



Mitigation Enabling Energy Transition in the MEDiterranean region

Ecodesign and Energy Labelling

Requirements for electrically driven air conditioners, heat pumps and liquid chilling packages for space cooling or heating and DHW production

Julio Conde, Project manager, CEIS S.L.

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Directives and Regulations

□ Directives

Directives are **legislative acts** in which **targets** are set that **all EU countries must meet**. However, it is up to each country to develop its own laws on how to achieve these targets.

Example: [Directive 2009/125/EC](#) on ecodesign requirements for energy-related products.

Directives and Regulations

☐ Regulation

Regulations are **binding legal acts**. They must be **applied in their entirety throughout the EU**. Regulations usually implement a directive, setting out requirements that must be met in all EU countries.

Ecodesign regulations	Energy Labelling regulations
(EU) No 206/2012	(EU) No 626/2011
(EU) No 813/2013	(EU) No 811/2013
(EU) No 814/2013	(EU) No 812/2013
(EU) No 2016/2281	

Standards

- Standards are **voluntary** guidelines setting out **technical specifications** for a wide range of products, services and processes; from industrial safety helmets to electronic devices or minimum quality standards for public transport.
- Standards are developed by private standardisation organisations, usually on the **initiative of stakeholders** who see the need to implement them.
- Complying with standards is voluntary, but **applying them, demonstrates that products and services have a certain level of:**
 - **Quality**
 - **Safety**
 - **and Reliability.**

Harmonised standards

- Harmonised standards are a specific type of European standards developed by a European standardisation body following a request from the European Commission, called a "mandate". About 20% of European standards are developed under this procedure.
- Companies can apply harmonised standards to prove that their products or services meet the technical requirements of the European legislation.

Their references are published in the Official Journal of the European Union

Regulation	Harmonised standards
206/2012	<i>EN 14511-3:2013 ; EN 14825:2016 ; EN 12102-1:2017</i>
814/2013	<i>No harmonised standards</i>
813/2013	<i>Transitional methods in the Official Journal of the European Union (2014/C 207/02)</i>

Annexes Zx

- They detail which specific sections of the standard responds to specific requirements of a given regulation

Examples of Annexes Z that appear in harmonised standards:

Table ZA.1 — Correspondence between this European Standard and Commission Regulation (EU) No 814/2013 of 2 August 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for water heaters and hot water storage tanks and Commission's standardization request M/534 - [C(2015) 2625 final]

Ecodesign requirements of Regulation No 814/2013	Clause(s)/subclause(s) of this EN	Remarks/Notes
Annex II, 1.1	7.13	
Annex II, 1.2	7.6	
Annex II, 1.3	7.10	
Annex II, 1.4	7.14.1	"For rated heat output" definition and calculation
Annex II, 1.6	9	In particular refer to Table 10 and Table 12.
Annex II, 1.6 d)	11	
Annex III	5	
Annex III, 2	7.1 to 7.9	
Annex III, 3	7.11	
Annex III, 5	6.5.1	
Annex III, 6 a)	7.13.1	
Annex III, 6 k)	7.10	
Annex III, 6 f) to i)	7.11	
Annex III, 6 j)	7.6	
Annex IV, 2	7.13	

Tabla ZC.1 - Correspondencia entre esta norma europea y el Reglamento de la Comisión (UE) N° 813/2013 de 2 de agosto de 2013 implementando la Directiva 2009/125/CE del Parlamento Europeo y del Consejo con respecto a los requisitos de ecodiseño para aparatos de calefacción y a los calefactores combinados y a la solicitud de normalización de la Comisión M/535 (Ecodiseño de calentadores de agua)

Requisitos de ecodiseño del Reglamento N° 813/2013	Capítulo(s)/Apartado(s) de esta norma europea	Notas
Anexo II, 2	7.13.2	
Anexo II, 5	7.13.1	
Anexo II, 5	7.13.2	
Anexo III, 5	7.1 a 7.9	
Anexo III, 5	7.13	

Transitional methods

Published in the Official Journal of the European Union as a "communication".

- They detail the test methods and calculations necessary for manufacturers to demonstrate compliance with EU legislation in the absence of harmonised standards.
- They may include normative references which in may contain test and calculation methods.
- E.g.: In the absence of harmonised standards.

Regulation	Transitional methods
813/2013 y 814/2013	<i>Official Journal C 207, 3.7.2014, p. 2-40</i>
2016/2281	<i>Official Journal C 229, 14.07.2017, p. 1-23</i>

Declaration of conformity

- ❑ All products within the scope of a directive must have a declaration of conformity
- ❑ The ecodesign directive 2009/125/EC provides four different possible models of declaration of conformity.

For Air conditioners, Heat Pumps and liquid chilling packages, the declaration is done following the **module A** or responsible declaration.

-> No third party testing requirement nor assesment by a notified body.

Other products, e.g. cookers or solid fuel boilers, fall under **module B**

-> **Requieres** type testing and technical assesment of the documentation by a notified body

Ecodesign EU 206/2012

- *SCOPE:*

Air conditioners and heat pumps up to 12kW using air at the evaporator and condenser side.
Only electrically driven equipment.

- *General requirement for the directive:*

g) The **manufacturer or authorised representative** must have a technical **documentation record of the results of measurements** relating to the ecodesign requirements carried out, including details of the conformity of these measurements compared with the ecodesign requirements

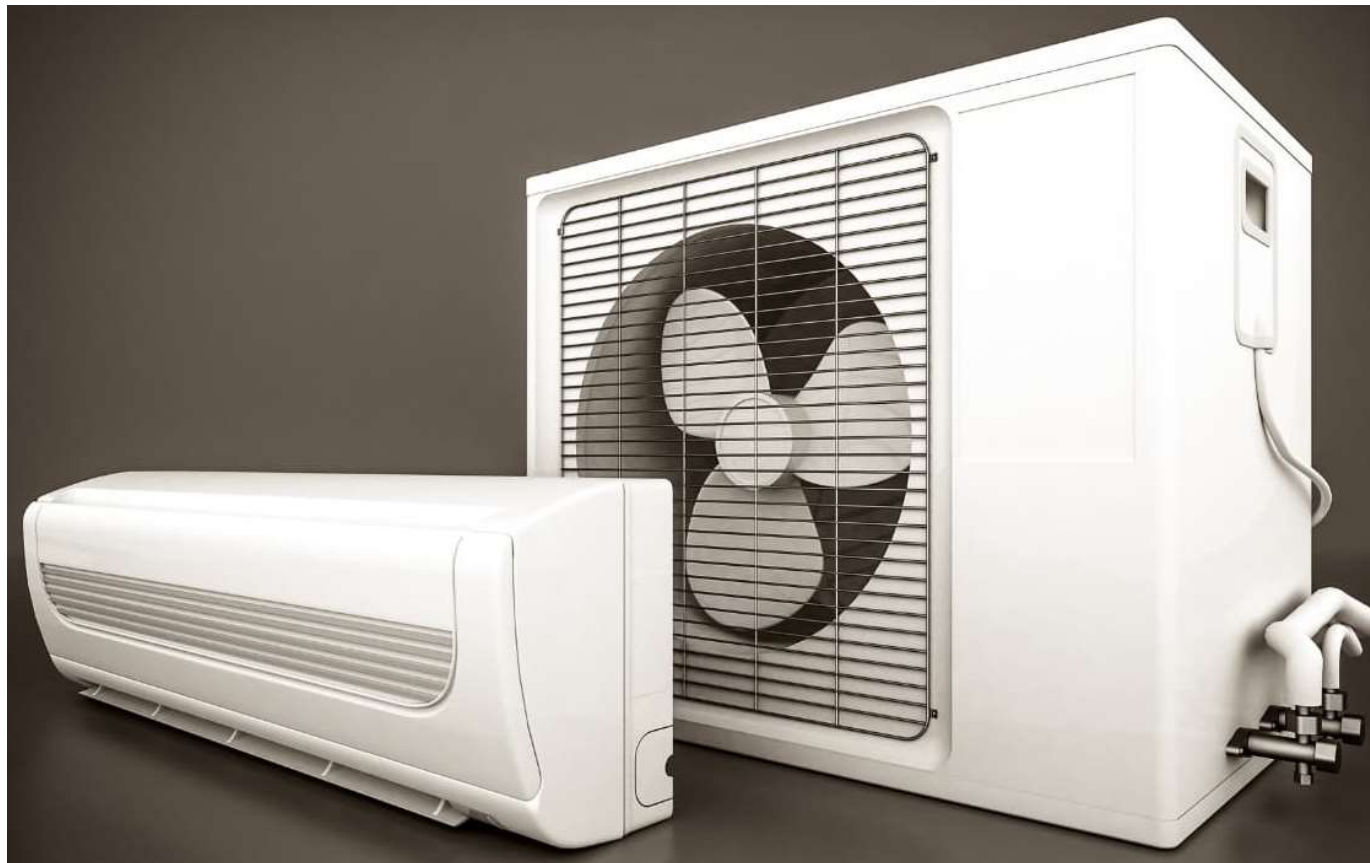
Double duct portable air conditioner



Single duct portable air conditioner



Split wall type air conditioner





EU 206/2012 MEPS

	Air conditioners, except double and single duct air conditioners		Double duct air conditioners		Single duct air conditioners	
	SEER	SCOP (heating season: Average)	EER _{rated}	COP _{rated}	EER _{rated}	COP _{rated}
If GWP of refrigerant > 150 for < 6 kW	4,60	3,80	2,60	2,60	2,60	2,04
If GWP of refrigerant ≤ 150 for < 6 kW	4,14	3,42	2,34	2,34	2,34	1,84
If GWP of refrigerant > 150 for 6-12 kW	4,30	3,80	2,60	2,60	2,60	2,04
If GWP of refrigerant ≤ 150 for 6-12 kW	3,87	3,42	2,34	2,34	2,34	1,84

EU 206/2012

Maximum sound power

- Air conditioners and Heat pumps.

Rated capacity ≤ 6 kW		$6 <$ Rated capacity ≤ 12 kW	
Indoor sound power level in dB(A)	Outdoor sound power level in dB(A)	Indoor sound power level in dB(A)	Outdoor sound power level in dB(A)
60	65	65	70

- Single duct and double duct appliances.

Indoor sound power level in dB(A)
65

EU 206/2012 Information requirements I

Function (indicate if present)				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
cooling	Y/N			Average (mandatory)	Y/N		
heating	Y/N			Warmer (if designated)	Y/N		
				Colder (if designated)	Y/N		
Item	symbol	value	unit	Item	symbol	value	unit
Design load				Seasonal efficiency			
cooling	Pdesignc	x,x	kW	cooling	SEER	x,x	—
heating/Average	Pdesignh	x,x	kW	heating/Average	SCOP/A	x,x	—
heating/Warmer	Pdesignh	x,x	kW	heating/Warmer	SCOP/W	x,x	—
heating/Colder	Pdesignh	x,x	kW	heating/Colder	SCOP/C	x,x	—
Declared capacity (*) for cooling, at indoor temperature 27(19) °C and outdoor temperature Tj				Declared energy efficiency ratio (*), at indoor temperature 27(19) °C and outdoor temperature Tj			

Item	symbol	value	unit	Item	symbol	value	unit
Tj = 35 °C	Pdc	x,x	kW	Tj = 35 °C	EERd	x,x	—
Tj = 30 °C	Pdc	x,x	kW	Tj = 30 °C	EERd	x,x	—
Tj = 25 °C	Pdc	x,x	kW	Tj = 25 °C	EERd	x,x	—
Tj = 20 °C	Pdc	x,x	kW	Tj = 20 °C	EERd	x,x	—
Declared capacity (*) for heating/Average season, at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance (*)/Average season, at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	x,x	kW	Tj = - 7 °C	COPd	x,x	—
Tj = 2 °C	Pdh	x,x	kW	Tj = 2 °C	COPd	x,x	—
Tj = 7 °C	Pdh	x,x	kW	Tj = 7 °C	COPd	x,x	—
Tj = 12 °C	Pdh	x,x	kW	Tj = 12 °C	COPd	x,x	—
Tj = bivalent temperature	Pdh	x,x	kW	Tj = bivalent temperature	COPd	x,x	—
Tj = operating limit	Pdh	x,x	kW	Tj = operating limit	COPd	x,x	—

EU 206/2012 Information requirements II

Bivalent temperature				Operating limit temperature			
heating/Average	Tbiv	x	°C	heating/Average	Tol	x	°C
heating/Warmer	Tbiv	x	°C	heating/Warmer	Tol	x	°C
heating/Colder	Tbiv	x	°C	heating/Colder	Tol	x	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcyc	x,x	kW	for cooling	EERcyc	x,x	—
for heating	Pcyc	x,x	kW	for heating	COPcyc	x,x	—
Degradation co-efficient cooling (**)	Cdc	x,x	—	Degradation co-efficient heating (**)	Cdh	x,x	—
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	P _{OFF}	x,x	kW	cooling	Q _{CE}	x	kWh/a
standby mode	P _{SB}	x,x	kW	heating/Average	Q _{HE}	x	kWh/a
thermostat-off mode	P _{TO}	x,x	kW	heating/Warmer	Q _{HE}	x	kWh/a
crankcase heater mode	P _{CK}	x,x	kW	heating/Colder	Q _{HE}	x	kWh/a

Item	symbol	value	unit	Item	symbol	value	unit
fixed	Y/N			Sound power level (indoor/outdoor)	L _{WA}	x,x/x,x	dB(A)
staged	Y/N			Global warming potential	GWP	x	kgCO ₂ eq.
variable	Y/N			Rated air flow (indoor/outdoor)	—	x/x	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative.						

EU 206/2012

Information requirements III

Single duct
and
Double duct

Description	Symbol	Value	Unit
Rated capacity for cooling	P_{rated} for cooling	[x,x]	kW
Rated capacity for heating	P_{rated} for heating	[x,x]	kW
Rated power input for cooling	P_{EER}	[x,x]	kW
Rated power input for heating	P_{COP}	[x,x]	kW
Rated Energy efficiency ratio	$EERd$	[x,x]	—
Rated Coefficient of performance	$COPd$	[x,x]	—
Power consumption in thermostat-off mode	P_{TO}	[x,x]	W
Power consumption in standby mode	P_{SB}	[x,x]	W
Electricity consumption of single/double duct appliances (indicate for cooling and heating separately)	DD: Q_{DD} SD: Q_{SD}	DD: [x] SD: [x,x]	DD: kWh/a SD: kWh/h
Sound power level	L_{WA}	[x]	dB(A)
Global warming potential	GWP	[x]	kgCO ₂ eq.
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative.		

Market surveillance

Step 1: One single unit is tested.

Product	Parameter	Tolerance
Air conditioner or Heat pump	SEER	Declared \geq Measured*0,92
	SCOP	
	Lw,dB(A)	Declared \leq Measured + 2dB
Single duct or double duct	EER COP	Declared \geq Measured*0,90
	Off mode Standby mode	Declared \leq Measured *0,90
	Lw,dB(A)	Declared \leq Measured + 2dB

If any of the parameters above is out of tolerance we go for step 2.

Step 2: Three additional samples are selected for testing and all tests are repeated.

Step 3: The average measured values for each parameter shall comply with the tolerances for all parameters
If after step 3, the product does not comply, it is considered not to comply with the requirements of the regulation.

Ecodesign EU 2016/2281

- *SCOPE*

Air heating products with rated heating capacity $\leq 1\text{MW}$.

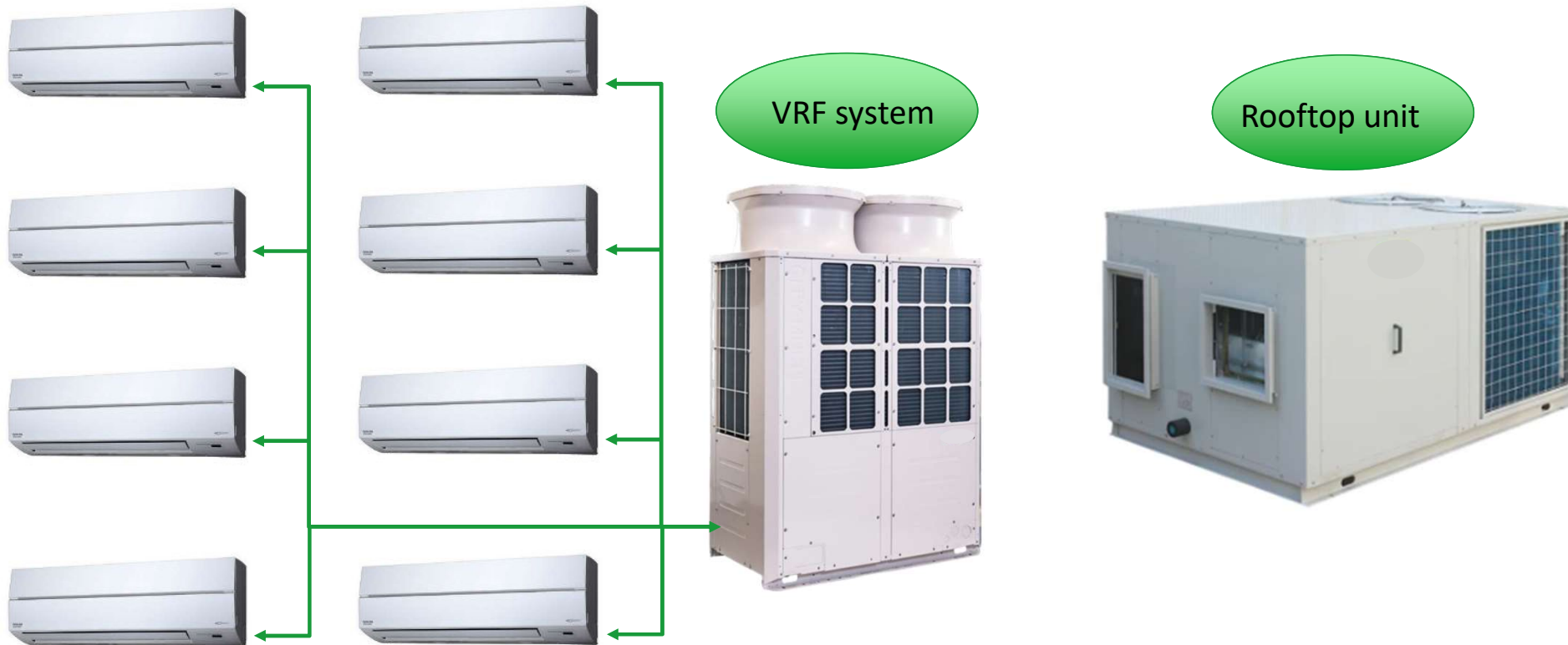
Air and water cooling products and high temperature process chillers with cooling capacity $\leq 2\text{MW}$

Fan convectors

- *EXCLUDED from scope*

Products within regulations 2015/1188, **206/2012**, **813/2013** and 2015/1095. Comfort chillers with water outlet temperatures $< 2^{\circ}\text{C}$. High temperature process chillers with water outlet $< 2^{\circ}\text{C}$ or $> 12^{\circ}\text{C}$.

Ecodesign EU 2016/2281



EU 2016/2281

Information requirements I

- Almost same information requirements as EN 206/2012

but additionally:

- The seasonal space heating and cooling efficiencies $\eta_{s,c}$ and $\eta_{s,h}$.
- The term *Prated* is used instead of *Pdesign*.
- Complementary heating power (elbu) and type of energy consumed.
- Air, water or brine flow rates are declared only for the outdoor side.
- Information for multisplit equipment: can be obtained on the basis of outdoor unit performance, with a combination of indoor units recommended by the manufacturer or importer with a capacity ratio of 1.

EU 2016/2281 MEPS

Product type	Tier 1	Tier 2	Δ
	01/01/2018	01/01/2021	
	<i>$\eta_{s,h}$</i>		
Air-to-air Heat Pumps with electrical Driven compressor, except Rooftops	133	137	4%
Rooftops	115	125	10%
	<i>$\eta_{s,c}$</i>		
Air-to-air air conditioners with electrical Driven compressor, except Rooftops	181	189	8%
Rooftops	117	138	21%
Air-to-water confort chillers with design capacity < 400 kW	149	161	12%
Air-to-water confort chillers with design capacity \geq 400 kW	161	179	11%
Water(brine)-to-water confort chillers with design capacity < 400 kW	196	200	2%
Water(brine)-to-water confort chillers with design capacity \geq 400kW and < 1500 kW	227	252	11%
Water(brine)-to-water confort chillers with design capacity \geq 1500 kW	245	272	11%

Market surveillance

At first, One single unit is tested:

Product	Parameter	Tolerance
Air conditioner/Heat pump or confort chiller	$\eta_{s,c}$	Declared \geq Measured*0,92
	$\eta_{s,h}$	
	Lw,dB(A)	Declared \leq Measured + 2dB

- If any of above parameters is out of tolerances:
 - If the design capacity is $\geq 70\text{kW}$ or with less than 5 units produced/year, the model or any other model for which information has been obtained on the same basis, is considered as non-compliant.
 - If the design capacity is $< 70\text{kW}$ or with 5 or more units produced/year:
 - 3 additional units are selected for testing.
 - The average of the values of the 3 units must comply.
- In case of non-compliance, the tested model and those whose information has been obtained on the same basis are invalidated.

Regulations EU 813/2013 and 814/2013

☐ SCOPE in EU 813/2013.

- Air-to-water and Water(brine)-to-water heat pump space heaters.
- Heat pump Combination heaters:
Products capable of simultaneous or alternate production of hot water for:
 - space heating.
 - domestic use (DHW).

☐ SCOPE in EU 814/2013.

- Heat pump for DHW production with rated capacity up to 400kW combined with hot water storage tanks up to 2000 liters volume.

Rated capacity
≤400kW

Regulations EU 813/2013 and 814/2013

Heat pump space heater / Water heater



DHW heater



EU 813/2013 and 814/2013 MEPS

	η_s	η_{wh}	Sound power level limit
Tier 1	26/09/2015	26/09/2015	26/09/2015
Tier 2	26/09/2017	26/09/2017	-
Tier 3 (only for 814/2013)	-	26/09/2018	-
Regulation EU 813/2013			
Heat pump for space heating (electrical or combustion engine)	110%	-	60dB(A) to 88dB(A) (Capacity dependent)
Heat pump combination heaters (Space heating + DHW) (electrical or combustion engine)	125% (for LT Heat Pumps)	32% to 64% (Tapping cycle dependent)	
Regulation EU 814/2013			
DHW production Heat Pumps (only capable of DHW) (electrical or combustion engine)	-	29% a 64%	60dB(A) to 88dB(A) (Capacity dependent)

See next slide for detailed MEPS.

EU 813/2013 and 814/2013 MEPS

η_s for space heating $\geq 110\%$ or 125% for the LT application (EU 813/2013 only)

η_{wh} DHW

Declared load profile	3XS	XXS	XS	S	M	L	XL	XXL	3XL	4XL
Water heating energy efficiency	32 %	32 %	32 %	32 %	36 %	37 %	38 %	60 %	64 %	64 %

Sound power level limits

Rated heat output ≤ 6 kW		Rated heat output > 6 kW and ≤ 12 kW		Rated heat output > 12 kW and ≤ 30 kW		Rated heat output > 30 kW and ≤ 70 kW	
Sound power level (L_{WA}), indoors	Sound power level (L_{WA}), outdoors	Sound power level (L_{WA}), indoors	Sound power level (L_{WA}), outdoors	Sound power level (L_{WA}), indoors	Sound power level (L_{WA}), outdoors	Sound power level (L_{WA}), indoors	Sound power level (L_{WA}), outdoors
60 dB	65 dB	65 dB	70 dB	70 dB	78 dB	80 dB	88 dB

MEPS for EU 814/2013CE

Mixed water at 40°C

Declared load profile	M	L	XL	XXL	3XL	4XL
Mixed water at 40 °C	65 litres	130 litres	210 litres	300 litres	520 litres	1 040 litres

EU 813/2013 and 814/2013 Information requirements

□ EU 813/2013

- For **space heating application**: same requirements from EU 2016/2281
- Additionally, for **DHW production**:
 - *Tapping profile* (XS, S, L,...)
 - *DHW production performance :* η_{wh}
 - *Daily energy consumption:* Q_{elec}

□ EU 814/2013

- *Tapping profile* (XS, S, L,...)
- *DHW production performance :* η_{wh}
- *Daily energy consumption:* Q_{elec}
- *Indoor sound power level* L_w

3XS	XXS	XS	M	L	XL	XXL	3XL	4XL
Hot water storage volume			V40 volume					

- For SMART appliances, add Q_{elec} for 1 week with SMART function OFF and with SMART function ON.

Market surveillance EU 813/2013

First step: One single unit is tested.

Product	Parameter	Tolerance
Heat pump or Heat pump combination heater	η_s	Declared \geq Measured*0,92
	η_{wh}	
	Lw,dB(A)	Declared \leq Measured + 2dB

Second step: If the any test result is non-compliant, 3 additional units are selected for testing (same or equivalent model).

- The average of the values of the 3 units must comply.
- In case of non-compliance, the tested model and all listed as equivalent models are invalidated.

Market surveillance EU 814/2013

First step: One single unit is tested.

Product	Parameter	Tolerance
Heat pump or Heat pump combination heater	Qelec	Declared \geq Measured*0,95
	Qelec,week	
	Lw,dB(A) (Outdoor and Indoor)	Declared \leq Measured + 2dB
	Storage volumen V	Declared \leq Measured*0,98
	Mixed water at 40°C, V40	Declared \leq Measured*0,97

Second step: If the any test result is non-compliant, 3 additional units are selected for testing (same or equivalent model).

- The average of the values of the 3 units must comply.
In case of non-compliance, the tested model and all listed as equivalent models are invalidated.

Energy Labelling EU 2017/1369

Also known as “framework regulation” for energy labelling.
It repeals the energy labelling directive 2010/30/EU.

And sets:

- General obligations for suppliers:
 - Provide energy labels with each product. They are responsible for the accuracy of the information.
 - The supplier shall not place on the market products that have been designed so that a model’s performance is automatically altered in test conditions with the objective of reaching better test results**
- Obligation for the dealers:
 - Display the label with the products and make available to consumers the product information file in physical form at the point of sale
- Obligations for the member states:
 - If incentives are provided, they can only be linked to the first two energy classes
 - Do educational and promotional campaigns
 - Inform the Commission on the results of any market surveillance activities
- Procedure for the introduction and rescaling of energy labels:
 - Rescaling is triggered if 30% of products fall within highest A energy efficiency class or 50% fall within A and B

Energy Labelling EU 2017/1369

- ❑ Specific obligations with regards to the European Product Registry for Energy Labelling database (EPREL)
 - From 1 January 2019, suppliers must enter information about each new space heater, water heater or solid fuel boiler model in the European Product Registry for Energy Label (EPREL database), before placing it into the market.

https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/energy-label-and-ecodesign/product-database_en

Energy Labelling EU 626/2011 EU 811/2013 and EU 812/2013

These energy labelling regulations aim to promote energy efficiency and reduced energy consumption in air conditioning, heat pump and liquid chilling packages, which benefits both consumers and the environment by reducing the environmental impact associated with energy use.

These regulations require products to carry an energy label that informs consumers about their energy efficiency.

- Regulations:
 - Establishes **Efficiency classes**: Products are divided into different energy efficiency classes, from A+++ (most efficient) to G (least efficient)
 - Focus on **Consumer information**: Manufacturers must provide clear and accurate information on the energy efficiency of their products, making it easier for consumers to make informed choices
- The **labels include information on**:
 - **Energy consumption & Efficiency class**: Efficiency and Annual energy consumption of the product, allowing consumers to compare the energy efficiency of different models
 - **Other characteristics**: Other performance-related characteristics, such as noise level, cooling or heating capacity, and (seasonal) efficiency in different operating modes

Energy Labelling EU 626/2011 EU 811/2013 and EU 812/2013

SCOPE

- **EU 626/2011** -> Requirements for the labelling and the provision of supplementary product information for **air conditioners with a rated capacity of ≤ 12 kW** for cooling, or heating, if the product has no cooling function.
- **EU 811/2013** -> Requirements for the energy labelling of, and the provision of supplementary product information on, **space heaters and combination heaters with a rated heat output ≤ 70 kW.**
- **EU 812/2013** -> Requirements for the energy labelling of, and the provision of supplementary product information on, **water heaters with a rated heat output ≤ 70 kW and ≤ 500 l of hot water storage volume.**

These regulations have been amended several times across the years.

Consolidated versions can be downloaded from:

- <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02011R0626-20200809> for EU 626/2011
- <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02013R0811-20170307> for EU 811/2013
- <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02013R0812-20180426&qid=1698401896036> for EU 812/2013

Energy Labelling EU 626/2011

SCOPE

- **EU 626/2011** -> Requirements for the labelling and the provision of supplementary product information for **air conditioners with a rated capacity of ≤ 12 kW** for cooling, or heating, if the product has no cooling function.

Apart from labelling remarks:

- Internet sale or hired products.

An information profile must be accessible from a pointer () indicating the energy efficiency class.

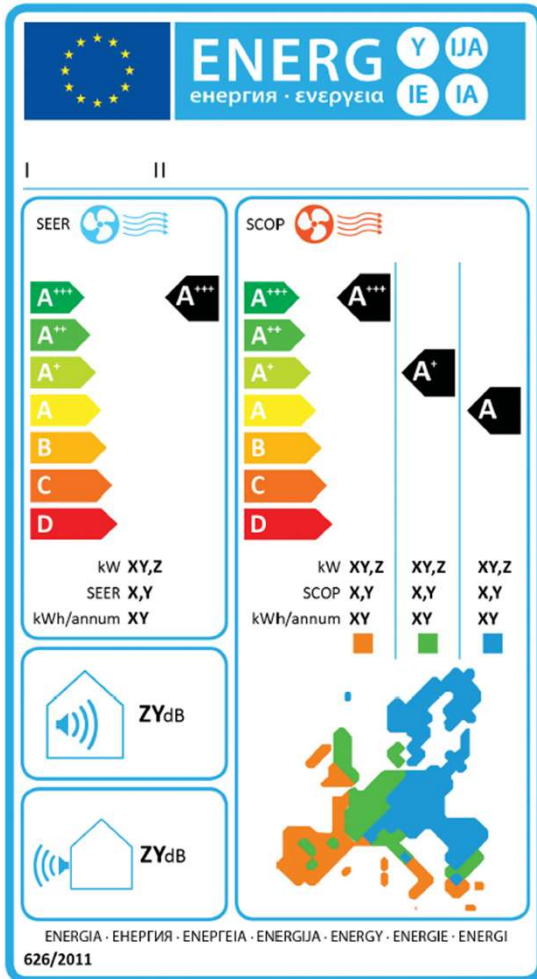
The information profile is defined for each product type and contains all information displayed in the energy label plus additional information like product maintenance requirements.

Energy Labelling EU 626/2011

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

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

Below D units, cannot be placed into the market since 1 January 2019.



Energy Labelling EU 626/2011

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

Below D units, cannot be placed into the market since 1 January 2019.

Energy Labelling EU 811/2011

SCOPE

This Regulation establishes requirements for the **energy labelling of**, and the provision of supplementary **product information on, space heaters and combination heaters with a rated heat output ≤ 70 kW**, packages of space heater ≤ 70 kW, temperature control and solar device and packages of combination heater ≤ 70 kW.

Apart from labelling remarks:

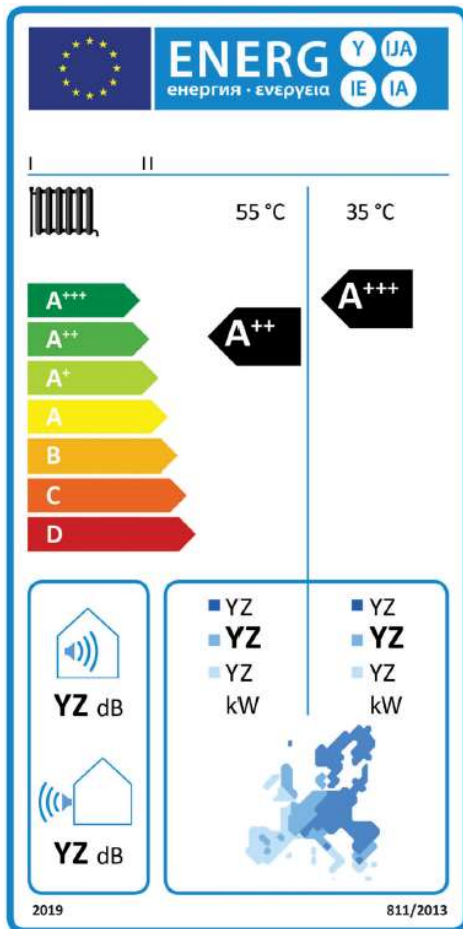
▪ Internet sale or hired products

An information profile must be accessible from a pointer () indicating the energy efficiency class.

The information profile is defined for each product type and contains all information displayed in the energy label plus additional information like product maintenance requirements.

Energy Labelling EU 811/2011

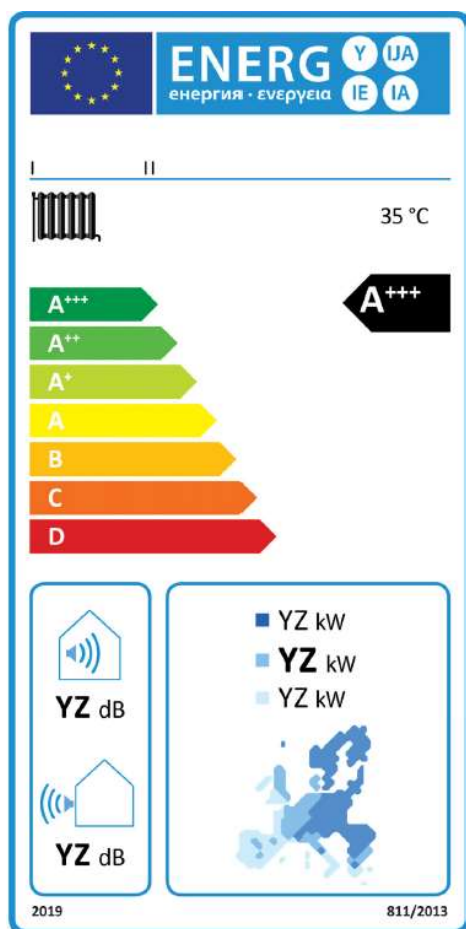
Seasonal space heating energy efficiency classes of heaters, with the exception of low-temperature heat pumps and heat pump space heaters for low-temperature application



Seasonal space heating energy efficiency class	Seasonal space heating energy efficiency η_s in %
A ⁺⁺⁺	$\eta_s \geq 150$
A ⁺⁺	$125 \leq \eta_s < 150$
A ⁺	$98 \leq \eta_s < 125$
A	$90 \leq \eta_s < 98$
B	$82 \leq \eta_s < 90$
C	$75 \leq \eta_s < 82$
D	$36 \leq \eta_s < 75$
E	$34 \leq \eta_s < 36$
F	$30 \leq \eta_s < 34$
G	$\eta_s < 30$

Below D units, cannot be placed into the market from 26 September 2019.

Energy Labelling EU 811/2011

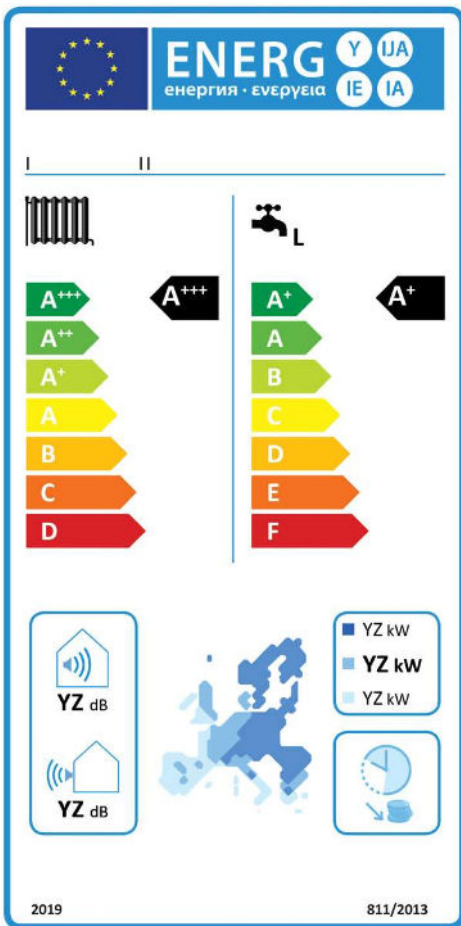


Seasonal space heating energy efficiency classes of low-temperature heat pumps and heat pump space heaters for low-temperature application

Seasonal space heating energy efficiency class	Seasonal space heating energy efficiency η_s in %
A ⁺⁺⁺	$\eta_s \geq 175$
A ⁺⁺	$150 \leq \eta_s < 175$
A ⁺	$123 \leq \eta_s < 150$
A	$115 \leq \eta_s < 123$
B	$107 \leq \eta_s < 115$
C	$100 \leq \eta_s < 107$
D	$61 \leq \eta_s < 100$
E	$59 \leq \eta_s < 61$
F	$55 \leq \eta_s < 59$
G	$\eta_s < 55$

Below D units, cannot be placed into the market since 26 September 2019.

Energy Labelling EU 811/2011



Seasonal space heating energy efficiency class	Seasonal space heating energy efficiency η_s in %
A ⁺⁺⁺	$\eta_s \geq 150$
A ⁺⁺	$125 \leq \eta_s < 150$
A ⁺	$98 \leq \eta_s < 125$
A	$90 \leq \eta_s < 98$
B	$82 \leq \eta_s < 90$
C	$75 \leq \eta_s < 82$
D	$36 \leq \eta_s < 75$

Below D units, cannot be placed into the market from 26 September 2019.

	3XS	XXS	XS	S	M	L	XL	XXL
A ⁺⁺⁺	$\eta_{wh} \geq 62$	$\eta_{wh} \geq 62$	$\eta_{wh} \geq 69$	$\eta_{wh} \geq 90$	$\eta_{wh} \geq 163$	$\eta_{wh} \geq 188$	$\eta_{wh} \geq 200$	$\eta_{wh} \geq 213$
A ⁺⁺	$53 \leq \eta_{wh} < 62$	$53 \leq \eta_{wh} < 62$	$61 \leq \eta_{wh} < 69$	$72 \leq \eta_{wh} < 90$	$130 \leq \eta_{wh} < 163$	$150 \leq \eta_{wh} < 188$	$160 \leq \eta_{wh} < 200$	$170 \leq \eta_{wh} < 213$
A ⁺	$44 \leq \eta_{wh} < 53$	$44 \leq \eta_{wh} < 53$	$53 \leq \eta_{wh} < 61$	$55 \leq \eta_{wh} < 72$	$100 \leq \eta_{wh} < 130$	$115 \leq \eta_{wh} < 150$	$123 \leq \eta_{wh} < 160$	$131 \leq \eta_{wh} < 170$
A	$35 \leq \eta_{wh} < 44$	$35 \leq \eta_{wh} < 44$	$38 \leq \eta_{wh} < 53$	$38 \leq \eta_{wh} < 55$	$65 \leq \eta_{wh} < 100$	$75 \leq \eta_{wh} < 115$	$80 \leq \eta_{wh} < 123$	$85 \leq \eta_{wh} < 131$
B	$32 \leq \eta_{wh} < 35$	$32 \leq \eta_{wh} < 35$	$35 \leq \eta_{wh} < 38$	$35 \leq \eta_{wh} < 38$	$39 \leq \eta_{wh} < 65$	$50 \leq \eta_{wh} < 75$	$55 \leq \eta_{wh} < 80$	$60 \leq \eta_{wh} < 85$
C	$29 \leq \eta_{wh} < 32$	$29 \leq \eta_{wh} < 32$	$32 \leq \eta_{wh} < 35$	$32 \leq \eta_{wh} < 35$	$36 \leq \eta_{wh} < 39$	$37 \leq \eta_{wh} < 50$	$38 \leq \eta_{wh} < 55$	$40 \leq \eta_{wh} < 60$
D	$26 \leq \eta_{wh} < 29$	$26 \leq \eta_{wh} < 29$	$29 \leq \eta_{wh} < 32$	$29 \leq \eta_{wh} < 32$	$33 \leq \eta_{wh} < 36$	$34 \leq \eta_{wh} < 37$	$35 \leq \eta_{wh} < 38$	$36 \leq \eta_{wh} < 40$
E	$22 \leq \eta_{wh} < 26$	$23 \leq \eta_{wh} < 26$	$26 \leq \eta_{wh} < 29$	$26 \leq \eta_{wh} < 29$	$30 \leq \eta_{wh} < 33$	$30 \leq \eta_{wh} < 34$	$30 \leq \eta_{wh} < 35$	$32 \leq \eta_{wh} < 36$
F	$19 \leq \eta_{wh} < 22$	$20 \leq \eta_{wh} < 23$	$23 \leq \eta_{wh} < 26$	$23 \leq \eta_{wh} < 26$	$27 \leq \eta_{wh} < 30$	$27 \leq \eta_{wh} < 30$	$27 \leq \eta_{wh} < 30$	$28 \leq \eta_{wh} < 32$
G	$\eta_{wh} < 19$	$\eta_{wh} < 20$	$\eta_{wh} < 23$	$\eta_{wh} < 23$	$\eta_{wh} < 27$	$\eta_{wh} < 27$	$\eta_{wh} < 27$	$\eta_{wh} < 28$

Below F units, cannot be placed into the market since 26 September 2019.

Energy Labelling EU 812/2011

☐ SCOPE

This Regulation establishes requirements for the **energy labelling** of, and the provision of supplementary **product information on, water heaters with a rated heat output ≤ 70 kW**, hot water storage tanks with a storage volume ≤ 500 litres and packages of water heater ≤ 70 kW and solar device.

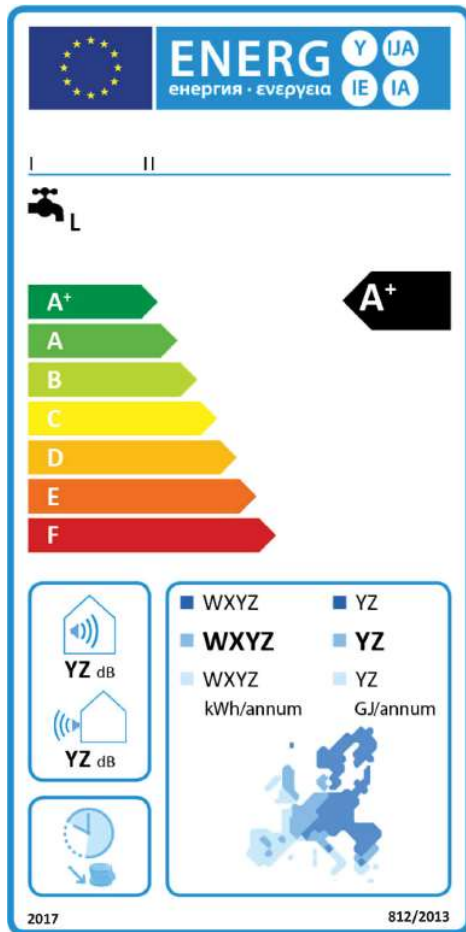
☐ Apart from labelling remarks:

- Internet sale or hired products.

An information profile must be accessible from a pointer () indicating the energy efficiency class.

The information profile is defined for each product type and contains all information displayed in the energy label plus additional information like product maintenance requirements.

Energy Labelling EU 812/2011



	3XS	XXS	XS	S	M	L	XL	XXL
A ⁺⁺⁺	$\eta_{wh} \geq 62$	$\eta_{wh} \geq 62$	$\eta_{wh} \geq 69$	$\eta_{wh} \geq 90$	$\eta_{wh} \geq 163$	$\eta_{wh} \geq 188$	$\eta_{wh} \geq 200$	$\eta_{wh} \geq 213$
A ⁺⁺	$53 \leq \eta_{wh} < 62$	$53 \leq \eta_{wh} < 62$	$61 \leq \eta_{wh} < 69$	$72 \leq \eta_{wh} < 90$	$130 \leq \eta_{wh} < 163$	$150 \leq \eta_{wh} < 188$	$160 \leq \eta_{wh} < 200$	$170 \leq \eta_{wh} < 213$
A ⁺	$44 \leq \eta_{wh} < 53$	$44 \leq \eta_{wh} < 53$	$53 \leq \eta_{wh} < 61$	$55 \leq \eta_{wh} < 72$	$100 \leq \eta_{wh} < 130$	$115 \leq \eta_{wh} < 150$	$123 \leq \eta_{wh} < 160$	$131 \leq \eta_{wh} < 170$
A	$35 \leq \eta_{wh} < 44$	$35 \leq \eta_{wh} < 44$	$38 \leq \eta_{wh} < 53$	$38 \leq \eta_{wh} < 55$	$65 \leq \eta_{wh} < 100$	$75 \leq \eta_{wh} < 115$	$80 \leq \eta_{wh} < 123$	$85 \leq \eta_{wh} < 131$
B	$32 \leq \eta_{wh} < 35$	$32 \leq \eta_{wh} < 35$	$35 \leq \eta_{wh} < 38$	$35 \leq \eta_{wh} < 38$	$39 \leq \eta_{wh} < 65$	$50 \leq \eta_{wh} < 75$	$55 \leq \eta_{wh} < 80$	$60 \leq \eta_{wh} < 85$
C	$29 \leq \eta_{wh} < 32$	$29 \leq \eta_{wh} < 32$	$32 \leq \eta_{wh} < 35$	$32 \leq \eta_{wh} < 35$	$36 \leq \eta_{wh} < 39$	$37 \leq \eta_{wh} < 50$	$38 \leq \eta_{wh} < 55$	$40 \leq \eta_{wh} < 60$
D	$26 \leq \eta_{wh} < 29$	$26 \leq \eta_{wh} < 29$	$29 \leq \eta_{wh} < 32$	$29 \leq \eta_{wh} < 32$	$33 \leq \eta_{wh} < 36$	$34 \leq \eta_{wh} < 37$	$35 \leq \eta_{wh} < 38$	$36 \leq \eta_{wh} < 40$
E	$22 \leq \eta_{wh} < 26$	$23 \leq \eta_{wh} < 26$	$26 \leq \eta_{wh} < 29$	$26 \leq \eta_{wh} < 29$	$30 \leq \eta_{wh} < 33$	$30 \leq \eta_{wh} < 34$	$30 \leq \eta_{wh} < 35$	$32 \leq \eta_{wh} < 36$
F	$19 \leq \eta_{wh} < 22$	$20 \leq \eta_{wh} < 23$	$23 \leq \eta_{wh} < 26$	$23 \leq \eta_{wh} < 26$	$27 \leq \eta_{wh} < 30$	$27 \leq \eta_{wh} < 30$	$27 \leq \eta_{wh} < 30$	$28 \leq \eta_{wh} < 32$
G	$\eta_{wh} < 19$	$\eta_{wh} < 20$	$\eta_{wh} < 23$	$\eta_{wh} < 23$	$\eta_{wh} < 27$	$\eta_{wh} < 27$	$\eta_{wh} < 27$	$\eta_{wh} < 28$

Below F units, cannot be placed into the market from 26 September 2017.

Legal framework summary summary

Space cooling and heating appliances	Product type in scope	Ecodesign	Energy Labelling
	Air conditioners and comfort fans	(EU) No 206/2012	(EU) No 626/2011
	Air heating products, cooling products, high temperature process chillers and fan coil units	(EU) No 2016/2281	
	Space heaters and combination heaters	(EU) No 813/2013	(EU) No 811/2013
	Water heaters and hot water storage tanks	(EU) No 814/2013	(EU) No 812/2013

	Air-to-air			Air-to-water(brine)		Water(Brine)-to-air		Water(Brine)-to-ater(Brine)	
	≤12kW	12kW < x ≤ 1MW	1MW < x ≤ 2MW	≤400kW	400kW < x ≤ 2 MW	≤ 1MW	1MW < x ≤ 2MW	≤400kW	400kW < x ≤ 2 MW
Cooling mode	206/2012	2281/2016							
Heating mode		2016/2281	ND				2016/2281	ND	
Combined (space heating + DHW)	NA			813/2013	ND	NA		813/2013	ND
DHW				814/2013				814/2013	

NA: Not applicable

ND: Not covered by the regulation

Useful links

Ecodesign and Energy labelling

- https://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/ecodesign_en

Harmonized standards

- https://ec.europa.eu/growth/single-market/european-standards/harmonised-standards_en
- It contains updated information by product on:
 - Labelling Regulation
 - Product regulation
 - Harmonised standards in force*.

*Currently there are no harmonised standards in relation to the eco-design and energy labelling directive. However, there are harmonised standards implementing measures within regulation 206/2012EC.

Contact us!



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For any inquires or comments,
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www.ceis.es

comercial@ceis.es

Tel. +34 91 616 97 10

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