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COVER NOTE

from: Secretary-General of the European Commission,
signed by Mr Jordi AYET PUIGARNAU, Director

date of receipt: 26 February 2013

to: Mr Uwe CORSEPIUS, Secretary-General of the Council of the European
Union

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Subject: COMMISSION DELEGATED REGULATION (EU) No .../.. of XXX
supplementing Directive 2010/30/EU of the European Parliament and of the
Council with regard to the energy labelling of space heaters, combination
heaters, packages of space heater, temperature control and solar device and
packages of combination heater, temperature control and solar device

Delegations will find attached Commission document C(2013) 817 final Part 9.

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Brussels, 18.2.2013
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Part 9/9

COMMISSION DELEGATED REGULATION (EU) No .../..

of XXX

supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar device

(Text with EEA relevance)

ANNEX IV Product fiche

1. Space heaters

1.1. The information in the product fiche of the space heater shall be provided in the following order and shall be included in the product brochure or other literature provided with the product:

- (a) supplier's name or trademark;
- (b) supplier's model identifier;
- (c) the seasonal space heating energy efficiency class of the model, determined in accordance with point 1 of Annex II;
- (d) the rated heat output, including the rated heat output of any supplementary heater, in kW, rounded to the nearest integer (for heat pump space heaters under average climate conditions);
- (e) the seasonal space heating energy efficiency in %, rounded to the nearest integer and calculated in accordance with points 3 and 4 of Annex VII (for heat pump space heaters under average climate conditions);
- (f) the annual energy consumption in kWh in terms of final energy and/or in GJ in terms of GCV , rounded to the nearest integer and calculated in accordance with points 3 and 4 of Annex VII (for heat pump space heaters under average climate conditions);
- (g) the sound power level L_{WA} , indoors, in dB, rounded to the nearest integer (for heat pump space heaters if applicable);
- (h) any specific precautions that shall be taken when the space heater is assembled, installed or maintained;

in addition, for cogeneration space heaters:

- (i) the electrical efficiency in %, rounded to the nearest integer;

in addition, for heat pump space heaters:

- (j) the rated heat output, including the rated heat output of any supplementary heater, in kW, under colder and warmer climate conditions, rounded to the nearest integer;
- (k) the seasonal space heating energy efficiency in %, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VII;
- (l) the annual energy consumption in kWh in terms of final energy and/or in GJ in terms of GCV , under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VII;

- (m) the sound power level L_{WA} , outdoors, in dB, rounded to the nearest integer.
- 1.2. One fiche may cover a number of space heater models supplied by the same supplier.
 - 1.3. 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 point 1.1 not already displayed on the label shall also be provided.
- 2. Combination heaters
 - 2.1. The information in the product fiche of the combination heater shall be provided in the following order and shall be included in the product brochure or other literature provided with the product:
 - (a) supplier's name or trademark;
 - (b) supplier's model identifier;
 - (c) for space heating, the medium-temperature application (and for heat pump combination heaters the low-temperature application, if applicable); for water heating, the declared load profile, expressed as the appropriate letter and typical usage in accordance with Table 15 of Annex VII;
 - (d) the seasonal space heating energy efficiency class and the water heating energy efficiency class of the model, determined in accordance with points 1 and 2 of Annex II;
 - (e) the rated heat output, including the rated heat output of any supplementary heater, in kW, rounded to the nearest integer (for heat pump combination heaters under average climate conditions);
 - (f) for space heating, the annual energy consumption in kWh in terms of final energy and/or in GJ in terms of GCV , rounded to the nearest integer and calculated in accordance with points 3 and 4 of Annex VII (for heat pump combination heaters under average climate conditions); for water heating, the annual electricity consumption in kWh in terms of final energy and/or the annual fuel consumption in GJ in terms of GCV , rounded to the nearest integer and calculated in accordance with point 5 of Annex VII (for heat pump combination heaters under average climate conditions);
 - (g) the seasonal space heating energy efficiency in %, rounded to the nearest integer and calculated in accordance with points 3 and 4 of Annex VII (for heat pump combination heaters under average climate conditions); the water heating energy efficiency in %, rounded to the nearest integer and calculated in accordance with point 5 of Annex VII (for heat pump combination heaters under average climate conditions);
 - (h) the sound power level L_{WA} , indoors, in dB, rounded to the nearest integer (for heat pump combination heaters if applicable);
 - (i) if applicable, an indication that the combination heater is able to work only during off-peak hours;

- (j) any specific precautions that shall be taken when the combination heater is assembled, installed or maintained;

in addition, for heat pump combination heaters:

- (k) the rated heat output, including the rated heat output of any supplementary heater, in kW, under colder and warmer climate conditions, rounded to the nearest integer;
- (l) for space heating, the annual energy consumption in kWh in terms of final energy and/or in GJ in terms of *GCV*, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VII; for water heating, the annual electricity consumption in kWh in terms of final energy and/or the annual fuel consumption in GJ in terms of *GCV*, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 5 of Annex VII;
- (m) the seasonal space heating energy efficiency in %, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VII; the water heating energy efficiency in %, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 5 of Annex VII;
- (n) the sound power level L_{WA} , outdoors, in dB, rounded to the nearest integer.

2.2. One fiche may cover a number of combination heater models supplied by the same supplier.

2.3. 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 point 2.1 not already displayed on the label shall also be provided.

3. Temperature controls

3.1. The information in the product fiche of the temperature control shall be provided in the following order and shall be included in the product brochure or other literature provided with the product:

- (a) supplier's name or trade mark;
- (b) supplier's model identifier;
- (c) the class of the temperature control;
- (d) the contribution of the temperature control to seasonal space heating energy efficiency in %, rounded to one decimal place.

3.2. One fiche may cover a number of temperature control models supplied by the same supplier.

4. Solar devices

4.1. The information in the product fiche of the solar device shall be provided in the following order and shall be included in the product brochure or other literature provided with the product (for pumps in the collector loop if applicable):

- (a) supplier's name or trade mark;
- (b) supplier's model identifier;
- (c) the collector aperture area in m², to two decimal places;
- (d) the collector efficiency in %, rounded to the nearest integer;
- (e) the energy efficiency class of the solar hot water storage tank, determined in accordance with point 3 of Annex II;
- (f) the standing loss of the solar hot water storage tank in W, rounded to the nearest integer;
- (g) the storage volume of the solar hot water storage tank in litres and m³;
- (h) the annual non-solar heat contribution Q_{nonsol} in kWh in terms of primary energy for electricity and/or in kWh in terms of GCV for fuels, for the load profiles M, L, XL and XXL under average climate conditions, rounded to the nearest integer;
- (i) the pump power consumption in W, rounded to the nearest integer;
- (j) the standby power consumption in W, to two decimal places;
- (k) the annual auxiliary electricity consumption Q_{aux} in kWh in terms of final energy, rounded to the nearest integer.

4.2. One fiche may cover a number of solar device models supplied by the same supplier.

5. Packages of space heater, temperature control and solar device

The fiche for packages of space heater, temperature control and solar device shall contain the elements set out in Figure 1, Figure 2, Figure 3 and Figure 4, respectively, for evaluating the seasonal space heating energy efficiency of a package of space heater, temperature control and solar device, including the following information:

- I: the value of the seasonal space heating energy efficiency of the preferential space heater, expressed in %;
- II: the factor for weighting the heat output of preferential and supplementary heaters of a package as set out in Tables 5 and 6 of this Annex, respectively;
- III: the value of the mathematical expression: $294/(11 \cdot Prated)$, whereby *Prated* is related to the preferential space heater;
- IV: the value of the mathematical expression $115/(11 \cdot Prated)$, whereby *Prated* is related to the preferential space heater;

in addition, for preferential heat pump space heaters:

- V: the value of the difference between the seasonal space heating energy efficiencies under average and colder climate conditions, expressed in %;
- VI: the value of the difference between the seasonal space heating energy efficiencies under warmer and average climate conditions, expressed in %.

6. Packages of combination heater, temperature control and solar device

The fiche for packages of combination heater, temperature control and solar device shall contain the elements set out in points (a) and (b):

- (a) the elements set out in Figure 1 and Figure 3, respectively, for evaluating the seasonal space heating energy efficiency of a package of combination heater, temperature control and solar device, including the following information:
- I: the value of the seasonal space heating energy efficiency of the preferential combination heater, expressed in %;
 - II: the factor for weighting the heat output of the preferential and supplementary heaters of a package as set out in Tables 5 and 6 of this Annex, respectively;
 - III: the value of the mathematical expression: $294/(11 \cdot Prated)$, whereby *Prated* is related to the preferential combination heater;
 - IV: the value of the mathematical expression $115/(11 \cdot Prated)$, whereby *Prated* is related to the preferential combination heater;

in addition, for preferential heat pump combination heaters:

- V: the value of the difference between the seasonal space heating energy efficiencies under average and colder climate conditions, expressed in %;
 - VI: the value of the difference between the seasonal space heating energy efficiencies under warmer and average climate conditions, expressed in %;
- (b) the elements set out in Figure 5 for evaluating the water heating energy efficiency of a package of combination heater, temperature control and solar device, where the following information shall be included:
- I: the value of the water heating energy efficiency of the combination heater, expressed in %;
 - II: the value of the mathematical expression $(220 \cdot Q_{ref})/Q_{nonsol}$, where Q_{ref} is taken from Table 15 in Annex VII and Q_{nonsol} from the product fiche of the solar device for the declared load profile M, L, XL or XXL of the combination heater;
 - III: the value of the mathematical expression $(Q_{aux} \cdot 2,5)/(220 \cdot Q_{ref})$, expressed in %, where Q_{aux} is taken from the product fiche of the solar device and Q_{ref} from Table 15 in Annex VII for the declared load profile M, L, XL or XXL.

Table 5: For the purposes of Figure 1 of this Annex, weighting of preferential boiler space heater or boiler combination heater and supplementary heater *

$P_{sup} / (Prated + P_{sup})^{**}$	II, package without hot water storage tank	II, package with hot water storage tank
0	0	0
0,1	0,30	0,37
0,2	0,55	0,70
0,3	0,75	0,85
0,4	0,85	0,94
0,5	0,95	0,98
0,6	0,98	1,00
$\geq 0,7$	1,00	1,00

* The intermediate values are calculated by linear interpolation between the two adjacent values.

** *Prated* is related to the preferential space heater or combination heater.

Table 6: For the purposes of Figures 2 to 4 of this Annex, weighting of preferential cogeneration space heater, heat pump space heater, heat pump combination heater or low-temperature heat pump and supplementary heater *

$Prated / (Prated + P_{sup})^{**}$	II, package without hot water storage tank	II, package with hot water storage tank
0	1,00	1,00
0,1	0,70	0,63
0,2	0,45	0,30
0,3	0,25	0,15
0,4	0,15	0,06
0,5	0,05	0,02
0,6	0,02	0
$\geq 0,7$	0	0

* The intermediate values are calculated by linear interpolation between the two adjacent values.

** *Prated* is related to the preferential space heater or combination heater.

Figure 1: For preferential boiler space heaters and preferential boiler combination heaters, element of the fiche for a package of space heater, temperature control and solar device and a package of combination heater, temperature control and solar device, respectively, indicating the seasonal space heating energy efficiency of the package offered

Seasonal space heating energy efficiency of boiler 1 %

Temperature control 2
 From fiche of temperature control + %

Supplementary boiler 3
 From fiche of boiler (- 'I') × 0,1 = ± %

Solar contribution 4
 From fiche of solar device

 ('III' × + 'IV' ×) × 0,9 × (/100) × = + %

Supplementary heat pump 5
 From fiche of heat pump (- 'I') × 'II' = + %

Solar contribution AND Supplementary heat pump 6
 Select smaller value $0,5 \times$ **OR** $0,5 \times$ = - %

Seasonal space heating energy efficiency of package 7 %

Seasonal space heating energy efficiency class of package

□	□	□	□	□	□	□	□	□	□
G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺
< 30%	≥ 30%	≥ 34%	≥ 36%	≥ 75%	≥ 82%	≥ 90%	≥ 98%	≥ 125%	≥ 150%

Boiler and supplementary heat pump installed with low temperature heat emitters at 35 °C ? 7
 From fiche of heat pump + (50 × 'II') = %

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as this efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

Figure 2: For preferential cogeneration space heaters, element of the fiche for a package of space heater, temperature control and solar device indicating the seasonal space heating energy efficiency of the package offered

Seasonal space heating energy efficiency of cogeneration space heater		①	<input type="text" value="'I'"/> %																														
Temperature control From fiche of temperature control	Class I = 1 %, Class II = 2 %, Class III = 1,5 %, Class IV = 2 %, Class V = 3 %, Class VI = 4 %, Class VII = 3,5 %, Class VIII = 5 %	②	+ <input type="text"/> %																														
Supplementary boiler From fiche of boiler	Seasonal space heating energy efficiency (in %) $(\text{input} - \text{'I'}) \times \text{'II'} =$	③	- <input type="text"/> %																														
Solar contribution From fiche of solar device	Collector size (in m ²) Tank volume (in m ³) Collector efficiency (in %) Tank rating A* = 0,95, A = 0,91, B = 0,86, C = 0,83, D-G = 0,81	④	+ <input type="text"/> %																														
Seasonal space heating energy efficiency of package			⑤ <input type="text"/> %																														
Seasonal space heating energy efficiency class of package																																	
<table border="1"> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>G</td> <td>F</td> <td>E</td> <td>D</td> <td>C</td> <td>B</td> <td>A</td> <td>A⁺</td> <td>A⁺⁺</td> <td>A⁺⁺⁺</td> </tr> <tr> <td>< 30%</td> <td>≥ 30%</td> <td>≥ 34%</td> <td>≥ 36%</td> <td>≥ 75%</td> <td>≥ 82%</td> <td>≥ 90%</td> <td>≥ 98%</td> <td>≥ 125%</td> <td>≥ 150%</td> </tr> </table>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺	< 30%	≥ 30%	≥ 34%	≥ 36%	≥ 75%	≥ 82%	≥ 90%	≥ 98%	≥ 125%	≥ 150%
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																								
G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺																								
< 30%	≥ 30%	≥ 34%	≥ 36%	≥ 75%	≥ 82%	≥ 90%	≥ 98%	≥ 125%	≥ 150%																								

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as this efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

Figure 3: For preferential heat pump space heaters and preferential heat pump combination heaters, element of the fiche for a package of space heater, temperature control and solar device and a package of combination heater, temperature control and solar device, respectively, indicating the seasonal space heating energy efficiency of the package offered

Seasonal space heating energy efficiency of heat pump ① %

Temperature control
From fiche of temperature control

Class I = 1 %, Class II = 2 %, Class III = 1,5 %,
 Class IV = 2 %, Class V = 3 %, Class VI = 4 %, Class VII = 3,5 %, Class VIII = 5 %

② + %

Supplementary boiler
From fiche of boiler

Seasonal space heating energy efficiency (in %)

(- 'I') × 'II' =

③ - %

Solar contribution
From fiche of solar device

Collector size (in m²)

Tank volume (in m³)

Collector efficiency (in %)

Tank rating
A* = 0,95, A = 0,91,
B = 0,86, C = 0,83,
D-G = 0,81

④ + %

('III' × + 'IV' ×) × 0,45 × (/100) × =

Seasonal space heating energy efficiency of package under average climate ⑤ %

Seasonal space heating energy efficiency class of package under average climate

□	□	□	□	□	□	□	□	□	□
G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺
< 30%	≥ 30%	≥ 34%	≥ 36%	≥ 75%	≥ 82%	≥ 90%	≥ 98%	≥ 125%	≥ 150%

Seasonal space heating energy efficiency under colder and warmer climate conditions

Colder: ⑤ - 'V' = % Warmer: ⑤ + 'VI' = %

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as this efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

Figure 4: For preferential low-temperature heat pumps, element of the fiche for a package of space heater, temperature control and solar device indicating the seasonal space heating energy efficiency of the package offered

Seasonal space heating energy efficiency of low temperature heat pump ① %

Temperature control
 From fiche of temperature control ② %

Class I = 1 %, Class II = 2 %, Class III = 1,5 %,
 Class IV = 2 %, Class V = 3 %, Class VI = 4 %, Class VII = 3,5 %, Class VIII = 5 %

Supplementary boiler
 From fiche of boiler ③ %

Seasonal space heating energy efficiency (in %)

$$(\text{input} - 'I') \times 'II' = - \text{input} \%$$

Solar contribution
 From fiche of solar device ④ %

Collector size (in m²)

Tank volume (in m³)

Collector efficiency (in %)

Tank rating
 A* = 0,95, A = 0,91,
 B = 0,86, C = 0,83,
 D-G = 0,81

$$('III' \times \text{input} + 'IV' \times \text{input}) \times 0,45 \times (\text{input}/100) \times \text{input} = + \text{input} \%$$

Seasonal space heating energy efficiency of package under average climate ⑤ %

Seasonal space heating energy efficiency class of package under average climate

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺
< 55%	≥ 55%	≥ 59%	≥ 61%	≥ 100%	≥ 107%	≥ 115%	≥ 123%	≥ 150%	≥ 175%

Seasonal space heating energy efficiency under colder and warmer climate conditions

Colder: ⑤ - 'V' = % Warmer: ⑤ + 'VI' = %

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as this efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

Figure 5: For preferential boiler combination heaters and preferential heat pump combination heaters, element of the fiche for a package of combination heater, temperature control and solar device indicating the water heating energy efficiency of the package offered

Water heating energy efficiency of combination heater ① %
 Declared load profile:

Solar contribution
 From fiche of solar device

$$(1,1 \times 'I' - 10\%) \times 'II' - \text{Auxiliary electricity} - 'I' = + \text{② } \boxed{} \%$$

Water heating energy efficiency of package under average climate ③ %

Water heating energy efficiency class of package under average climate

	G	F	E	D	C	B	A	A ⁺	A ⁺⁺	A ⁺⁺⁺
M	<27%	≥27%	≥30%	≥33%	≥36%	≥39%	≥65%	≥100%	≥130%	≥163%
L	<27%	≥27%	≥30%	≥34%	≥37%	≥50%	≥75%	≥115%	≥150%	≥188%
XL	<27%	≥27%	≥30%	≥35%	≥38%	≥55%	≥80%	≥123%	≥160%	≥200%
XXL	<28%	≥28%	≥32%	≥36%	≥40%	≥60%	≥85%	≥131%	≥170%	≥213%

Water heating energy efficiency under colder and warmer climate conditions

Colder: $\text{③ } \boxed{} - 0,2 \times \text{② } \boxed{} = \boxed{} \%$

Warmer: $\text{③ } \boxed{} + 0,4 \times \text{② } \boxed{} = \boxed{} \%$

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as this efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

ANNEX V
Technical documentation

1. Space heaters

For space heaters, the technical documentation referred to in Article 3(1)(c) shall include:

- (a) the name and address of the supplier;
- (b) a description of the space heater model sufficient for its unambiguous identification;
- (c) where appropriate, the references of the harmonised standards applied;
- (d) where appropriate, the other technical standards and specifications used;
- (e) the identification and signature of the person empowered to bind the supplier;
- (f) technical parameters:
 - for boiler space heaters and cogeneration space heaters, the technical parameters set out in Table 7, measured and calculated in accordance with Annex VII;
 - for heat pump space heaters, the technical parameters set out in Table 8, measured and calculated in accordance with Annex VII;
 - for heat pump space heaters where the information relating to a specific model comprising a combination of indoor and outdoor units has been obtained by calculation on the basis of design and/or extrapolation from other combinations, the details of such calculations and/or extrapolations, and of any tests undertaken to verify the accuracy of the calculations, including details of the mathematical model for calculating the performance of such combinations and details of the measurements taken to verify this model;
- (g) any specific precautions that shall be taken when the space heater is assembled, installed or maintained.

2. Combination heaters

For combination heaters, the technical documentation referred to in Article 3(2)(c) shall include:

- (a) the name and address of the supplier;
- (b) a description of the combination heater model sufficient for its unambiguous identification;
- (c) where appropriate, the references of the harmonised standards applied;

- (d) where appropriate, the other technical standards and specifications used;
- (e) the identification and signature of the person empowered to bind the supplier;
- (f) technical parameters:
 - for boiler combination heaters, the technical parameters set out in Table 7, measured and calculated in accordance with Annex VII;
 - for heat pump combination heaters, the technical parameters set out in Table 8, measured and calculated in accordance with Annex VII;
 - for heat pump combination heaters where the information relating to a specific model comprising a combination of indoor and outdoor units has been obtained by calculation on the basis of design and/or extrapolation from other combinations, the details of such calculations and/or extrapolations, and of any tests undertaken to verify the accuracy of the calculations, including details of the mathematical model for calculating the performance of such combinations and details of the measurements taken to verify this model;
- (g) any specific precautions that shall be taken when the combination heater is assembled, installed or maintained.

Table 7: Technical parameters for boiler space heaters, boiler combination heaters and cogeneration space heaters

Model(s): [information identifying the model(s) to which the information relates]			
Condensing boiler: [yes/no]			
Low-temperature** boiler: [yes/no]			
B11 boiler: [yes/no]			
Cogeneration space heater: [yes/no]		If yes, equipped with a supplementary heater: [yes/no]	
Combination heater: [yes/no]			
Item	Symbol	Value	Unit
Rated heat output	P_{rated}	x	kW
For boiler space heaters and boiler combination heaters: Useful heat output			
At rated heat output and high-temperature regime*	P_4	x,x	kW
At 30 % of rated heat output and low-temperature regime**	P_I	x,x	kW
For cogeneration space heaters: Useful heat output			
At rated heat output of cogeneration space heater with supplementary heater disabled	$P_{CHP100+Su_{p0}}$	x,x	kW
At rated heat output of cogeneration space heater with supplementary heater enabled	$P_{CHP100+Su_{p100}}$	x,x	kW
For cogeneration space heaters: Electrical efficiency			
At rated heat output of cogeneration space heater with supplementary heater disabled	$\eta_{el,CHP100+Sup0}$	x,x	%
At rated heat output of cogeneration space heater with supplementary heater enabled	$\eta_{el,CHP100+Sup100}$	x,x	%
Auxiliary electricity consumption			
At full load	el_{max}	x,x	kW
At part load	el_{min}	x,x	kW
In standby mode	P_{SB}	x,xxx	kW
Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	x	%
For boiler space heaters and boiler combination heaters: Useful efficiency			
At rated heat output and high-temperature regime*	η_4	x,x	%
At 30 % of rated heat output and low-temperature regime**	η_I	x,x	%
For cogeneration space heaters: Useful efficiency			
At rated heat output of cogeneration space heater with supplementary heater disabled	$\eta_{CHP100+Sup_0}$	x,x	%
At rated heat output of cogeneration space heater with supplementary heater enabled	$\eta_{CHP100+Sup_{100}}$	x,x	%
Supplementary heater			
Rated heat output	P_{sup}	x,x	kW
Type of energy input			
Other items			
Standby heat loss	P_{stby}	x,x	kW
Ignition burner power consumption	P_{ign}	x,x	kW
Annual energy consumption	Q_{HE}	x	kWh or GJ
Sound power level, indoors	L_{WA}	x	dB
For combination heaters:			
Declared load profile			
Daily electricity consumption	Q_{elec}	x,xxx	kWh
Annual electricity consumption	AEC	x	kWh
Water heating energy efficiency	η_{wh}	x	%
Daily fuel consumption	Q_{fuel}	x,xxx	kWh
Annual fuel consumption	AFC	x	GJ
Contact details	Name and address of the supplier.		
* High-temperature regime means 60 °C return temperature at heater inlet and 80 °C feed temperature at heater outlet.			
** Low temperature means for condensing boilers 30 °C, for low-temperature boilers 37 °C and for other heaters 50 °C return temperature (at heater inlet).			

Table 8: Technical parameters for heat pump space heaters and heat pump combination heaters

Model(s): [information identifying the model(s) to which the information relates]							
Air-to-water heat pump: [yes/no]							
Water-to-water heat pump: [yes/no]							
Brine-to-water heat pump: [yes/no]							
Low-temperature heat pump: [yes/no]							
Equipped with a supplementary heater: [yes/no]							
Heat pump combination heater: [yes/no]							
Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.							
Parameters shall be declared for average, colder and warmer climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output*	<i>Prated</i>	x	kW	Seasonal space heating energy efficiency	η_s	x	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T_j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T_j			
$T_j = - 7^\circ\text{C}$	<i>Pdh</i>	x,x	kW	$T_j = - 7^\circ\text{C}$	<i>COPd</i> or <i>PERd</i>	x,xx or x,x	- or %
$T_j = + 2^\circ\text{C}$	<i>Pdh</i>	x,x	kW	$T_j = + 2^\circ\text{C}$	<i>COPd</i> or <i>PERd</i>	x,xx or x,x	- or %
$T_j = + 7^\circ\text{C}$	<i>Pdh</i>	x,x	kW	$T_j = + 7^\circ\text{C}$	<i>COPd</i> or <i>PERd</i>	x,xx or x,x	- or %
$T_j = + 12^\circ\text{C}$	<i>Pdh</i>	x,x	kW	$T_j = + 12^\circ\text{C}$	<i>COPd</i> or <i>PERd</i>	x,xx or x,x	- or %
$T_j =$ bivalent temperature	<i>Pdh</i>	x,x	kW	$T_j =$ bivalent temperature	<i>COPd</i> or <i>PERd</i>	x,xx or x,x	- or %
$T_j =$ operation limit temperature	<i>Pdh</i>	x,x	kW	$T_j =$ operation limit temperature	<i>COPd</i> or <i>PERd</i>	x,xx or x,x	- or %
For air-to-water heat pumps: $T_j = - 15^\circ\text{C}$ (if $TOL < - 20^\circ\text{C}$)	<i>Pdh</i>	x,x	kW	For air-to-water heat pumps: $T_j = - 15^\circ\text{C}$ (if $TOL < - 20^\circ\text{C}$)	<i>COPd</i> or <i>PERd</i>	x,xx or x,x	- or %
Bivalent temperature	T_{biv}	x	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	x	°C
Cycling interval capacity for heating	<i>Pcyc</i>	x,x	kW	Cycling interval efficiency	<i>COPcyc</i> or <i>PERcyc</i>	x,xx or x,x	- or %
Degradation co-efficient**	<i>Cdh</i>	x,x	-	Heating water operating limit temperature	<i>WTOL</i>	x	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	x,xxx	kW	Rated heat output*	P_{sup}	x,x	kW
Thermostat-off mode	P_{TO}	x,xxx	kW	Type of energy input			
Standby mode	P_{SB}	x,xxx	kW	For air-to-water heat pumps: Rated air flow rate, outdoors			
Crankcase heater mode	P_{CK}	x,xxx	kW				
Other items				For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Capacity control	fixed/variable						
Sound power level, indoors/outdoors	L_{WA}	x / x	dB	-	x	m ³ /h	
Annual energy consumption	Q_{HE}	x	kWh or GJ	-	x	m ³ /h	
For heat pump combination heater:							
Declared load profile	x			Water heating energy efficiency	η_{wh}	x	%
Daily electricity consumption	Q_{elec}	x,xxx	kWh	Daily fuel consumption	Q_{fuel}	x,xxx	kWh
Annual electricity	AEC	x	kWh	Annual fuel consumption	AFC	x	GJ

consumption			
Contact details	Name and address of the supplier.		
* For heat pump space heaters and heat pump combination heaters, the rated heat output P_{rated} is equal to the design load for heating $P_{designh}$, and the rated heat output of a supplementary heater P_{sup} is equal to the supplementary capacity for heating $sup(T_j)$.			
** If C_{dh} is not determined by measurement then the default degradation coefficient is $C_{dh} = 0,9$.			

3. Temperature controls

For temperature controls, the technical documentation referred to in Article 3(3)(b) shall include:

- (a) the name and address of the supplier;
- (b) a description of the temperature control model sufficient for its unambiguous identification;
- (c) where appropriate, the references of the harmonised standards applied;
- (d) where appropriate, the other technical standards and specifications used;
- (e) the identification and signature of the person empowered to bind the supplier;
- (f) technical parameters:
 - the class of the temperature control;
 - the contribution of the temperature control to seasonal space heating energy efficiency in %, rounded to one decimal place;
- (g) any specific precautions that shall be taken when the temperature control is assembled, installed or maintained.

4. Solar devices

For solar devices, the technical documentation referred to in Article 3(4)(b) shall include:

- (a) the name and address of the supplier;
- (b) a description of the solar device model sufficient for its unambiguous identification;
- (c) where appropriate, the references of the harmonised standards applied;
- (d) where appropriate, the other technical standards and specifications used;
- (e) the identification and signature of the person empowered to bind the supplier;
- (f) technical parameters (for pumps in the collector loop if applicable):
 - the collector aperture area A_{sol} in m^2 , to two decimal places;
 - the collector efficiency η_{col} in %, rounded to the nearest integer;
 - the energy efficiency class of the solar hot water storage tank, determined in accordance with point 3 of Annex II;
 - the standing loss S of the solar hot water storage tank in W, rounded to the nearest integer;

- the storage volume V of the solar hot water storage tank in litres and m^3 ;
 - the annual non-solar heat contribution Q_{nonsol} in kWh in terms of primary energy for electricity and/or in kWh in terms of GCV for fuels, for the load profiles M, L, XL and XXL under average climate conditions, rounded to the nearest integer;
 - the pump power consumption sol_{pump} in W, rounded to the nearest integer;
 - the standby power consumption $sol_{standby}$ in W, to two decimal places;
 - the annual auxiliary electricity consumption Q_{aux} in kWh in terms of final energy, rounded to the nearest integer;
- (g) any specific precautions that shall be taken when the solar device is assembled, installed or maintained.

5. Packages of space heater, temperature control and solar device

For packages of space heater, temperature control and solar device, the technical documentation referred to in Article 3(5)(c) shall include:

- (a) the name and address of the supplier;
- (b) a description of the package of space heater, temperature control and solar device model sufficient for its unambiguous identification;
- (c) where appropriate, the references of the harmonised standards applied;
- (d) where appropriate, the other technical standards and specifications used;
- (e) the identification and signature of the person empowered to bind the supplier;
- (f) technical parameters:
 - the seasonal space heating energy efficiency in %, rounded to the nearest integer;
 - the technical parameters set out in points 1, 3 and 4 of this Annex;
- (g) any specific precautions that shall be taken when the package of space heater, temperature control and solar device is assembled, installed or maintained.

6. Packages of combination heater, temperature control and solar device

For packages of combination heater, temperature control and solar device, the technical documentation referred to in Article 3(6)(c) shall include:

- (a) the name and address of the supplier;
- (b) a description of the package of combination heater, temperature control and solar device model sufficient for its unambiguous identification;

- (c) where appropriate, the references of the harmonised standards applied;
- (d) where appropriate, the other technical standards and specifications used;
- (e) the identification and signature of the person empowered to bind the supplier;
- (f) technical parameters:
 - the seasonal space heating energy efficiency and water heating energy efficiency in %, rounded to the nearest integer;
 - the technical parameters set out in points 2, 3 and 4 of this Annex;
- (g) any specific precautions that shall be taken when the package of combination heater, temperature control and solar device is assembled, installed or maintained.

ANNEX VI

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

1. Space heaters
 - 1.1. The information referred to in Article 4(1)(b) shall be provided in the following order:
 - (a) the seasonal space heating energy efficiency class of the model, determined in accordance with point 1 of Annex II;
 - (b) the rated heat output, including the rated heat output of any supplementary heater, in kW, rounded to the nearest integer (for heat pump space heaters, under average climate conditions);
 - (c) the seasonal space heating energy efficiency in %, rounded to the nearest integer and calculated in accordance with points 3 and 4 of Annex VII (for heat pump space heaters, under average climate conditions);
 - (d) the annual energy consumption in kWh in terms of final energy and/or in GJ in terms of *GCV*, rounded to the nearest integer and calculated in accordance with points 3 and 4 of Annex VII (for heat pump space heaters, under average climate conditions);
 - (e) the sound power level L_{WA} , indoors, in dB, rounded to the nearest integer (for heat pump space heaters if applicable);

in addition, for cogeneration space heaters:

 - (f) the electrical efficiency in %, rounded to the nearest integer;

in addition, for heat pump space heaters:

 - (g) the rated heat output, including the rated heat output of any supplementary heater, in kW, under colder and warmer climate conditions, rounded to the nearest integer;
 - (h) the seasonal space heating energy efficiency in %, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VII;
 - (i) the annual energy consumption in kWh in terms of final energy and/or in GJ in terms of *GCV*, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VII;
 - (j) the sound power level L_{WA} , outdoors, in dB, rounded to the nearest integer;

in addition, for low-temperature heat pumps:

 - (k) an indication that the low-temperature heat pump is only suitable for low-temperature application;

1.2. The size and font in which the information referred in point 1.1 is printed or shown shall be legible.

2. Combination heaters

2.1. The information referred to in Article 4(2)(b) shall be provided in the following order:

- (a) for space heating, the medium-temperature application; for water heating, the declared load profile, expressed as the appropriate letter and typical usage in accordance with Table 15 of Annex VII;
- (b) the seasonal space heating energy efficiency class and the water heating energy efficiency class of the model, determined in accordance with points 1 and 2 of Annex II;
- (c) the rated heat output, including the rated heat output of any supplementary heater, in kW, rounded to the nearest integer (for heat pump combination heaters, under average climate conditions);
- (d) for space heating, the annual energy consumption in kWh in terms of final energy and/or in GJ in terms of *GCV*, rounded to the nearest integer and calculated in accordance with points 3 and 4 of Annex VII (for heat pump combination heaters, under average climate conditions); for water heating, the annual electricity consumption in kWh in terms of final energy and/or the annual fuel consumption in GJ in terms of *GCV*, rounded to the nearest integer and calculated in accordance with point 5 of Annex VII (for heat pump combination heaters, under average climate conditions);
- (e) the seasonal space heating energy efficiency in %, rounded to the nearest integer and calculated in accordance with points 3 and 4 of Annex VII (for heat pump combination heaters, under average climate conditions); the water heating energy efficiency in %, rounded to the nearest integer and calculated in accordance with point 5 of Annex VII (for heat pump combination heaters, under average climate conditions);
- (f) the sound power level L_{WA} , indoors, in dB, rounded to the nearest integer (for heat pump combination heaters if applicable);
- (g) if applicable, an indication that the combination heater is able to work only during off-peak hours;

in addition, for heat pump combination heaters:

- (h) the rated heat output, including the rated heat output of any supplementary heater, in kW, under colder and warmer climate conditions, rounded to the nearest integer;
- (i) for space heating, the annual energy consumption in kWh in terms of final energy and/or in GJ in terms of *GCV*, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VII; for water heating, the annual electricity consumption in

kWh in terms of final energy and/or the annual fuel consumption in GJ in terms of *GCV*, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 5 of Annex VII;

- (j) the seasonal space heating energy efficiency in %, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VII; the water heating energy efficiency in %, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 5 of Annex VII;
 - (k) the sound power level L_{WA} , outdoors, in dB, rounded to the nearest integer.
- 2.2. The size and font in which the information referred in point 2.1 is printed or shown shall be legible.
3. Packages of space heater, temperature control and solar device
- 3.1. The information referred to in Article 4(3)(b) shall be provided in the following order:
- (a) the seasonal space heating energy efficiency class of the model, determined in accordance with point 1 of Annex II;
 - (b) the seasonal space heating energy efficiency in %, rounded to the nearest integer;
 - (c) the elements set out in Figure 1, Figure 2, Figure 3 and Figure 4, respectively, of Annex IV.
- 3.2. The size and font in which the information referred in point 3.1 is printed or shown shall be legible.
4. Packages of combination heater, temperature control and solar device
- 4.1. The information referred to in Article 4(4)(b) shall be provided in the following order:
- (a) the seasonal space heating energy efficiency class and the water heating energy efficiency class of the model, determined in accordance with points 1 and 2 of Annex II;
 - (b) the seasonal space heating energy efficiency and the water heating energy efficiency in %, rounded to the nearest integer;
 - (c) the elements set out in Figure 1 and Figure 3, respectively, of Annex IV;
 - (d) the elements set out in Figure 5 of Annex IV.
- 4.2. The size and font in which the information referred in point 4.1 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 for this purpose in the *Official Journal of the European Union*, or using other reliable, accurate and reproducible methods that take into account the generally recognised state-of-the-art methods. They shall meet the conditions and technical parameters set out in points 2 to 6.
2. General conditions for measurements and calculations
 - (a) For the purposes of the measurements set out in points 3 to 7, the indoor ambient temperature shall be set at 20 °C.
 - (b) For the purposes of the calculations set out in points 3 to 7, electricity consumption shall be multiplied by a conversion coefficient CC of 2,5, unless the annual electricity consumption is expressed in final energy for the end-user, as set out in points 3(b), 4(g), 5(e) and 6.
 - (c) For heaters equipped with supplementary heaters, the measurement and calculation of rated heat output, seasonal space heating energy efficiency, water heating energy efficiency, sound power level and emissions of nitrogen oxides shall take account of the supplementary heater.
 - (d) Declared values for rated heat output, seasonal space heating energy efficiency, water heating energy efficiency, annual energy consumption and sound power level shall be rounded to the nearest integer.
3. Seasonal space heating energy efficiency and consumption of boiler space heaters, boiler combination heaters and cogeneration space heaters
 - (a) The seasonal space heating energy efficiency η_s shall be calculated as the seasonal space heating energy efficiency in active mode η_{son} , corrected by contributions accounting for temperature controls, auxiliary electricity consumption, standby heat loss, ignition burner power consumption (if applicable) and, for cogeneration space heaters, corrected by adding the electrical efficiency multiplied by a conversion coefficient CC of 2,5.
 - (b) The annual energy consumption Q_{HE} in kWh in terms of final energy and/or in GJ in terms of GCV shall be calculated as the ratio of the reference annual heating demand and the seasonal space heating energy efficiency.
4. Seasonal space heating energy efficiency and consumption of heat pump space heaters and heat pump combination heaters
 - (a) For establishing the rated coefficient of performance COP_{rated} or rated primary energy ratio PER_{rated} , or the sound power level, the operating conditions shall be the standard rating conditions set out in Table 9 and the same declared capacity for heating shall be used.

- (b) The active mode coefficient of performance $SCOP_{on}$ for average, colder and warmer climate conditions shall be calculated on the basis of the part load for heating $Ph(T_j)$, the supplementary capacity for heating $sup(T_j)$ (if applicable), and the bin-specific coefficient of performance $COP_{bin}(T_j)$ or bin-specific primary energy ratio $PER_{bin}(T_j)$, weighted by the bin-hours for which the bin conditions apply, using the following conditions:
- the reference design conditions set out in Table 10;
 - the European reference heating season under average, colder and warmer climate conditions set out in Table 12;
 - if applicable, the effects of any degradation of energy efficiency caused by cycling, depending on the type of control of the heating capacity.
- (c) The reference annual heating demand Q_H shall be the design load for heating $P_{designh}$ for average, colder and warmer climate conditions, multiplied by the annual equivalent active mode hours H_{HE} of 2 066, 2 465 and 1 336 for average, colder and warmer climate conditions, respectively.
- (d) The annual energy consumption Q_{HE} shall be calculated as the sum of:
- the ratio of the reference annual heating demand Q_H and the active mode coefficient of performance $SCOP_{on}$ or active mode primary energy ratio $SPER_{on}$ and
 - the energy consumption for off, thermostat-off, standby, and crankcase heater mode during the heating season.
- (e) The seasonal coefficient of performance $SCOP$ or seasonal primary energy ratio $SPER$ shall be calculated as the ratio of the reference annual heating demand Q_H and the annual energy consumption Q_{HE} .
- (f) The seasonal space heating energy efficiency η_s shall be calculated as the seasonal coefficient of performance $SCOP$ divided by the conversion coefficient CC or the seasonal primary energy ratio $SPER$, corrected by contributions accounting for temperature controls and, for water-/brine-to-water heat pump space heaters and heat pump combination heaters, the electricity consumption of one or more ground water pumps.
- (g) The annual energy consumption Q_{HE} in kWh in terms of final energy and/or GJ in terms of GCV shall be calculated as the ratio of the reference annual heating demand Q_H and the seasonal space heating energy efficiency η_s .

5. Water heating energy efficiency of combination heaters

The water heating energy efficiency η_{wh} of a combination heater shall be calculated as the ratio between the reference energy Q_{ref} and the energy required for its generation under the following conditions:

- (a) measurements shall be carried out using the load profiles set out in Table 15;

- (b) measurements shall be carried out using a 24-hour measurement cycle as follows:
 - 00:00 to 06:59: no water draw-off;
 - from 07:00: water draw-offs according to the declared load profile;
 - from end of last water draw-off until 24:00: no water draw-off;
- (c) the declared load profile shall be the maximum load profile or the load profile one below the maximum load profile;
- (d) for heat pump combination heaters, the following additional conditions apply:
 - heat pump combination heaters shall be tested under the conditions set out in Table 9;
 - heat pump combination heaters which use ventilation exhaust air as the heat source shall be tested under the conditions set out in Table 11;
- (e) the annual electricity consumption AEC in kWh in terms of final energy shall be calculated as daily electricity consumption Q_{elec} in kWh in terms of final energy multiplied by 220;
- (f) the annual fuel consumption AFC in GJ in terms of GCV shall be calculated as daily fuel consumption Q_{fuel} multiplied by 220.

6. Conditions for measurements and calculations of solar devices

The solar collector, solar hot water storage tank and pump in the collector loop (if applicable) shall be tested separately. Where the solar collector and solar hot water storage tank cannot be tested separately, they shall be tested in combination.

The results shall be used for the determination of the standing loss S and the calculations of the collector efficiency η_{col} , the annual non-solar heat contribution Q_{nonsol} for the load profiles M, L, XL and XXL under the average climate conditions set out in Tables 13 and 14, and the annual auxiliary electricity consumption Q_{aux} in kWh in terms of final energy.

Table 9: Standard rating conditions for heat pump space heaters and heat pump combination heaters

Heat source	Outdoor heat exchanger		Indoor heat exchanger			
	Climate condition	Inlet dry bulb (wet bulb) temperature	Heat pump space heaters and heat pump combination heaters, except low-temperature heat pumps		Low-temperature heat pumps	
			Inlet temperature	Outlet temperature	Inlet temperature	Outlet temperature

Outdoor air	Average	+ 7 °C (+ 6 °C)	+ 47 °C	+ 55 °C	+ 30 °C	+ 35 °C
	Colder	+ 2 °C (+ 1 °C)				
	Warmer	+ 14 °C (+ 13 °C)				
Exhaust air	All	+ 20 °C (+ 12 °C)				
		Inlet / outlet temperature				
Water	All	+ 10 °C / + 7 °C				
Brine	All	0 °C/- 3 °C				

Table 10: Reference design conditions for heat pump space heaters and heat pump combination heaters, temperatures in dry bulb air temperature (wet bulb air temperature indicated in brackets)

Climate condition	Reference design temperature	Bivalent temperature	Operation limit temperature
	<i>T_{designh}</i>	<i>T_{biv}</i>	<i>TOL</i>
Average	- 10 (- 11) °C	maximum + 2 °C	maximum - 7 °C
Colder	- 22 (- 23) °C	maximum - 7 °C	maximum - 15 °C
Warmer	+ 2 (+ 1) °C	maximum + 7 °C	maximum + 2 °C

Table 11: Maximum ventilation exhaust air available [m³/h], with humidity of 5,5 g/m³

Declared load profile	XXS	XS	S	M	L	XL	XXL
Maximum ventilation exhaust air available	109	128	128	159	190	870	1021

Table 12: European reference heating season under average, colder and warmer climate conditions for heat pump space heaters and heat pump combination heaters

<i>bin_j</i>	<i>T_j</i> [°C]	Average climate conditions	Colder climate conditions	Warmer climate conditions
		<i>H_j</i> [h/annum]	<i>H_j</i> [h/annum]	<i>H_j</i> [h/annum]
1 to 8	-30 to -23	0	0	0
9	-22	0	1	0
10	-21	0	6	0
11	-20	0	13	0
12	-19	0	17	0
13	-18	0	19	0
14	-17	0	26	0
15	-16	0	39	0
16	-15	0	41	0
17	-14	0	35	0
18	-13	0	52	0
19	-12	0	37	0
20	-11	0	41	0
21	-10	1	43	0
22	-9	25	54	0
23	-8	23	90	0
24	-7	24	125	0
25	-6	27	169	0
26	-5	68	195	0
27	-4	91	278	0
28	-3	89	306	0
29	-2	165	454	0
30	-1	173	385	0
31	0	240	490	0
32	1	280	533	0
33	2	320	380	3
34	3	357	228	22
35	4	356	261	63
36	5	303	279	63
37	6	330	229	175
38	7	326	269	162
39	8	348	233	259
40	9	335	230	360
41	10	315	243	428
42	11	215	191	430
43	12	169	146	503
44	13	151	150	444
45	14	105	97	384
46	15	74	61	294
Total hours:		4910	6446	3 590

Table 13: Average daytime temperature [°C]

	January	February	March	April	May	June	July	August	September	October	November	December
Average climate conditions	+ 2,8	+ 2,6	+ 7,4	+ 12,2	+ 16,3	+ 19,8	+ 21,0	+ 22,0	+ 17,0	+ 11,9	+ 5,6	+ 3,2

Table 14: Average global solar irradiance [W/m²]

	January	February	March	April	May	June	July	August	September	October	November	December
Average climate conditions	70	104	149	192	221	222	232	217	176	129	80	56

Table 15: Water heating load profiles of combination heaters

h	3XS			XXS			XS			S			
	Q_{tap} kWh	f l/min	T_m °C	Q_{tap} kWh	f l/min	T_m °C	Q_{tap} kWh	f l/min	T_m °C	Q_{tap} kWh	f l/min	T_m °C	T_p °C
07:00	0,015	2	25	0,105	2	25				0,105	3	25	
07:05	0,015	2	25										
07:15	0,015	2	25										
07:26	0,015	2	25										
07:30	0,015	2	25	0,105	2	25	0,525	3	35	0,105	3	25	
07:45													
08:01													
08:05													
08:15													
08:25													
08:30				0,105	2	25				0,105	3	25	
08:45													
09:00	0,015	2	25										
09:30	0,015	2	25	0,105	2	25				0,105	3	25	
10:00													
10:30													
11:00													
11:30	0,015	2	25	0,105	2	25				0,105	3	25	
11:45	0,015	2	25	0,105	2	25				0,105	3	25	
12:00	0,015	2	25	0,105	2	25							
12:30	0,015	2	25	0,105	2	25							
12:45	0,015	2	25	0,105	2	25	0,525	3	35	0,315	4	10	55
14:30	0,015	2	25										
15:00	0,015	2	25										
15:30	0,015	2	25										
16:00	0,015	2	25										
16:30													
17:00													
18:00				0,105	2	25				0,105	3	25	
18:15				0,105	2	25				0,105	3	40	
18:30	0,015	2	25	0,105	2	25							
19:00	0,015	2	25	0,105	2	25							
19:30	0,015	2	25	0,105	2	25							
20:00				0,105	2	25							
20:30							1,05	3	35	0,42	4	10	55
20:45				0,105	2	25							
20:46													
21:00				0,105	2	25							
21:15	0,015	2	25	0,105	2	25							
21:30	0,015	2	25							0,525	5	45	
21:35	0,015	2	25	0,105	2	25							
21:45	0,015	2	25	0,105	2	25							
Q_{ref}	0,345			2,100			2,100			2,100			

Continued Table 15: Water heating load profiles of combination heaters

h	M				L				XL			
	Q_{tap} kWh	f l/mn	T_m °C	T_p °C	Q_{tap} kWh	f l/min	T_m °C	T_p °C	Q_{tap} kWh	f l/min	T_m °C	T_p °C
07:00	0,105	3	25		0,105	3	25		0,105	3	25	
07:05	1,4	6	40		1,4	6	40					
07:15									1,82	6	40	
07:26									0,105	3	25	
07:30	0,105	3	25		0,105	3	25					
07:45					0,105	3	25		4,42	10	10	40
08:01	0,105	3	25						0,105	3	25	
08:05					3,605	10	10	40				
08:15	0,105	3	25						0,105	3	25	
08:25					0,105	3	25					
08:30	0,105	3	25		0,105	3	25		0,105	3	25	
08:45	0,105	3	25		0,105	3	25		0,105	3	25	
09:00	0,105	3	25		0,105	3	25		0,105	3	25	
09:30	0,105	3	25		0,105	3	25		0,105	3	25	
10:00									0,105	3	25	
10:30	0,105	3	10	40	0,105	3	10	40	0,105	3	10	40
11:00									0,105	3	25	
11:30	0,105	3	25		0,105	3	25		0,105	3	25	
11:45	0,105	3	25		0,105	3	25		0,105	3	25	
12:00												
12:30												
12:45	0,315	4	10	55	0,315	4	10	55	0,735	4	10	55
14:30	0,105	3	25		0,105	3	25		0,105	3	25	
15:00									0,105	3	25	
15:30	0,105	3	25		0,105	3	25		0,105	3	25	
16:00									0,105	3	25	
16:30	0,105	3	25		0,105	3	25		0,105	3	25	
17:00									0,105	3	25	
18:00	0,105	3	25		0,105	3	25		0,105	3	25	
18:15	0,105	3	40		0,105	3	40		0,105	3	40	
18:30	0,105	3	40		0,105	3	40		0,105	3	40	
19:00	0,105	3	25		0,105	3	25		0,105	3	25	
19:30												
20:00												
20:30	0,735	4	10	55	0,735	4	10	55	0,735	4	10	55
20:45												
20:46									4,42	10	10	40
21:00					3,605	10	10	40				
21:15	0,105	3	25						0,105	3	25	
21:30	1,4	6	40		0,105	3	25		4,42	10	10	40
21:35												
21:45												
Q_{ref}	5,845				11,655				19,07			

Continued Table 15: Water heating load profiles of combination heaters

h	XXL			
	Q_{tap} kWh	f l/min	T_m °C	T_p °C
07:00	0,105	3	25	
07:05				
07:15	1,82	6	40	
07:26	0,105	3	25	
07:30				
07:45	6,24	16	10	40
08:01	0,105	3	25	
08:05				
08:15	0,105	3	25	
08:25				
08:30	0,105	3	25	
08:45	0,105	3	25	
09:00	0,105	3	25	
09:30	0,105	3	25	
10:00	0,105	3	25	
10:30	0,105	3	10	40
11:00	0,105	3	25	
11:30	0,105	3	25	
11:45	0,105	3	25	
12:00				
12:30				
12:45	0,735	4	10	55
14:30	0,105	3	25	
15:00	0,105	3	25	
15:30	0,105	3	25	
16:00	0,105	3	25	
16:30	0,105	3	25	
17:00	0,105	3	25	
18:00	0,105	3	25	
18:15	0,105	3	40	
18:30	0,105	3	40	
19:00	0,105	3	25	
19:30				
20:00				
20:30	0,735	4	10	55
20:45				
20:46	6,24	16	10	40
21:00				
21:15	0,105	3	25	
21:30	6,24	16	10	40
21:35				
21:45				
Q_{ref}	24,53			

ANNEX VIII

Verification procedure for market surveillance purposes

For the purposes of assessing the conformity with the requirements laid down in Articles 3 and 4, the authorities of the Member States shall apply the following verification procedure:

1. The Member State authorities shall test one single unit per heater, temperature control, solar device, package of space heater, temperature control and solar device, and package of combination heater, temperature control and solar device model and provide the information on the test results to the authorities of the other Member States.
2. The model shall be considered to comply with the applicable requirements if:
 - (a) for heaters, packages of space heater, temperature control and solar device, and packages of combination heater, temperature control and solar device, the seasonal space heating energy efficiency η_s is not more than 8% lower than the declared value at the rated heat output of the unit;
 - (b) for combination heaters and packages of combination heater, temperature control and solar device, the water heating energy efficiency η_{wh} is not more than 8% lower than the declared value at the rated heat output of the unit;
 - (c) for heaters, the sound power level L_{WA} is not more than 2 dB higher than the declared value of the unit;
 - (d) for temperature controls, the class of the temperature control complies with the declared class of the unit;
 - (e) for solar devices, the collector efficiency η_{col} is not more than 5% lower than the declared value of the unit;
 - (f) for solar devices, the standing loss S of the solar hot water storage tank is not more than 5% higher than the declared value of the unit; and
 - (g) for solar devices, the auxiliary electricity consumption Q_{aux} is not more than 5% higher than the declared value of the unit.
3. If the result referred to in point 2 is not achieved, the Member State authorities shall randomly select three additional units of the same model for testing and provide the information on the test results to the authorities of the other Member States and to the Commission within one month of testing.
4. The model shall be considered to comply with the applicable requirements if:
 - (a) for heaters, packages of space heater, temperature control and solar device, and packages of combination heater, temperature control and solar device, the average of the three units for seasonal space heating energy efficiency η_s is not more than 8% lower than the declared value at the rated heat output of the unit;
 - (b) for combination heaters and packages of combination heater, temperature control and solar device, the average of the three units for water heating energy

efficiency η_{wh} is not more than 8% lower than the declared value at the rated heat output of the unit;

- (c) for heaters, the average of the three units for sound power level L_{WA} is not more than 2 dB higher than the declared value of the unit;
- (d) for temperature controls, the class of the temperature control of the three units complies with the declared class of the unit;
- (e) for solar devices, the average of the three units for collector efficiency η_{col} is not more than 5% lower than the declared value of the unit;
- (f) for solar devices, the average of the three units for standing loss S of the solar hot water storage tank is not more than 5% higher than the declared value of the unit; and
- (g) for solar devices, the average of the three units for auxiliary electricity consumption Q_{aux} is not more than 5% higher than the declared value of the unit.

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

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