II. supplier's model identifier;

III. text 'COP' with red fan and air wave indication;

IV. the energy efficiency; the head of the arrow containing the energy efficiency class of the appliance shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;

V. rated capacity for heating in kW, rounded up to one decimal;

VI. COP_{rated}, rounded up to one decimal;

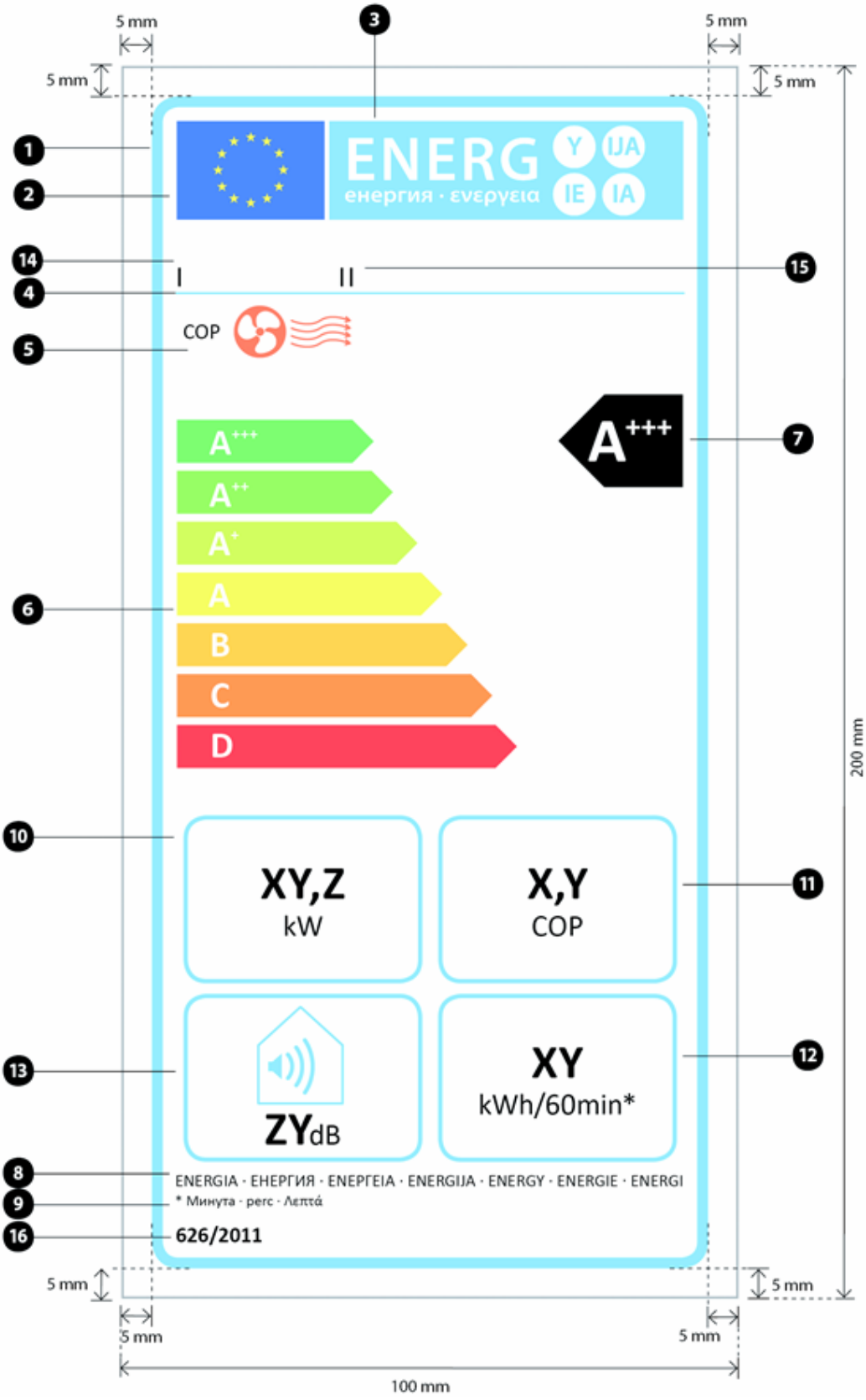
VII. hourly energy consumption in kWh per 60 minutes, rounded up to the nearest integer;

VIII. sound power level for indoor unit expressed in dB(A) re1 pW, rounded to the nearest integer.

All the requested values shall be determined in accordance with Annex VII.

(b) The design of the label shall be in accordance with point 4.6. By way of derogation, where a model has been granted an 'EU eco-label' under Regulation (EC) No 66/2010, a copy of the EU eco-label may be added.

4.6. **Label Design**


5 mm
5 mm
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5 mm
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ENERG
енергия · ενεργεια
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IE
IA
14
15
I
II
4
COP
5
A+++
7
A+++
A++
A+
A
B
C
D
6
10
XY,Z
kW
X,Y
COP
11
13
ZYdB
XY
kWh/60min*
12
8
ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI
9
* Минута · perc · Λεπτά
16
626/2011
200 mm
5 mm
5 mm
5 mm
5 mm
100 mm

Whereby:

(i) The label shall be at least 100 mm wide and 200 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above.

(ii) The background shall be white.

(iii) Colours are coded as CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.

(iv) The label shall fulfil all of the following requirements (numbers refer to the figure above):

1 **EU label border:** stroke: 5 pt – colour: cyan 100 % – round corners: 3,5 mm.

2 **EU logo:** Colours: X-80-00-00 and 00-00-X-00.

3 **Energy label:** Colour: X-00-00-00.

Pictogram as depicted: EU logo + energy label: width: 82 mm, height: 16 mm.

4 **Sub-logos border:** 1 pt – colour: 100 % cyan – length: 92,5 mm.

5 **COP indication**:

Text: Calibri regular 10 pt, capitals, 100 % black

6 **A-G scale:**

— **Arrow:** height: 7 mm, gap: 1,3 mm – colours:
Highest class: X-00-X-00,
Second class: 70-00-X-00,
Third class: 30-00-X-00,
Fourth class: 00-00-X-00,
Fifth class: 00-30-X-00,
Sixth class: 00-70-X-00,
Last class(es): 00-X-X-00.

—

Text:	Calibri Bold 18 pt, capitals, white;
	Calibri bold 7 pt, white.

7 **Energy efficiency class:**

— **Arrow:** width: 20 mm, height: 15 mm, 100 % black;

—

Text:	Calibri bold 30 pt, capitals, white;
	Calibri bold 14 pt, white.

8 **Energy:**

— **Text:** Calibri regular 8 pt, capitals, 100 % black.

9 **‘Minutes’-translation:**

— **Text:** Calibri regular 7 pt, 100 % black.

10 **Rated capacity in kW:**
- **Text 'kW':** Calibri regular 14 pt, 100 % black.
- **Value 'XY,Z':** Calibri bold 22 pt, 100 % black.

11 **COP value, rounded up to one decimal**:
- **Text 'COP':** Calibri regular 14 pt, capitals, 100 % black.
- **Value 'X,Y':** Calibri bold 22 pt, 100 % black.

12 **Hourly energy consumption in kWh/60min**:
- **Text 'kWh/60min*':** Calibri regular 14 pt, 100 % black.
- **Value 'XY':** Calibri bold 22 pt, 100 % black.

13 **Noise emissions:**
- **Border:** 2 pt – colour: cyan 100 % – round corners: 3,5 mm.
- **Value:** Calibri bold 22 pt, 100 % black.
- **Text:** Calibri regular 14 pt, 100 % black.

14 **Supplier's name or trademark.**

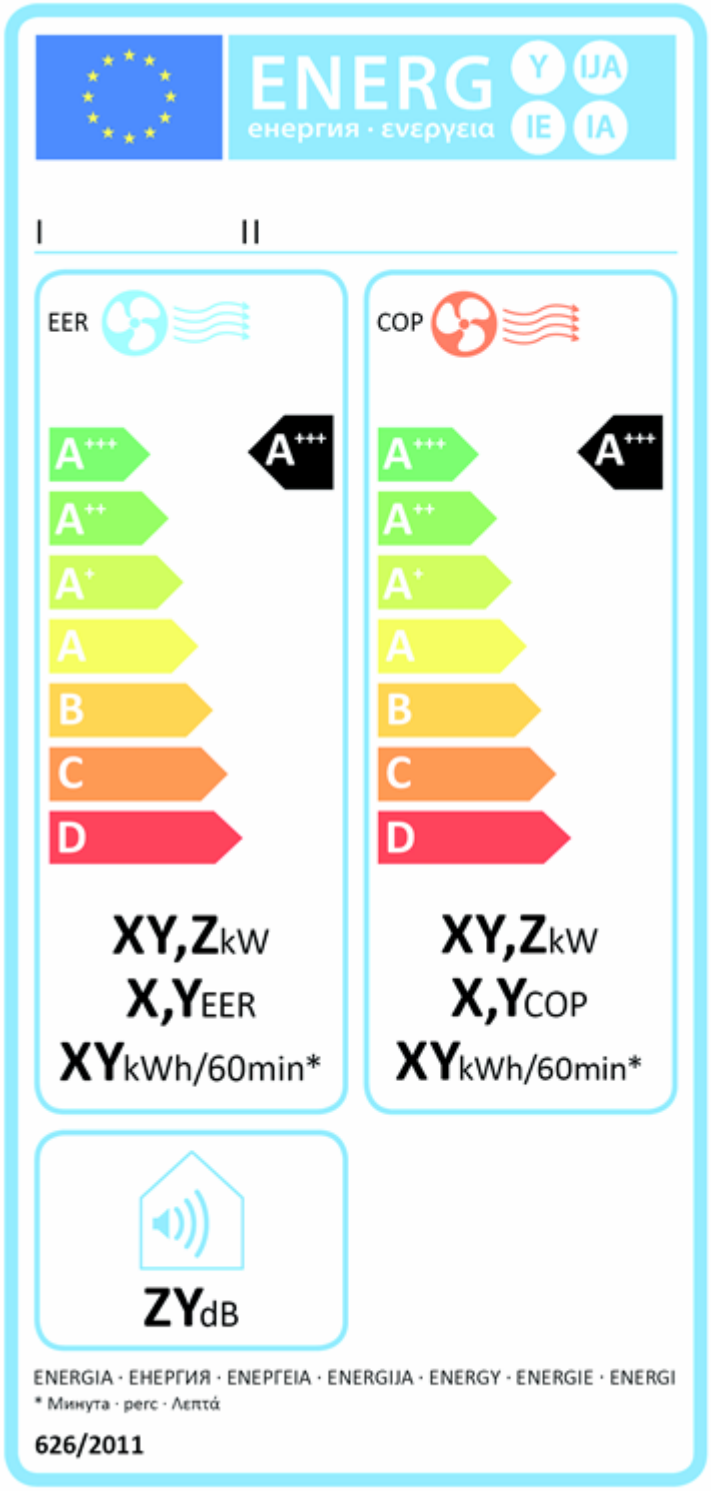
15 **Supplier's model identifier:**

The suppliers' name or trade mark and model identifier should fit in a space of 82 × 10,5 mm.

16 **Reference period:**
- **Text:** Calibri bold 10 pt.

5. LABEL OF SINGLE DUCT AIR CONDITIONERS

5.1. **Reversible single duct air conditioners classified in energy efficiency classes A+++ to D**



(a) The following information shall be included in the label:

I. supplier’s name or trade mark;

II. supplier's model identifier;

III. text 'EER' and 'COP' for cooling and heating, with a blue fan and air wave indication for EER and red fan and air wave indication for COP;

IV. the energy efficiency; the head of the arrow containing the energy efficiency class of the appliance shall be placed at the same height as the head of the arrow of the relevant energy efficiency class. Energy efficiency must be indicated for cooling and heating;

V. rated capacity for cooling and heating mode in kW, rounded up to one decimal;

VI. EER_{rated} and COP_{rated}, rounded up to one decimal;

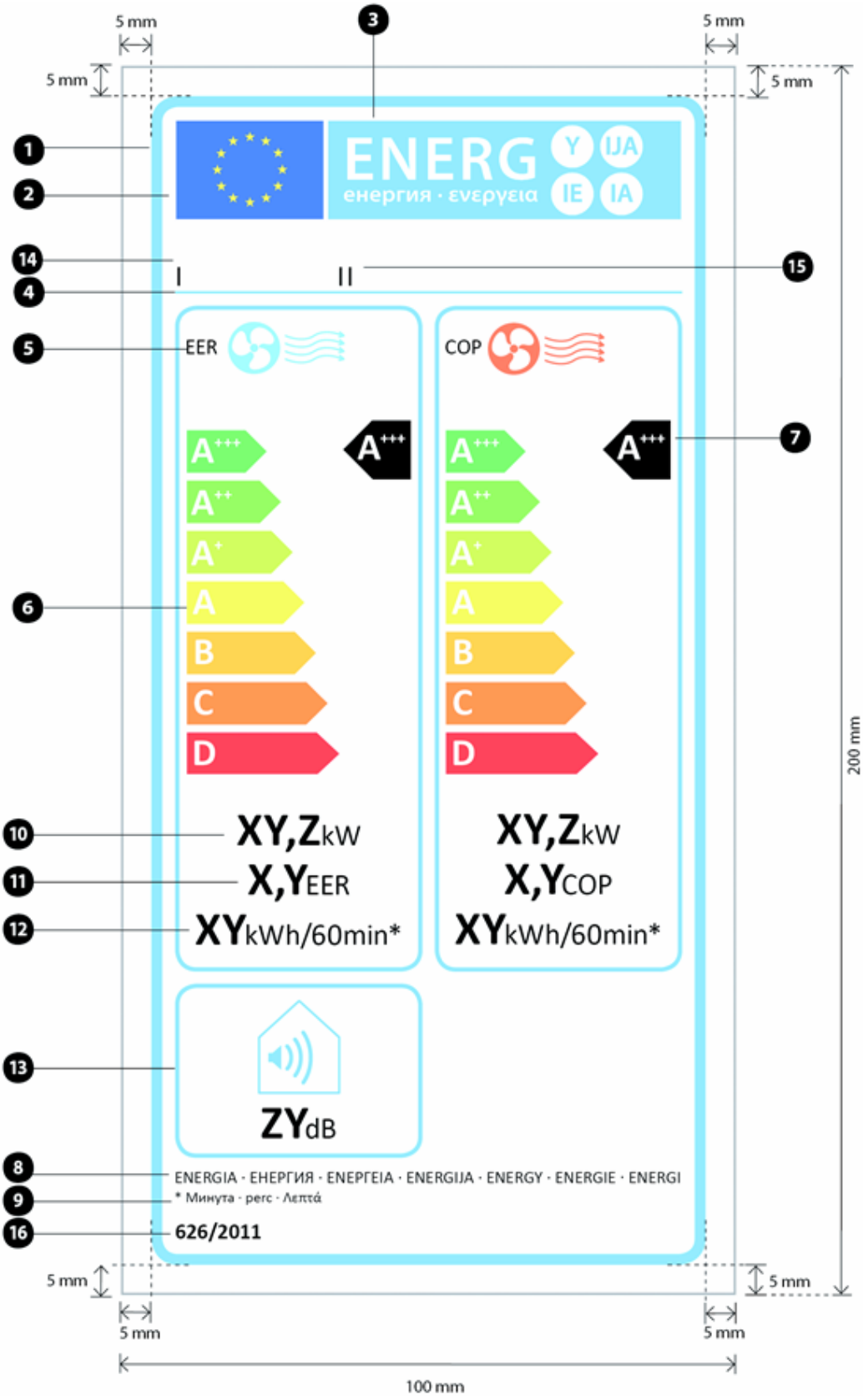
VII. hourly energy consumption in kWh per 60 minutes, for cooling and heating, rounded up to one decimal;

VIII. sound power level for indoor unit expressed in dB(A) re1 pW, rounded to the nearest integer.

All the requested values shall be determined in accordance with Annex VII.

(b) The design of the label shall be in accordance with point 5.2. By way of derogation, where a model has been granted an 'EU eco-label' under Regulation (EC) No 66/2010, a copy of the EU eco-label may be added.

5.2. **Label Design**


5 mm
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ENERG
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IA
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14
I
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EER
COP
A+++
A++
A+
A
B
C
D
7
6
10
XY,ZkW
11
X,YEER
12
XYkWh/60min*
XY,ZkW
X,YCOP
XYkWh/60min*
13
ZYdB
8
ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI
9
* Минута · perc · Λεπτά
16
626/2011
200 mm
5 mm
5 mm
5 mm
5 mm
100 mm

Whereby:

(i) The label shall be at least 100 mm wide and 200 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above.

(ii) The background shall be white.

(iii) Colours are coded as CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.

(iv) The label shall fulfil all of the following requirements (numbers refer to the figure above):

1 **EU label border:** stroke: 5 pt – colour: cyan 100 % – round corners: 3,5 mm.

2 **EU logo:** Colours: X-80-00-00 and 00-00-X-00.

3 **Energy label:** Colour: X-00-00-00.

Pictogram as depicted: EU logo + energy label: width: 82 mm, height: 16 mm.

4 **Sub-logos border:** 1 pt – colour: cyan 100 % – length: 92,5 mm.

5 **EER and COP indication**:

— **Border:** 2 pt – colour: cyan 100 % – round corners: 3,5 mm.

— **Text**: Calibri regular 10 pt, capitals, 100 % black.

6 **A-G scale:**

— **Arrow:** height: 7 mm, gap: 1,3 mm – colours:
Highest class: X-00-X-00,
Second class: 70-00-X-00,
Third class: 30-00-X-00,
Fourth class: 00-00-X-00,
Fifth class: 00-30-X-00,
Sixth class: 00-70-X-00,
Last class(es): 00-X-X-00.

—

Text:	Calibri bold 18 pt, capitals, white;
	Calibri bold 7 pt, white.

7 **Energy efficiency classes:**

— **Arrow:** Width: 11 mm, height: 10 mm, 100 % black;

— **Text:** Calibri bold 18 pt, capitals, white.

8 **Energy:**

— **Text:** Calibri regular 8 pt, capitals, 100 % black.

9 **‘Minutes’-translation:**

— **Text:** Calibri regular 7 pt, 100 % black.

10 **Rated capacity for cooling and heating in kW:**

— **Text ‘kW’:** Calibri regular 14 pt, 100 % black.

— **Value 'XY,Z':** Calibri bold 22 pt, 100 % black.

11 **EER and COP values, rounded up to one decimal**:
— **Text:** Calibri regular 14 pt, capitals, 100 % black.
— **Value 'X,Y':** Calibri bold 22 pt, 100 % black.

12 **Hourly energy consumption in kWh/60min**:
— **Text 'kWh/60min*':** Calibri regular 14 pt, 100 % black.
— **Value 'XY':** Calibri bold 22 pt, 100 % black.

13 **Noise emissions**:
— **Border:** 2 pt – colour: cyan 100 % – round corners: 3,5 mm.
— **Value:** Calibri bold 22 pt, 100 % black.
— **Text:** Calibri regular 14 pt, 100 % black.

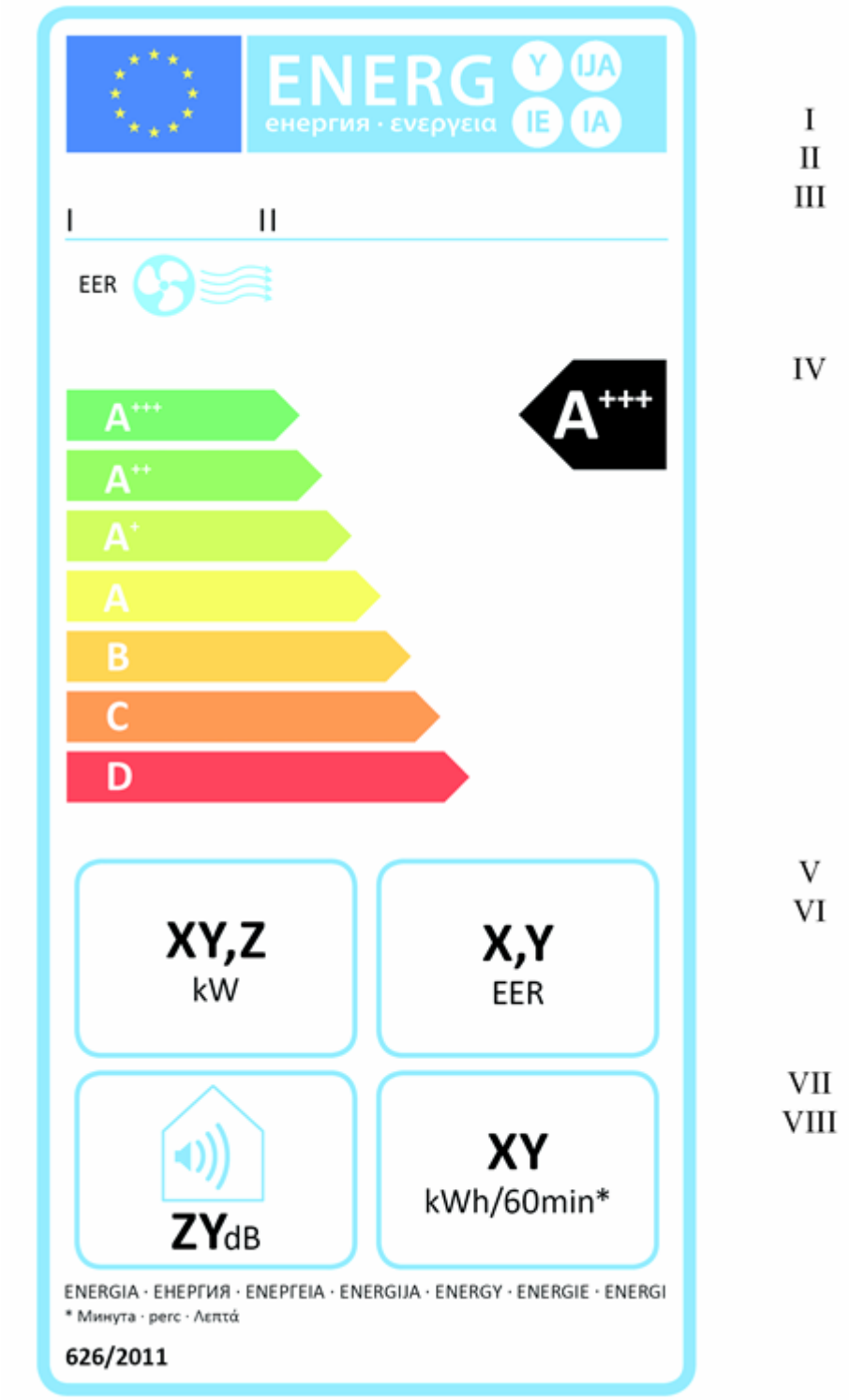
14 **Supplier's name or trademark.**

15 **Supplier's model identifier:**

The suppliers' name or trade mark and model identifier should fit in a space of 82 × 10,5 mm.

16 **Reference period:**
— **Text:** Calibri bold 10 pt.

5.3. **Cooling-only single duct air conditioners classified in energy efficiency classes A +++ to D**



(a) The following information shall be included in the label:

I. supplier’s name or trade mark;

II. supplier's model identifier;

III. text 'EER', with a blue fan and air wave indication;

IV. the energy efficiency; the head of the arrow containing the energy efficiency class of the appliance shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;

V. rated capacity for cooling in kW, rounded up to one decimal;

VI. EER_{rated}, rounded up to one decimal;

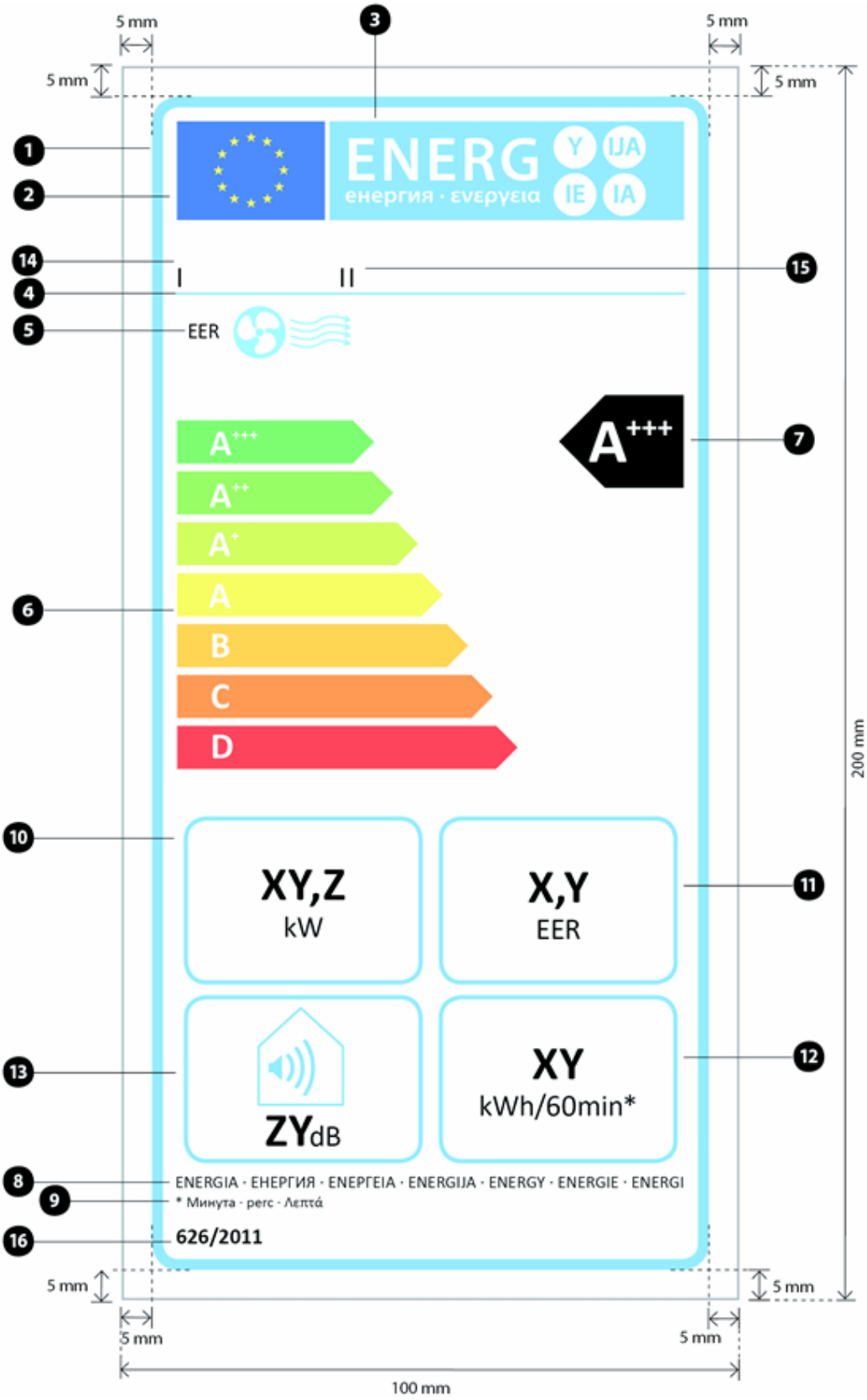
VII. hourly energy consumption in kWh per 60 minutes, rounded up to one decimal;

VIII. sound power level for indoor unit expressed in dB(A) re1 pW, rounded to the nearest integer.

All the requested values shall be determined in accordance with Annex VII.

(b) The design of the label shall be in accordance with point 5.4. By way of derogation, where a model has been granted an 'EU eco-label' under Regulation (EC) No 66/2010, a copy of the EU eco-label may be added.

5.4. **Label Design**


5 mm
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EER
A+++
7
A+++
A++
A+
A
B
C
D
6
10
XY,Z
kW
X,Y
EER
11
13
ZYdB
XY
kWh/60min*
12
8
ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI
9
* Минута · perc · Λεπτά
16
626/2011
5 mm
5 mm
5 mm
5 mm
200 mm
100 mm

Whereby:

(i) The label shall be at least 100 mm wide and 200 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above.

(ii) The background shall be white.

(iii) Colours shall be CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.

(iv) The label shall fulfil all of the following requirements (numbers refer to the figure above):

1 **EU label border:** stroke: 5 pt – colour: cyan 100 % – round corners: 3,5 mm.

2 **EU logo:** Colours: X-80-00-00 and 00-00-X-00.

3 **Energy label:** Colour: X-00-00-00.

Pictogram as depicted: EU logo + energy label: width: 82 mm, height: 16 mm.

4 **Sub-logos border:** 1 pt – colour: cyan 100 % – length: 92,5 mm.

5 **EER indication**:

Text: Calibri regular 10 pt, capitals, 100 % black.

6 **A-G scale:**

— **Arrow:** height: 7 mm, gap: 1,3 mm – colours:
Highest class: X-00-X-00,
Second class: 70-00-X-00,
Third class: 30-00-X-00,
Fourth class: 00-00-X-00,
Fifth class: 00-30-X-00,
Sixth class: 00-70-X-00,
Last class(es): 00-X-X-00.

—

Text:	Calibri bold 18 pt, capitals, white;
	Calibri bold 7 pt, white.

7 **Energy efficiency class:**

— **Arrow:** Width: 20 mm, height: 15 mm, 100 % black;

—

Text:	Calibri bold 30 pt, capitals, white;
	Calibri bold 14 pt, capitals, white.

8 **Energy:**

— **Text:** Calibri regular 8 pt, capitals, 100 % black.

9 **‘Minutes’-translation:**

— **Text:** Calibri regular 7 pt, 100 % black.

10 **Rated capacity in kW:**
— **Text 'kW':** Calibri regular 14 pt, 100 % black.
— **Value 'XY,Z'**: Calibri bold 22 pt, 100 % black.

11 **EER value, rounded up to one decimal:**
— **Text 'EER':** Calibri regular 14 pt, capitals, 100 % black.
— **Value 'X,Y':** Calibri bold 22 pt, 100 % black.

12 **Hourly energy consumption in kWh/60min:**
— **Text 'kWh/60min*':** Calibri regular 14 pt, 100 % black.
— **Value 'XY':** Calibri bold 22 pt, 100 % black.

13 **Noise emissions:**
— **Border:** 2 pt – colour: 100 % cyan – round corners: 3,5 mm.
— **Value:** Calibri bold 22 pt, 100 % black.
— **Text:** Calibri regular 14 pt, 100 % black.

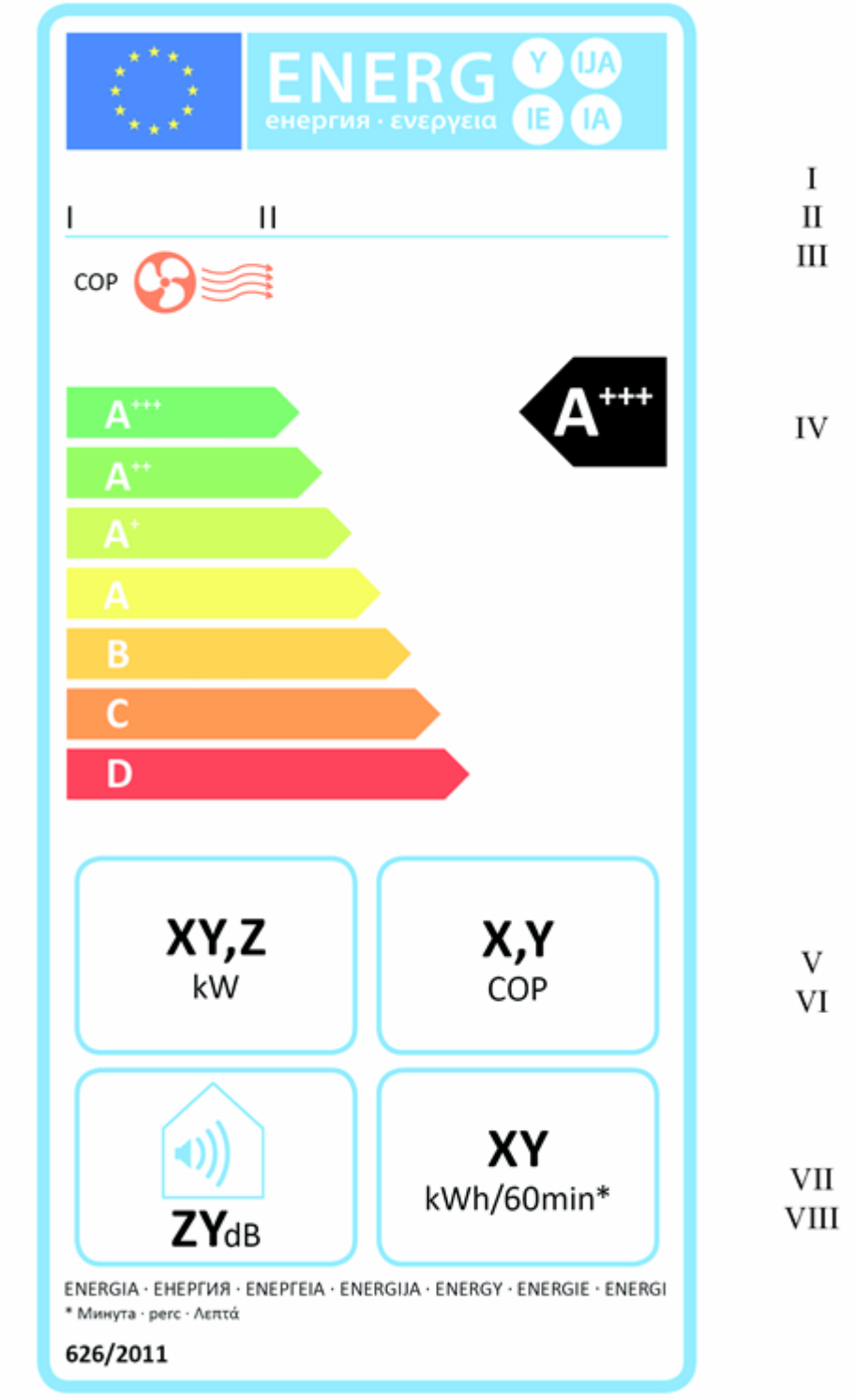
14 **Supplier's name or trademark.**

15 **Supplier's model identifier:**

The suppliers' name or trade mark and model identifier should fit in a space of 82 × 10,5 mm.

16 **Reference period:**
— **Text:** Calibri bold 10 pt.

5.5. **Heating-only single duct air conditioners classified in energy efficiency classes A +++ to D**



(a) The following information shall be included in the label:

I. supplier’s name or trade mark;

II. supplier's model identifier;

III. text 'COP' with red fan and air wave indication;

IV. the energy efficiency; the head of the arrow containing the energy efficiency class of the appliance shall be placed at the same height as the head of the arrow of the relevant energy efficiency class;

V. rated capacity for heating in kW, rounded up to one decimal;

VI. COP_{rated}, rounded up to one decimal;

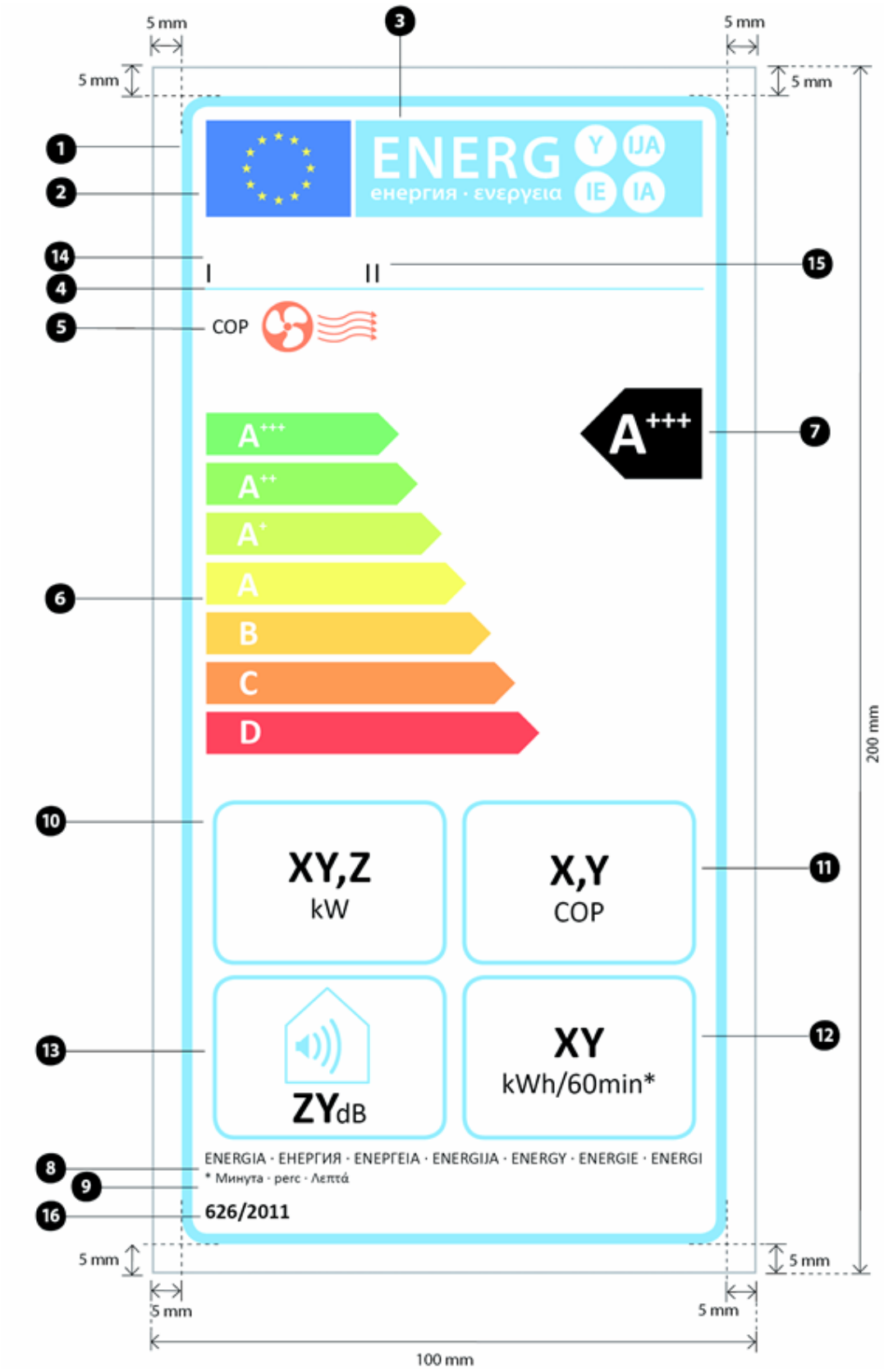
VII. hourly energy consumption in kWh per 60 minutes, rounded to the nearest integer;

VIII. sound power level for indoor unit expressed in dB(A) re1 pW, rounded to the nearest integer.

All the requested values shall be determined in accordance with Annex VII.

(b) The design of the label shall be in accordance with point 5.6. By way of derogation, where a model has been granted an 'EU eco-label' under Regulation (EC) No 66/2010, a copy of the EU eco-label may be added.

5.6. **Label Design**


5 mm
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ENERG
енергия · ενεργεια
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IA
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II
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5
COP
A+++
7
A+++
A++
A+
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B
C
D
6
10
XY,Z
kW
X,Y
COP
11
13
ZYdB
XY
kWh/60min*
12
8
ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI
9
* Минута · perc · Λεπτά
16
626/2011
200 mm
5 mm
5 mm
5 mm
5 mm
100 mm

Whereby:

(i) The label shall be at least 100 mm wide and 200 mm high. Where the label is printed in a larger format, its content shall nevertheless remain proportionate to the specifications above.

(ii) The background shall be white.

(iii) Colours shall be CMYK — cyan, magenta, yellow and black, following this example: 00-70-X-00: 0 % cyan, 70 % magenta, 100 % yellow, 0 % black.

(iv) The label shall fulfil all of the following requirements (numbers refer to the figure above):

1 **EU label border:** stroke: 5 pt – colour: cyan 100 % – round corners: 3,5 mm.

2 **EU logo:** Colours: X-80-00-00 and 00-00-X-00.

3 **Energy label:** Colour: X-00-00-00.

Pictogram as depicted: EU logo + energy label: width: 82 mm, height: 16 mm.

4 **Sub-logos border:** 1 pt – colour: cyan 100 % – length: 92,5 mm.

5 **COP indication**:

Text: Calibri regular 10 pt, capitals, 100 % black

6 **A-G scale:**

— **Arrow:** height: 7 mm, gap: 1,3 mm – colours:
Highest class: X-00-X-00,
Second class: 70-00-X-00,
Third class: 30-00-X-00,
Fourth class: 00-00-X-00,
Fifth class: 00-30-X-00,
Sixth class: 00-70-X-00,
Last class(es): 00-X-X-00.

—

Text:	Calibri bold 18 pt, capitals, white;
	Calibri bold 7 pt, white.

7 **Energy efficiency class:**

— **Arrow:** Width: 20 mm, height: 15 mm, 100 % black;

—

Text:	Calibri bold 30 pt, capitals, white;
	Calibri bold 14 pt, capitals, white.

8 **Energy:**

— **Text:** Calibri regular 8 pt, capitals, 100 % black.

9 **‘Minutes’-translation:**

— **Text:** Calibri regular 7 pt, 100 % black.

10 **Rated capacity in kW:**
— **Text 'kW':** Calibri regular 14 pt, 100 % black.
— **Value 'XY,Z':** Calibri bold 22 pt, 100 % black.

11 **COP value, rounded up to one decimal**:
— **Text 'COP':** Calibri regular 14 pt, capitals, 100 % black.
— **Value 'X,Y':** Calibri bold 22 pt, 100 % black.

12 **Hourly energy consumption in kWh/60 minutes**:
— **Text 'kWh/60min*':** Calibri regular 14 pt, 100 % black.
— **Value 'XY':** Calibri bold 22 pt, 100 % black.

13 **Noise emissions**:
— **Border:** 2 pt – colour: cyan 100 % – round corners: 3,5 mm.
— **Value:** Calibri bold 22 pt, 100 % black.
— **Text:** Calibri regular 14 pt, 100 % black.

14 **Supplier's name or trademark.**

15 **Supplier's model identifier:**

The suppliers' name or trade mark and model identifier should fit in a space of 82 × 10,5 mm.

16 **Reference period:**
— **Text:** Calibri bold 10 pt.

ANNEX IV

Product fiche

1. The information in the product fiche shall be given in the order specified below:

(a) supplier's name or trade mark;

(b) model identifier of the indoor air conditioner or of the indoor and outdoor elements of the air conditioner;

(c) without prejudice to any requirements under the Union eco-label scheme, where a model has been granted a 'European Union eco-label' under Regulation (EC) No 66/2010, a copy of the eco-label may be added;

(d) inside and outside sound power levels at standard rating conditions, on cooling and/or heating modes;

(e) the name and 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*]. 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_2, 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.

2. Additionally, the following information shall be included in the product fiche on air conditioners on the **cooling mode**, when efficiency is declared on the basis of the seasonal energy efficiency ratio (SEER):

(a) the SEER 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 Annex I and VII for the cooling mode as well as with the class limits defined in Annex II;

(b) the indicative annual electricity consumption Q_{CE} in kWh/a during the cooling season, determined in accordance with definitions and test procedures in Annex I and VII, respectively. 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.';

(c) the design load *Pdesignc* in kW of the appliance in cooling mode determined in accordance with definitions and test procedures in Annex I and VII, respectively;

3. Additionally, the following notes define the information to be included in the fiche on the **heating mode**, when efficiency is declared on the basis of seasonal coefficient of performance (SCOP):

(a) the SCOP and the energy efficiency class of the model, or combination, in heating mode determined in accordance with definitions and test procedures in Annex I and VII, respectively, as well as with the class limits defined in Annex II;

(b) the indicative annual electricity consumption for an average heating season Q_{HE} in kWh/a, determined in accordance with definitions and test procedures in Annex I and VII, respectively. 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.';

(c) other designated heating seasons for which the unit is declared fit for purpose, with options of warmer (optional) or colder (optional) seasons, as defined in Annex I;

(d) the design load *Pdesignh* in kW of the appliance in heating mode determined in accordance with definitions and test procedures in Annex I and VII;

(e) the declared capacity and an indication of the back up heating capacity assumed for the calculation of SCOP at reference design conditions.

4. Additionally, the following notes define the information to be included in the fiche of air conditioners, when efficiency is declared on the basis of energy efficiency ratio (EER_{rated}) or coefficient of performance (COP_{rated}):

(a) the energy efficiency class of the model, determined in accordance with definitions and test procedures in Annex I and VII, as well as the class limits defined in Annex II;

(b) for double ducts, the indicative hourly electricity consumption Q_{DD} in kWh/60 minutes determined in accordance with definitions and test procedures in Annex I and VII. It shall be described as: 'Energy consumption "X,Y" kWh per 60 minutes, based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located.';

(c) for single ducts, the indicative hourly electricity consumption Q_{SD} in kWh/60 minutes determined in accordance with definitions and test procedures in Annex I and VII. It shall be described as: 'Energy consumption "X,Y" kWh per 60 minutes, based on standard test results. Actual energy consumption will depend on how the appliance is used and where it is located.';

(d) the cooling capacity P_{rated} in kW of the appliance determined in accordance with definitions and test procedures in Annex I and VII;

(e) the heating capacity P_{rated} in kW of the appliance determined in accordance with definitions and test procedures in Annex I and VII.

5. One fiche may cover a number of appliance models supplied by the same supplier.

6. The information contained in the fiche may be given in the form of a copy of the label, either in colour or in black and white. Where this is the case, the information listed in points 1-4 not already displayed on the label shall also be provided.

ANNEX V

Technical documentation

The technical documentation referred to in Article 3 (1)(c) shall include at least the following items:

(a) the name and address of the supplier;

(b) a general description of the appliance 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 harmonised 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 Annex VII:

  (i) overall dimensions;

  (ii) specification of the type of the air conditioner;

  (iii) specification whether the appliance is designed for cooling or heating only or for both;

  (iv) the energy efficiency class of the model as defined in Annex II;

  (v) The energy efficiency ratio (EER_{rated}) and coefficient of performance (COP_{rated}) for single and double duct air conditioners or seasonal energy efficiency ratio (SEER) and seasonal coefficient of performance (SCOP) for other air conditioners;

  (vi) The heating season for which the appliance is declared fit for purpose;

(vii) Sound power levels expressed in dB(A) re1 pW, rounded to the nearest integer;

(viii) the name and GWP of refrigerant used.

(g) the results of calculations performed in accordance with Annex VII.

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

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. The information shall also include a list of all other equivalent appliance models where the information was obtained on the same basis.

ANNEX VI

Information to be provided in the cases where end-users cannot be expected to see the product displayed

1. The information referred to in Article 4(b) shall be provided in the following order:

(a) The energy efficiency class of the model as defined in Annex II;

(b) for air conditioners other than single ducts and double ducts:

(i) the seasonal energy efficiency ratio (SEER) and/or seasonal coefficient of performance (SCOP);

(ii) the design load (in kW);

(iii) the annual electricity consumption;

(iv) the cooling and/or each heating ('Average, Colder, Warmer') season the appliance is declared fit for purpose;

(c) for single duct and double duct air conditioners:

(i) the energy efficiency ratio (EER) and/or coefficient of performance (COP);

(ii) the rated capacity (kW);

(iii) for double ducts, the hourly electricity consumption for cooling and/or heating;

(iv) for single ducts, the hourly electricity consumption for cooling and/or heating;

(d) Sound power levels expressed in dB(A) re1 pW, rounded to the nearest integer;

(e) Name and GWP of refrigerant used.

2. Where other information contained in the product information fiche is also provided, it shall be in the form and order specified in Annex IV.

3. The size and font in which all the information referred in this Annex is printed or shown shall be legible.

ANNEX VII

Measurements and calculations

1. For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonised standards the reference numbers of which have been published in the *Official Journal of European Union*, or other reliable, accurate and reproducible method, which takes into account the generally recognised state of the art methods, and whose results are deemed to be of low uncertainty.

2. The determination of the seasonal energy consumption and seasonal energy efficiency ratio (SEER) and seasonal coefficient of performance (SCOP) shall take into account:

(a) European seasonal conditions, as defined in Table 1 of this Annex;

(b) Reference design conditions, as defined in Table 3 of this Annex;

(c) Electric energy consumption for all relevant modes of operation, using time periods as defined in Table 4 of this Annex;

(d) Effects of the degradation of the energy efficiency caused by on/off cycling (if applicable) depending on the type of control of the cooling and/or heating capacity;

(e) Corrections on the seasonal coefficients of performance in conditions where the heating load can not be met by the heating capacity;

(f) The contribution of a back-up heater (if applicable) in the calculation of the seasonal efficiency of a unit in heating mode.

3. Where the information relating to a specific model, being a combination of indoor and outdoor unit(s), has been obtained by calculation on the basis of design, and/or extrapolation from other combinations, the documentation should include details of such calculations and/or extrapolations, and of tests undertaken to verify the accuracy of the calculations undertaken (including details of the mathematical model for calculating performance of such combinations, and of measurements taken to verify this model).

4. The energy efficiency ratio (EER_{rated}) and, when applicable, coefficient of performance (COP_{rated}) for double ducts and single ducts shall be established at the standard rating conditions as defined in Table 2 of this Annex.

5. The calculation of electricity consumption for cooling and/or heating 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 Annex.

TABLE 1

Bin number (j), outdoor temperature (Tj) in °C and number of hours per bin (hj) for the cooling season and for heating seasons 'average', 'warmer' and 'colder'. 'db' = dry bulb temperature

COOLING SEASON				**HEATING SEASON**				
						Average	**Warmer**	**Colder**
j#	**Tj°C**	**hjh**		**j#**	**T_j°C**	**hjAh**	**hj Wh**	**hjCh**
	db				**db**			
1	17	205		1 to 8	– 30 to – 23	0	0	0
2	18	227		9	-22	0	0	1
3	19	225		10	-21	0	0	6
4	20	225		11	-20	0	0	13
5	21	216		12	-19	0	0	17
6	22	215		13	-18	0	0	19
7	23	218		14	-17	0	0	26
8	24	197		15	-16	0	0	39
9	25	178		16	-15	0	0	41
10	26	158		17	-14	0	0	35
11	27	137		18	-13	0	0	52
12	28	109		19	-12	0	0	37
13	29	88		20	-11	0	0	41
14	30	63		21	-10	1	0	43
15	31	39		22	-9	25	0	54
16	32	31		23	-8	23	0	90
17	33	24		24	-7	24	0	125
18	34	17		25	-6	27	0	169
19	35	13		26	-5	68	0	195
20	36	9		27	-4	91	0	278
21	37	4		28	-3	89	0	306
22	38	3		29	-2	165	0	454
23	39	1		30	-1	173	0	385
24	40	0		31	0	240	0	490
				32	1	280	0	533
				33	2	320	3	380
				34	3	357	22	228
				35	4	356	63	261
				36	5	303	63	279
				37	6	330	175	229

				38	7	326	162	269
				39	8	348	259	233
				40	9	335	360	230
				41	10	315	428	243
				42	11	215	430	191
				43	12	169	503	146
				44	13	151	444	150
				45	14	105	384	97
				46	15	74	294	61
Total		2 602				4 910	3 590	6 446

TABLE 2

Standard rating conditions, temperatures in 'dry bulb' air temperature ('wet bulb' indicated in brackets)

Appliance	Function	Indoor air temperature(°C)	Outdoor air temperature(°C)
air conditioners, excluding single duct	cooling	27 (19)	35 (24)
	heating	20 (max. 15)	7(6)
single duct	cooling	35 (24)	35 (24)[a]
	heating	20 (12)	20 (12)[a]

a In case of single ducts, the condensor (evaporator) when cooling (heating), is not supplied with outdoor air, but indoor air.

TABLE 3

Reference design conditions, temperatures in 'dry bulb' air temperature ('wet bulb' indicated in brackets)

Function / season	Indoor air temperature(°C)	Outdoor air temperature(°C)	Bivalent temperature(°C)	Operating limit temperature(°C)
	Tin	**Tdesignc/ Tdesignh**	**Tbiv**	**Tol**
cooling	27 (19)	Tdesignc = 35 (24)	n.a.	n.a.
heating / Average	20 (15)	Tdesignh = – 10 (– 11)	max. 2	max. – 7
heating / Warmer		Tdesignh = 2 (1)	max. 7	max. 2
heating / Colder		Tdesignh = – 22 (– 23)	max. – 7	max. – 15

TABLE 4

Operational hours per type of appliance per functional mode to be used for calculation of electricity consumption

Type of appliance / functionality (if applicable)		**Unit**	**Heating season**	**On mode**	**Thermostat-off mode**	**Standby mode**	**Off mode**	**Crankcase heater mode**
				cooling: H_{CE} heating: H_{HE}	**H_{TO}**	**H_{SB}**	**H_{OFF}**	**H_{CK}**
Air conditioners, except double ducts and single duct								
Cooling mode, if appliance offers cooling only		h/annum		350	221	2 142	5 088	7 760
Cooling and heating modes, if appliance offers both modes	Cooling mode	h/annum		350	221	2 142	0	2 672
	Heating mode	h/annum	Average	1 400	179	0	0	179
			Warmer	1 400	755	0	0	755
			Colder	2 100	131	0	0	131
Heating mode, if appliance offers heating only		h/annum	Average	1 400	179	0	3 672	3 851
			Warmer	1 400	755	0	4 345	4 476
			Colder	2 100	131	0	2 189	2 944
Double duct air conditioner				**cooling: H_{CE} heating: H_{HE}**	**H_{TO}**	**H_{SB}**	**H_{OFF}**	**H_{CK}**
Cooling mode, if appliance offers cooling only		h/60 min		1	n/a	n/a	n/a	n/a
Cooling and heating modes, if appliance offers both modes	Cooling mode	h/60 min		1	n/a	n/a	n/a	n/a
	Heating mode	h/60 min		1	n/a	n/a	n/a	n/a
Heating mode, if appliance offers heating only		h/60 min		1	n/a	n/a	n/a	n/a

Single duct air conditioner			**cooling: H_{CE} heating: H_{HE}**				
Cooling mode	h/60 min		1	n/a	n/a	n/a	n/a
Heating mode	h/60 min		1	n/a	n/a	n/a	n/a

ANNEX VIII

Verification procedure for market surveillance purposes

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

1. The authorities of the Member State shall test one single unit.

2. The model of the air conditioner, except single and double ducts, shall be considered to comply with the provisions set out in Annex I, as applicable, to this Regulation, if its seasonal energy efficiency ratio (SEER), or seasonal coefficient of performance (SCOP), if applicable, is not less than the declared value minus 8 %. The SEER and SCOP values shall be established in accordance with Annex II.

The model of a single and double duct air conditioner shall be considered to comply with the provisions set out in Annex I, as applicable, to this Regulation, if the results for off-mode and standby-mode conditions do not exceed the limit values by more than 10 %, and if the energy efficiency ratio (EER_{rated}), or coefficient for performance (COP_{rated}), if applicable, is not less than the declared value minus 10 %. The EER and COP values shall be established in accordance with Annex II.

The model of the air conditioner shall be considered to comply with the provisions set out in this Regulation, as applicable, if the maximum sound power level does not exceed more than 2 dB(A) of the declared value.

3. If the result referred to in point 2 is not achieved, the market surveillance authority shall randomly select three additional units of the same model for testing.

4. The model of the air conditioner, except single and double ducts, shall be considered to comply with the provisions set out in Annex I, as applicable, to this Regulation, if the average of the three units for the seasonal energy efficiency ratio (SEER), or seasonal coefficient of performance (SCOP), if applicable, is not less than the declared value minus 8 %. The SEER and SCOP values shall be established in accordance with Annex II.

The model of a single and double duct air conditioner shall be considered to comply with the provisions set out in Annex I, as applicable, to this Regulation, if the average of the results of the three units for off-mode and standby-mode conditions do not exceed the limit values by more than 10 %, and if the average of the energy efficiency ratio (EER_{rated}), or coefficient of performance (COP_{rated}), is not less than the declared value minus 10 %. The EER and COP values shall be established in accordance with Annex II.

The model of the air conditioner shall be considered to comply with the provisions set out in this Regulation, as applicable, if the average of the results of the three units for sound power level does not exceed more than 2 dB(A) of the declared value.

5. If the results referred to in point 4 are not achieved, the model shall be considered not to comply with this Regulation.

For the purposes of compliance and verification of compliance with the requirements of this Regulation, Member States shall apply the procedures referred to in Annex II and harmonised standards the reference numbers of which have been published in the *Official Journal of European Union*, or other reliable, accurate and reproducible calculation and measurement methods, which take into account the generally recognised state of the art.

(**1**) OJ L 153, 18.6.2010, p. 1.

(**2**) OJ L 86, 3.4.2002, p. 26.

(**3**) Not yet adopted.

(**4**) OJ L 204, 21.7.1998, p. 37.

(**5**) OJ L 153, 18.06.2010, p. 1.

(**6**) OJ L 161, 14.6.2006, p. 1.

(**7**) IPCC Third Assessment Climate Change 2001. A Report of the Intergovernmental Panel on Climate Change: http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml

(**8**) Climate Change, The IPCC Scientific Assessment, J.T Houghton, G.J.Jenkins, J.J. Ephraums (ed.) Cambridge University Press, Cambridge (UK) 1990.

(**9**) OJ L 390, 31.12.2004, p. 24.

(**10**) OJ L 27, 30.1.2010, p. 1.