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COMMISSION REGULATION (EU) No 66/2014

of 14 January 2014

**implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to
ecodesign requirements for domestic ovens, hobs and range hoods**

(Text with EEA relevance)

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**COMMISSION REGULATION (EU) No 66/2014****of 14 January 2014****implementing Directive 2009/125/EC of the European Parliament
and of the Council with regard to ecodesign requirements for
domestic ovens, hobs and range hoods****(Text with EEA relevance)***Article 1***Subject matter and scope**

1. This Regulation establishes eco-design requirements for the placing on the market and putting into service of domestic ovens (including when incorporated in cookers), domestic hobs and domestic electric range hoods, including when sold for non-domestic purposes.

2. This Regulation shall not apply to:

- (a) appliances that use energy sources other than electricity or gas;
- (b) appliances which offer ‘microwave heating’ function;
- (c) small ovens;
- (d) portable ovens;
- (e) heat storage ovens;
- (f) ovens which are heated with steam as a primary heating function;
- (g) covered gas burners in hobs;
- (h) outdoor cooking appliances;
- (i) appliances designed for use only with gases of the ‘third family’ (propane and butane);
- (j) grills.

*Article 2***Definitions**

In addition to the definitions set out in Article 2 of Directive 2009/125/EC, the following definitions shall apply for the purpose of this Regulation:

- (1) ‘oven’ means an appliance or part of an appliance which incorporates one or more cavities using electricity and/or gas in which food is prepared by use of a conventional or fan-forced mode;
- (2) ‘cavity’ means the enclosed compartment in which the temperature can be controlled for preparation of food;
- (3) ‘multi-cavity oven’ means an oven with two or more cavities, each of which is heated separately;

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- (4) ‘small oven’ means an oven where all cavities have a width and depth of less than 250 mm or a height less than 120 mm;
- (5) ‘portable oven’ means an oven with a product mass of less than 18 kilograms, provided it is not designed for built-in installations;
- (6) ‘microwave heating’ means heating of food using electromagnetic energy;
- (7) ‘conventional mode’ means the operation mode of an oven only using natural convection for circulation of heated air inside the cavity of the oven;
- (8) ‘fan-forced mode’ means a mode when a built-in fan circulates heated air inside the cavity of the oven;
- (9) ‘cycle’ means the period of heating a standardised load in a cavity of an oven under defined conditions;
- (10) ‘cooker’ means an appliance consisting of an oven and a hob using gas or electricity;
- (11) ‘operation mode’ means the status of the oven or hob during use;
- (12) ‘heat source’ means the main energy form for heating an oven or hob;
- (13) ‘electric hob’ means an appliance or part of an appliance which incorporates one or more cooking zones and/or cooking areas including a control unit and which is heated by electricity;
- (14) ‘gas hob’ means an appliance or part of an appliance which incorporates one or more cooking zones including a control unit and which is heated by gas burners of a minimum power of 1,16 kW;
- (15) ‘hob’ means an ‘electric hob’, a ‘gas hob’ or a ‘mixed hob’;
- (16) ‘covered gas burners’ means closed or sealed gas range burners covered with a heavy-duty glass or ceramic cover, which forms a smooth, seamless cooking surface;
- (17) ‘mixed hob’ means an appliance with one or more electrically heated cooking zones or areas and one or more cooking zones heated by gas burners;
- (18) ‘cooking zone’ means a part, with a diameter of at least 100 mm, of a hob where cookware is placed and heated with not more than one piece of cookware heated at a time; the area of the cooking zone may be visibly marked on the surface of the hob;
- (19) ‘cooking area’ means a part of an area of an electric hob heated by an inducted magnetic field, where cookware is placed for heating without visible marking for the cookware and where more than one item of cookware can be used simultaneously;
- (20) ‘range hood’ means an appliance, operated by a motor which it controls, intended to collect contaminated air from above a hob, or

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which includes a downdraft system intended for installation adjacent to cooking ranges, hobs and similar cooking products, that draws vapour down into an internal exhaust duct;

- (21) ‘automatic functioning mode during the cooking period’ means a condition in which the air flow of the range hood during the cooking period is automatically controlled through sensor(s), including as regards humidity, temperature, etc.;
- (22) ‘fully automatic range hood’ means a range hood in which the air flow and/or other functions are automatically controlled through sensor(s) during 24 hours including the cooking period;
- (23) ‘best efficiency point’ (BEP) means the range hood operating point with maximum fluid dynamic efficiency (FDE_{hood});
- (24) ‘average illumination’ (E_{middle}) means the average illumination provided by the lighting system of the range hood on the cooking surface, measured in lux;
- (25) ‘off mode’ means a condition in which the equipment is connected to the mains power source but is not providing any function, or only provides an indication of off-mode condition, or only provides functionalities intended to ensure electromagnetic compatibility pursuant to Directive 2004/108/EC of the European Parliament and of the Council ⁽¹⁾;
- (26) ‘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 reactivation function, or reactivation function and only an indication of enabled reactivation function, and/or information or status display, which may persist for an indefinite time;
- (27) ‘reactivation function’ means a function facilitating the activation of other modes, including the active mode, by remote switch including remote control, internal sensor, or timer to a condition providing additional functions, including the main function;
- (28) ‘information or status display’ means a continuous function providing information or indicating the status of the equipment on a display, including clocks;
- (29) ‘end-user’ means a consumer buying or expected to buy a product;
- (30) ‘equivalent model’ means a model placed on the market with the same technical parameters as another model placed on the market under a different commercial code number by the same manufacturer or importer.

⁽¹⁾ Directive 2004/108/EC of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC (OJ L 390, 31.12.2004, p. 24).

*Article 3***Ecodesign requirements and timetable**

1. The ecodesign requirements, including timing, for domestic ovens, hobs and range hoods are set out in Annex I.
2. Compliance with ecodesign requirements shall be measured and calculated in accordance with the methods set out in Annex II.

*Article 4***Conformity assessment**

1. The conformity assessment procedure referred to in Article 8 of Directive 2009/125/EC shall be the internal design control system set out in Annex IV to that Directive or the management system set out in Annex V to that Directive.
2. For the purposes of conformity assessment pursuant to Article 8 of Directive 2009/125/EC, the technical documentation file shall contain a copy of the calculation set out in Annex II to this Regulation.
3. Where the information included in the technical documentation for a model has been obtained by calculation on the basis of design, or extrapolation from other equivalent appliances, or both, the technical documentation shall include details of such calculations or extrapolations, or both, and of tests undertaken by manufacturers to verify the accuracy of the calculations undertaken. In such cases, the technical documentation shall also include a list of all other equivalent models where the information contained in the technical documentation was obtained on the same basis.
4. If the manufacturer or importer places on the market equivalent models, the manufacturer or importer shall include a list of all other equivalent models.

*Article 5***Verification procedure for market surveillance purposes**

Member States' authorities shall apply the verification procedure described in Annex III to this Regulation when performing the market surveillance checks referred to in Article 3(2) of Directive 2009/125/EC for compliance with requirements set out in Annex I to this Regulation.

*Article 6***Indicative benchmarks**

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

*Article 7***Review**

The Commission shall review this Regulation in the light of technological progress and present the result of this review to the Consultation Forum no later than 7 years after the entry into force of the Regulation. The review shall assess, amongst others, the feasibility of:

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potential requirements to enhance the recovery and recycling of the appliances; durability and lifetime requirements; the inclusion of professional and commercial appliances; and fume and odour removal requirements.

*Article 8***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 year after the entry into force.

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



ANNEX I

Ecodesign requirements

1. ENERGY EFFICIENCY, AIR FLOW AND ILLUMINATION REQUIREMENTS

1.1. **For domestic ovens**

Cavities of domestic ovens (including when incorporated in cookers) shall comply with maximum Energy Efficiency Index limits as indicated in Table 1.

Table 1

Energy Efficiency Index limits for cavities of domestic ovens (EEI_{cavity})

	Domestic electric & gas oven
From 1 year after the entry into force	EEI _{cavity} < 146
From 2 years after the entry into force	EEI _{cavity} < 121
From 5 years after the entry into force	EEI _{cavity} < 96

From 5 years after entry into force, for multi-cavity ovens (including when incorporated in cookers), at least one cavity shall comply with the maximum Energy Efficiency Index as indicated in Table 1 as applicable from 5 years after entry into force whereas the other cavities shall comply with the maximum Energy Efficiency Index as indicated in Table 1 as applicable from 2 years after entry into force.

1.2. **For domestic hobs**

The domestic hobs shall have the maximum energy consumption limits for electric hobs (EC_{electric hob}) and the minimum energy efficiency limits for gas-fired hobs (EE_{gas hob}) as indicated in Table 2.

Table 2

Energy efficiency performance limits for domestic hobs (EC_{electric hob} and EE_{gas hob})

	Electric hob (EC _{electric hob} in Wh/kg)	Gas-fired hob (EE _{gas hob} in %)
From 1 year after the entry into force	EC _{electric hob} < 210	EE _{gas hob} > 53
From 3 years after the entry into force	EC _{electric hob} < 200	EE _{gas hob} > 54
From 5 years after the entry into force	EC _{electric hob} < 195	EE _{gas hob} > 55

1.3. **For domestic range hoods**1.3.1. *Energy Efficiency Index (EEI_{hood}) and Fluid Dynamic Efficiency (FDE_{hood})*

The domestic range hoods shall have the maximum EEI_{hood} and the minimum FDE_{hood} limits as indicated in Table 3.



Table 3

Energy Efficiency Index (EEI_{hood}) and Fluid Dynamic Efficiency (FDE_{hood}) for domestic range hoods

	EEI _{hood}	FDE _{hood}
From 1 year after the entry into force	EEI _{hood} < 120	FDE _{hood} > 3
From 3 years after the entry into force	EEI _{hood} < 110	FDE _{hood} > 5
From 5 years after the entry into force	EEI _{hood} < 100	FDE _{hood} > 8

1.3.2. *Air flow*

From 1 year after the entry into force, the domestic range hoods with a maximum air flow in any of the available settings higher than 650 m³/h shall automatically revert to an air flow lower than or equal to 650 m³/h in a time t_{limit} as defined in Annex II.

1.3.3. *Low power modes for domestic range hoods*

(1) From 18 months after the entry into force:

- Power consumption in ‘off mode’: the power consumption in any off-mode condition shall not exceed 1,00 W.
- Power consumption in ‘standby mode(s)’:
 - The power consumption in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 1,00 W.
 - The power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display, shall not exceed 2,00 W.
- Availability of ‘off mode’ and/or ‘standby mode’: domestic range hoods shall provide ‘off mode’ and/or ‘standby mode’, and/or another condition which does not exceed the applicable power consumption requirements for ‘off mode’ and/or ‘standby mode’ when the equipment is connected to the mains power source.

(2) From 3 years and 6 months after the entry into force:

- Power consumption in ‘off mode’: the power consumption in any off-mode condition shall not exceed 0,50 W.
- Power consumption in ‘standby mode(s)’: the power consumption in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 0,50 W.

The power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display shall not exceed 1,00 W.

- Power management: when domestic range hoods are not providing the main function, or when other energy-using product(s) are not dependent on its functions, equipment shall, unless inappropriate

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for the intended use, offer a power management function, or a similar function, that switches equipment after the shortest possible period of time appropriate for the intended use of the equipment, automatically into:

- ‘standby mode’, or
- ‘off mode’, or
- another condition which does not exceed the applicable power consumption requirements for ‘off mode’ and/or ‘standby mode’ when the equipment is connected to the mains power source.
- The power management function shall be activated before delivery.
- For range hoods with automatic functioning mode during the cooking period and fully automatic range hoods, the delay time after which the product switches automatically into the modes and conditions as referred to in the previous point shall be one minute after the motor and lighting have both been switched off either automatically or manually.

1.3.4. *Illumination of the lighting*

From 1 year after entry into force, for range hoods which provide for lighting of the cooking surface, the average illumination of the lighting system on the cooking surface (E_{middle}) shall be higher than 40 lux when measured under standard conditions.

2. PRODUCT INFORMATION REQUIREMENTS

From 1 year after entry into force, the following product information shall be provided in the technical documentation of the product, the booklet of instructions and on the free access websites of manufacturers of domestic ovens, hobs and range hoods, their authorised representatives, or importers:

- (a) short title or reference to the measurement and calculation methods used to establish compliance with the above requirements;
- (b) information relevant to users in order to reduce total environmental impact (e.g. energy use) of the cooking process.

From 1 year after entry into force, the technical documentation and a part for professionals of the free access websites of manufacturers, their authorised representatives, or importers shall contain information relevant for non-destructive disassembly for maintenance purposes and information relevant for dismantling, in particular in relation to the motor, if applicable, and any batteries, recycling, recovery and disposal at end-of-life.

2.1. For domestic ovens

Table 4

Information for domestic ovens

	Symbol	Value	Unit
Model identification			
Type of oven			
Mass of the appliance	M	X,X	kg
Number of cavities		X	

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	Symbol	Value	Unit
Heat source per cavity (electricity or gas)			
Volume per cavity	V	X	l
Energy consumption (electricity) required to heat a standardised load in a cavity of an electric heated oven during a cycle in conventional mode per cavity (electric final energy)	EC _{electric cavity}	X,XX	kWh/cycle
Energy consumption required to heat a standardised load in a cavity of an electric heated oven during a cycle in fan-forced mode per cavity (electric final energy)	EC _{electric cavity}	X,XX	kWh/cycle
Energy consumption required to heat a standardised load in a gas-fired cavity of an oven during a cycle in conventional mode per cavity (gas final energy)	EC _{gas cavity}	X,XX X,XX	MJ/cycle kWh/cycle ⁽¹⁾
Energy consumption required to heat a standardised load in a gas-fired cavity of an oven during a cycle in fan-forced mode per cavity (gas final energy)	EC _{gas cavity}	X,XX X,XX	MJ/cycle kWh/cycle
Energy Efficiency Index per cavity	EEI _{cavity}	X,X	

⁽¹⁾ 1 kWh/cycle = 3,6 MJ/cycle.

2.2. For domestic hobs

2.2.1. Domestic electric hobs

Table 5a

Information for domestic electric hobs

	Symbol	Value	Unit
Model identification			
Type of hob			
Number of cooking zones and/or areas		X	
Heating technology (induction cooking zones and cooking areas, radiant cooking zones, solid plates)			

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	Symbol	Value	Unit
For circular cooking zones or area: diameter of useful surface area per electric heated cooking zone, rounded to the nearest 5 mm	Ø	X,X	cm
For non-circular cooking zones or areas: length and width of useful surface area per electric heated cooking zone or area, rounded to the nearest 5 mm	L W	X,X X,X	cm
Energy consumption per cooking zone or area calculated per kg	EC _{electric cooking}	X,X	Wh/kg
Energy consumption for the hob calculated per kg	EC _{electric hob}	X,X	Wh/kg

2.2.2. *Domestic gas-fired hobs*

Table 5b

Information for domestic gas-fired hobs

	Symbol	Value	Unit
Model identification			
Type of hob			
Number of gas burners		X	
Energy efficiency per gas burner	EE _{gas burner}	X,X	
Energy efficiency for the gas hob	EE _{gas hob}	X,X	

2.2.3. *Domestic mixed gas and electric hobs*

Table 5c

Information for domestic mixed hobs

	Symbol	Value	Unit
Model identification			
Type of hob			
Number of electric cooking zones and/or areas		X	
Heating technology (induction cooking zones and cooking areas, radiant cooking zones, solid plates) per electric cooking zone and/or area			

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	Symbol	Value	Unit
For circular electric cooking zones: diameter of useful surface area per electric heated cooking zone, rounded to the nearest 5 mm	Ø	X,X	cm
For non-circular electric cooking zones or areas: length and width of useful surface area per electric heated cooking zone or area, rounded to the nearest 5 mm	L W	X,X X,X	cm
Energy consumption per electric cooking zone or area calculated per kg	EC _{electric cooking}	X	Wh/kg
Number of gas fired burners		X	
Energy efficiency per gas burner	EE _{gas burner}	X,X	

2.3. For domestic range hoods

Table 6

Information for domestic range hoods

	Symbol	Value	Unit
Model identification			
Annual Energy Consumption	AEC _{hood}	X,X	kWh/a
Time increase factor	f	X,X	
Fluid Dynamic Efficiency	FDE _{hood}	X,X	
Energy Efficiency Index	EEL _{hood}	X,X	
Measured air flow rate at best efficiency point	Q _{BEP}	X,X	m ³ /h
Measured air pressure at best efficiency point	P _{BEP}	X	Pa
Maximum air flow	Q _{max}	X,X	m ³ /h
Measured electric power input at best efficiency point	W _{BEP}	X,X	W
Nominal power of the lighting system	W _L	X,X	W
Average illumination of the lighting system on the cooking surface	E _{middle}	X	lux
Measured power consumption in standby mode	P _s	X,XX	W
Measured power consumption off mode	P _o	X,XX	W
Sound power level	L _{WA}	X	dB



ANNEX II

Measurements and calculations

For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using a reliable, accurate and reproducible method that take into account the generally recognised state-of-the-art measurement and calculation methods, including harmonised standards the reference numbers of which have been published for the purpose in the *Official Journal of the European Union*. They shall meet the technical definitions, conditions, equations and parameters set out in this Annex.

1. DOMESTIC OVENS

The energy consumption of a cavity of a domestic oven shall be measured for one standardised cycle, in a conventional mode and in a fan-forced mode, if available, by heating a standardised load soaked with water. It shall be verified that the temperature inside the oven cavity reaches the temperature setting of the thermostat and/or the oven control display within the duration of the test cycle. The energy consumption per cycle corresponding to the best performing mode (conventional mode or fan-forced mode) shall be used in the following calculations.

For each cavity of a domestic oven, the Energy Efficiency Index (EEI_{cavity}) shall be calculated according to the following formulas:

for domestic electric ovens:

$$EEI_{cavity} = \frac{EC_{electric\ cavity}}{SEC_{electric\ cavity}} \times 100$$

$$SEC_{electric\ cavity} = 0,0042 \times V + 0,55 \text{ (in kWh)}$$

for domestic gas ovens:

$$EEI_{cavity} = \frac{EC_{gas\ cavity}}{SEC_{gas\ cavity}} \times 100$$

$$SEC_{gas\ cavity} = 0,044 \times V + 3,53 \text{ (in MJ)}$$

Where:

- EEI_{cavity} = Energy Efficiency Index for each cavity of a domestic oven, rounded to the first decimal place,
- $SEC_{electric\ cavity}$ = Standard Energy Consumption (electricity) required to heat a standardised load in a cavity of a domestic electric heated oven during a cycle, expressed in kWh, rounded to the second decimal place,
- $SEC_{gas\ cavity}$ = Standard Energy Consumption required to heat a standardised load in a cavity of a domestic gas-fired oven during a cycle, expressed in MJ, rounded to the second decimal place,
- V = Volume of the cavity of the domestic oven in litres (L), rounded to the nearest integer,
- $EC_{electric\ cavity}$ = Energy Consumption required to heat a standardised load in a cavity of a domestic electric heated oven during a cycle, expressed in kWh, rounded to the second decimal place,
- $EC_{gas\ cavity}$ = Energy Consumption required to heat a standardised load in a gas-fired cavity of a domestic oven during a cycle, expressed in MJ, rounded to the second decimal place.

▼ B**2. DOMESTIC HOBS****2.1. Domestic electric hobs**

The energy consumption of a domestic electric hob ($EC_{\text{electric hob}}$) is measured in Wh per kg of water heated in a normalised measurement (Wh/kg) considering all cookware pieces under standardised test conditions and rounded to the first decimal place.

2.2. Domestic gas hobs

The energy efficiency of gas burners in a domestic hob is calculated as follows:

$$EE_{\text{gas burner}} = \frac{E_{\text{theoretic}}}{E_{\text{gas burner}}} \times 100$$

Where:

- $EE_{\text{gas burner}}$ = energy efficiency of a gas burner in % and rounded to the first decimal place,
- $E_{\text{gas burner}}$ = energy content of the consumed gas for the prescribed heating in MJ and rounded to the first decimal place,
- $E_{\text{theoretic}}$ = theoretic minimum required energy for the corresponding prescribed heating in MJ and rounded to the first decimal place.

The energy efficiency of the gas hob ($EE_{\text{gas hob}}$) is calculated as the average of the energy efficiency of the different gas burners ($EE_{\text{gas burner}}$) of the hob.

2.3. Domestic mixed electric/gas hobs

Domestic mixed electric and gas hobs are treated in the measurements as two separate appliances. Electric cooking zones and cooking areas of the domestic mixed hobs shall follow the provisions of the previous Section 2.1 and cooking zones heated by gas burners shall follow the provisions of the previous Section 2.2.

3. DOMESTIC RANGE HOODS**3.1. Calculation of the Energy Efficiency Index (EEI_{hood})**

The Energy Efficiency Index (EEI_{hood}) is calculated as:

$$EEI_{\text{hood}} = \frac{AEC_{\text{hood}}}{SAEC_{\text{hood}}} \times 100$$

and is rounded to the first decimal place.

Where:

- $SAEC_{\text{hood}}$ = Standard Annual Energy consumption of the domestic range hood in kWh/a, rounded to the first decimal place,
- AEC_{hood} = Annual Energy Consumption of the domestic range hood in kWh/a, rounded to the first decimal place.

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The Standard Annual Energy Consumption ($SAEC_{hood}$) of a domestic range hood shall be calculated as:

$$SAEC_{hood} = 0,55 \times (W_{BEP} + W_L) + 15,3$$

Where:

- W_{BEP} is the electric power input of the domestic range hood at the best efficiency point, in Watt and rounded to the first decimal place,
- W_L is the nominal electric power input of the lighting system of the domestic range hood on the cooking surface, in Watt and rounded to the first decimal place.

The Annual Energy Consumption (AEC_{hood}) of a domestic range hood is calculated as:

- (i) for the fully automatic domestic range hoods:

$$AEC_{hood} = \left[\frac{(W_{BEP} \times t_H \times f) + (W_L \times t_L)}{60 \times 1\,000} + \frac{P_o \times (1\,440 - t_H \times f)}{2 \times 60 \times 1\,000} + \frac{P_s \times (1\,440 - t_H \times f)}{2 \times 60 \times 1\,000} \right] \times 365$$

- (ii) for all other domestic range hoods:

$$AEC_{hood} = \frac{[W_{BEP} \times (t_H \times f) + W_L \times t_L]}{60 \times 1\,000} \times 365$$

Where:

- t_L is the average lighting time per day, in minutes ($t_L = 120$),
- t_H is the average running time per day for domestic range hoods, in minutes ($t_H = 60$),
- P_o is the electric power input in off mode of the domestic range hood, in Watt and rounded to the second decimal place,
- P_s is the electric power input in standby mode of the domestic range hood, in Watt and rounded to the second decimal place,
- f is the time increase factor, calculated and rounded to the first decimal place, as:

$$f = 2 - (FDE_{hood} \times 3,6)/100$$

3.2. Calculation of the Fluid Dynamic Efficiency (FDE_{hood})

The FDE_{hood} at the best efficiency point is calculated by the following formula, and is rounded to the first decimal place:

$$FDE_{hood} = \frac{Q_{BEP} \times P_{BEP}}{3\,600 \times W_{BEP}} \times 100$$

Where:

- Q_{BEP} is the flow rate of the domestic range hood at best efficiency point, expressed in m^3/h and rounded to the first decimal place,
- P_{BEP} is the static pressure difference of the domestic range hood at best efficiency point, expressed in Pa and rounded to the nearest integer,
- W_{BEP} is the electric power input of the domestic range hood at the best efficiency point, expressed in Watt and rounded to the first decimal place.

▼ B**3.3. Calculation on the limitation of the exhaust air**

3.3.1. Domestic range hoods with a maximum air flow in any of the available setting higher than 650 m³/h shall automatically revert to an air flow lower than or equal to 650 m³/h in a time t_{limit} . This is the time limit to extract a volume of air of 100 m³ by the domestic range hood operating with an airflow higher than 650 m³/h, before automatically switching to an airflow of 650 m³/h or lower. It is calculated, expressed in minutes and rounded to the nearest integer as:

$$t_{limit} = \frac{6\,000\text{ m}^3}{Q_{max}} \quad (1)$$

Where:

— Q_{max} is the maximum air flow of the domestic range hood, including intensive/boost mode if present, in m³/h and rounded to the first decimal place.

The mere presence of a manual switch or setting decreasing the air flow of the appliance to a value lower than or equal to 650 m³/h is not considered fulfilling this requirement.

3.3.2. For domestic range hoods with automatic functioning mode during the cooking period:

— the activation of the automatic functioning mode shall be possible only through a manual operation by the user, either on the hood or elsewhere,

— the automatic functioning mode shall revert to manual control after no more than 10 minutes from the moment the automatic function switches off the motor.

3.4. Illumination of lighting system (E_{middle})

The average illumination of the lighting system on the cooking surface (E_{middle}) is measured under standard conditions in lux and rounded to the nearest integer.

3.5. Noise

The Noise Value (in dB) is measured as the airborne acoustical A-weighted sound power emissions (weighted average value — L_{WA}) of a domestic range hood at the highest setting for normal use, intensive or boost excluded, and rounded to the nearest integer.

(¹) See $V = \int_0^t \frac{Q_{max}}{60} \times dt$ which can be simplified to $t_{limit} = \frac{V_{max}}{Q_{max}} \times 60$

Where:

- V_{max} is the maximum volume of air to be extracted, set at 100 m³,
- Q_{max} is the maximum air flow of the range hood, including intensive/boost mode if present,
- t is the time expressed in minutes and rounded to the nearest integer,
- dt is the total time until the air volume of 100 m³ has been reached,
- t_{limit} is the time limit, expressed in minutes and rounded to the nearest integer, needed to extract 100 m³.

▼ M1*ANNEX III***Product compliance verification by market surveillance authorities**

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

When verifying the compliance of a product model with the requirements laid down in this Regulation pursuant to Article 3(2) of Directive 2009/125/EC, for the requirements referred to in this Annex, the authorities of the Member States shall apply the following procedure:

- (1) The Member State authorities shall verify one single unit of the model.
- (2) The model shall be considered to comply with the applicable requirements if:
 - (a) the values given in the technical documentation pursuant to point 2 of Annex IV to Directive 2009/125/EC (declared values), and, where applicable, the values used to calculate these values, are not more favourable for the manufacturer or importer than the results of the corresponding measurements carried out pursuant to paragraph (g) thereof; and
 - (b) the declared values meet any requirements laid down in this Regulation, and any required product information published by the manufacturer or importer does not contain values that are more favourable for the manufacturer or importer than the declared values; and
 - (c) when the Member State authorities test the unit of the model, the determined values (the values of the relevant parameters as measured in testing and the values calculated from these measurements) comply with the respective verification tolerances as given in Table 7.
- (3) If the results referred to in point 2(a) or (b) are not achieved, the model and all models that have been listed as equivalent models in the manufacturer's or importer's technical documentation shall be considered not to comply with this Regulation.
- (4) If the result referred to in point 2(c) is not achieved, the Member State authorities shall select three additional units of the same model for testing. As an alternative, the three additional units selected may be of one or more different models that have been listed as equivalent models in the manufacturer's or importer's technical documentation.
- (5) The model shall be considered to comply with the applicable requirements if, for these three units, the arithmetical mean of the determined values complies with the respective verification tolerances given in Table 7.
- (6) If the result referred to in point 5 is not achieved, the model and all models that have been listed as equivalent models in the manufacturer's or importer's technical documentation shall be considered not to comply with this Regulation.
- (7) The Member State authorities shall provide all relevant information to the authorities of the other Member States and to the Commission without delay after a decision being taken on the non-compliance of the model according to points 3 and 6.

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The Member State authorities shall use the measurement and calculation methods set out in Annex II.

The Member State authorities shall only apply the verification tolerances that are set out in Table 7 and shall only use the procedure described in points 1 to 7 for the requirements referred to in this Annex. No other tolerances, such as those set out in harmonised standards or in any other measurement method, shall be applied.

Table 7
Verification tolerances

Parameters	Verification tolerances
Mass of the domestic oven, M	The determined value shall not exceed the declared value of M by more than 5 %.
Volume of the cavity of the domestic oven, V	The determined value shall not be lower than the declared value of V by more than 5 %.
$EC_{electric\ cavity}$, $EC_{gas\ cavity}$	The determined values shall not exceed the declared values of $EC_{electric\ cavity}$ and $EC_{gas\ cavity}$ by more than 5 %.
$EC_{electric\ hob}$	The determined value shall not exceed the declared value of $EC_{electric\ hob}$ by more than 5 %.
$EE_{gas\ hob}$	The determined value shall not be lower than the declared value of $EE_{gas\ hob}$ by more than 5 %.
W_{BEP} , W_L	The determined values shall not exceed the declared values of W_{BEP} and W_L by more than 5 %.
Q_{BEP} , P_{BEP}	The determined values shall not be lower than the declared values of Q_{BEP} and P_{BEP} by more than 5 %.
Q_{max}	The determined value shall not exceed the declared value of Q_{max} by more than 8 %.
E_{middle}	The determined value shall not be lower than the declared value of E_{middle} by more than 5 %.
Sound power level, L_{WA}	The determined value shall not exceed the declared value of L_{WA} .
P_o , P_s	The determined values of power consumption P_o and P_s shall not exceed the declared values of P_o and P_s by more than 10 %. The determined values of power consumption P_o and P_s of less than or equal to 1,00 W shall not exceed the declared values of P_o and P_s by more than 0,10 W.



ANNEX IV

Indicative benchmarks

At the time of entry into force of this Regulation, the best-performing domestic ovens, hobs and range hoods available on the market in terms of their energy performance were identified as follows:

Domestic ovens	Electric	$E_{EI_{cavity}} = 70,7$
	Gas	$E_{EI_{cavity}} = 75,4$
Domestic hobs	Electric	$EC_{electric\ cooking} = 169,3$
	Gas	$EE_{gas\ burner} = 63,5\ \%$
Domestic range hoods	Air flow	$FDE_{hood} = 22$
	Noise	51 dB at 550 m ³ /h; 57 dB at 750 m ³ /h