

Individual packages according to ErP with high energy efficiency and a good benefit/cost ratio

ErP made easy!

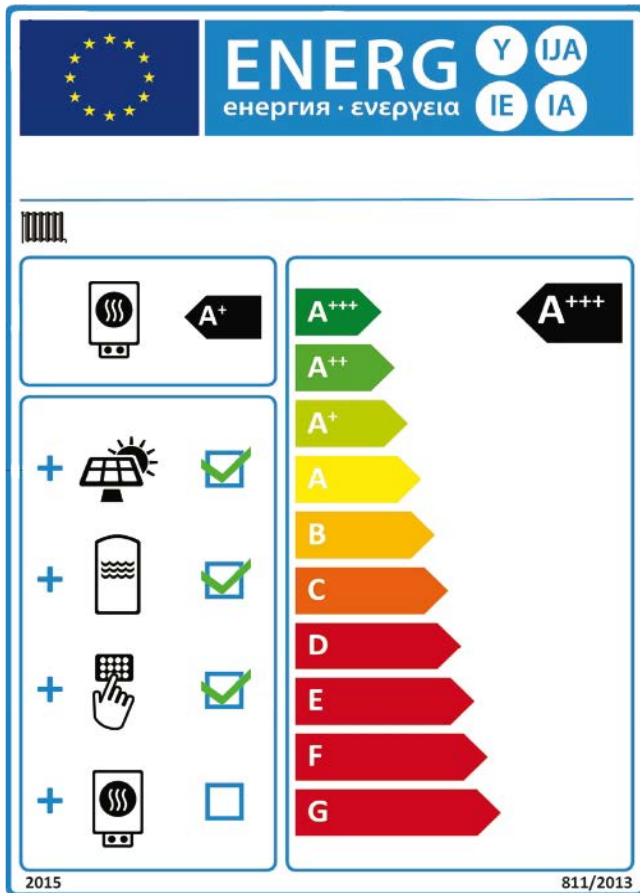
The central graphic displays an Energy Label (ErP) for a heating system. The label includes the following information:

- Energy Label (ErP):** A central label with the text "ENERG" and "енергия · ενεργεια" (energy · energy) in multiple languages. It features a color-coded scale from A+++ (green) to G (red).
- Energy Efficiency Class:** The label shows the class "A++" for the heating system and "A++" for the control system.
- Energy Efficiency Class Legend:** A color-coded scale from A+++ (green) to G (red).
- Energy Efficiency Class Legend:** A color-coded scale from A+++ (green) to G (red).
- Energy Efficiency Class Legend:** A color-coded scale from A+++ (green) to G (red).

Surrounding the central graphic are images of Oventrop products:

- Top Left:** A white box, likely a control unit or valve.
- Bottom Left:** A black control unit with a digital display and buttons.
- Top Right:** A black radiator.
- Bottom Right:** A black control unit with a digital display and buttons.

The background of the graphic is a grid with mathematical formulas and energy efficiency classes, such as $\eta_{wh} \geq 62$, $53 \leq \eta_{wh} < 62$, $61 \leq \eta_{wh} < 69$, $72 \leq \eta_{wh} < 90$, $44 \leq \eta_{wh} < 53$, $53 \leq \eta_{wh} < 69$, $32 \leq \eta_{wh} < 35$, $29 \leq \eta_{wh} < 32$, $23 \leq \eta_{wh} < 26$, $20 \leq \eta_{wh} < 23$, $17 \leq \eta_{wh} < 20$, $14 \leq \eta_{wh} < 17$, $11 \leq \eta_{wh} < 14$, $8 \leq \eta_{wh} < 11$, $5 \leq \eta_{wh} < 8$, $2 \leq \eta_{wh} < 5$, $0 \leq \eta_{wh} < 2$.



Package label



Heat generator/additional heat generator



Solar collectors



Storage tank



Temperature control

Content

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The ErP Directive (Energy related Products) for space heaters, combination heaters, water heaters and water storage tanks will become mandatory as from 26.09.2015. It describes the ecodesign and labelling requirements of energy efficient products.

The EU Commission found out that space heaters and water heaters can be improved significantly with regard to the reduction of environmental impacts and the saving of energy. For this reason, dealers/installers selling space heaters/combination heaters, water heaters, hot water storage tanks or packages to end-users, will have to supply certain product information to the latter.

From 26.09.2015 it must be ensured that a space heater/combination heater is provided with a product label for the seasonal space heating energy efficiency and that a water heater/hot water storage tank with a product label for the water heating energy efficiency. Moreover, the installer is obliged to provide a **package label** to the customer as soon as the heat generator is replaced and further components, such as solar devices and temperature controls are installed.

Advantages of the ErP Directive:

- Easy identification of energy efficient products and systems.
- The energy efficiency of a heating system becomes transparent.
- The label allows to discern the influence of further components.

Framework for Lot 1 and Lot 2 based on the Labelling Directive (210/30/EU) and the Ecodesign Directive (2009/125/EC)

The Ecodesign Directive defines the minimum technical requirements for energy-related products (e.g. energy consumption) and shall provide incentives for manufacturers to improve the energy efficiency of their products.

The responsibilities of manufacturers and dealers/installers regarding labelling and further standard product information are defined on the basis of the Labelling Directive. The end-users shall receive more detailed information and be encouraged to purchase energy-efficient products.

Lot 1 (space heaters and combination heaters):

Ecodesign Directive (813/2013)

This Directive defines the **ecodesign requirements** for **space heaters and combination heaters** with a rated heat output of ≤ 400 kW, including those integrated in **packages of space heater**, temperature control and solar device or **packages of combination heater**, temperature control and solar device as defined in Article 2 – 811/2013.

Labelling Directive (811/2013)

Directive with regard to energy labelling and the provision of product information on:

- **Space heaters and combination heaters** with a maximum rated heat output of 70 kW
- **Packages of space heater** with a maximum rated heat output of 70 kW, temperature control and solar device
- **Packages of combination heater** with a maximum rated heat output of 70 kW, temperature control and solar device

Lot 2 (water heaters and hot water storage tanks):

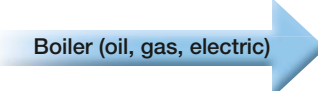
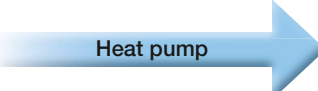
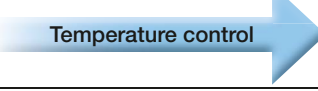
Ecodesign Directive (814/2013)

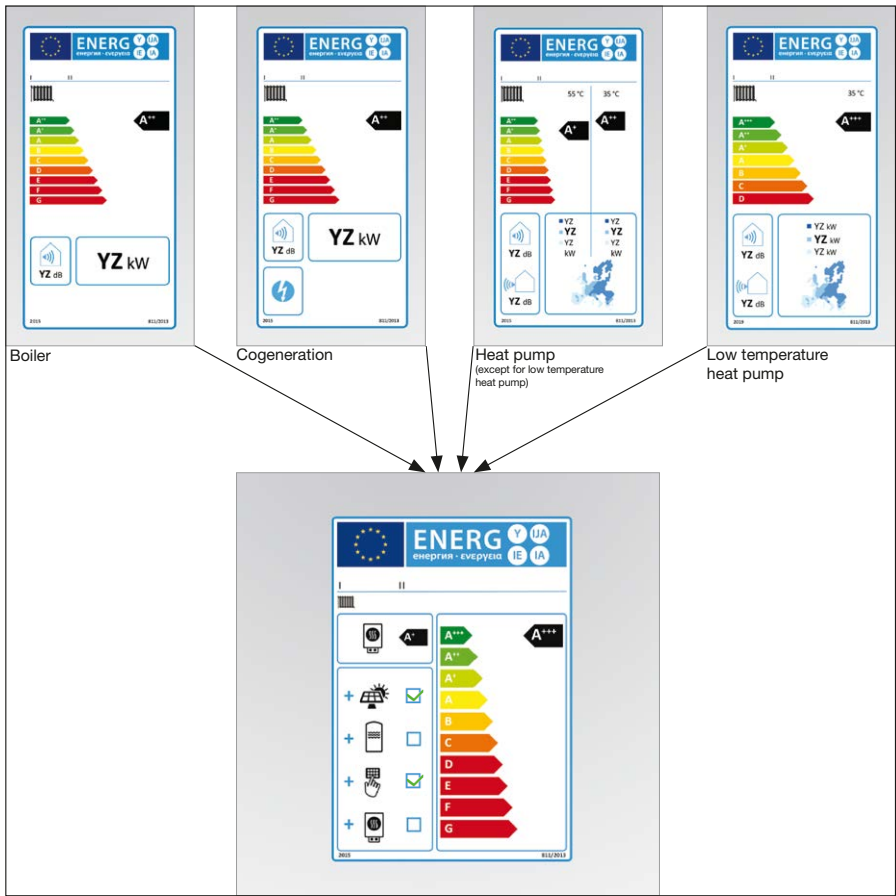
This Directive defines the **ecodesign requirements** for **water heaters** with a rated heat output of ≤ 400 kW and **hot water storage tanks** with a storage volume of $\leq 2,000$ litres, including those integrated in **packages of water heater** and solar device as defined in Article 2 – 812/2013.

Labelling directive (812/2013)

Directive with regard to energy labelling and the provision of product information on:

- **Water heaters** with a maximum rated heat output of 70 kW
- **Hot water storage tanks** with a maximum storage volume of 500 litres
- **Packages of water heater** with a maximum rated heat output of 70 kW and solar device

	 Ecodesign (minimum requirements)	 Consumption labelling	Product label	Product fiche
 Boiler (oil, gas, electric)	0 - 400 kW	0 - 70 kW	X	X
 Heat pump	0 - 400 kW	0 - 70 kW	X	X
 Cogeneration	0 - 400 kW < 50 kW _{el.}	0 - 70 kW < 50 kW _{el.}	X	X
 Package		0 - 70 kW		X
 Solar device (collector, solar pump)				X
 Storage tank	up to 2,000 l	up to 500 l	X up to 500 l	X
 Temperature control				X



The product labels for the different heat generators and storage tanks are provided by the manufacturer. Moreover, additional product fiches are added. It must be ensured that each appliance at the point of sale bears the product label on the outside of the front of the appliance in such a way as to be clearly visible.

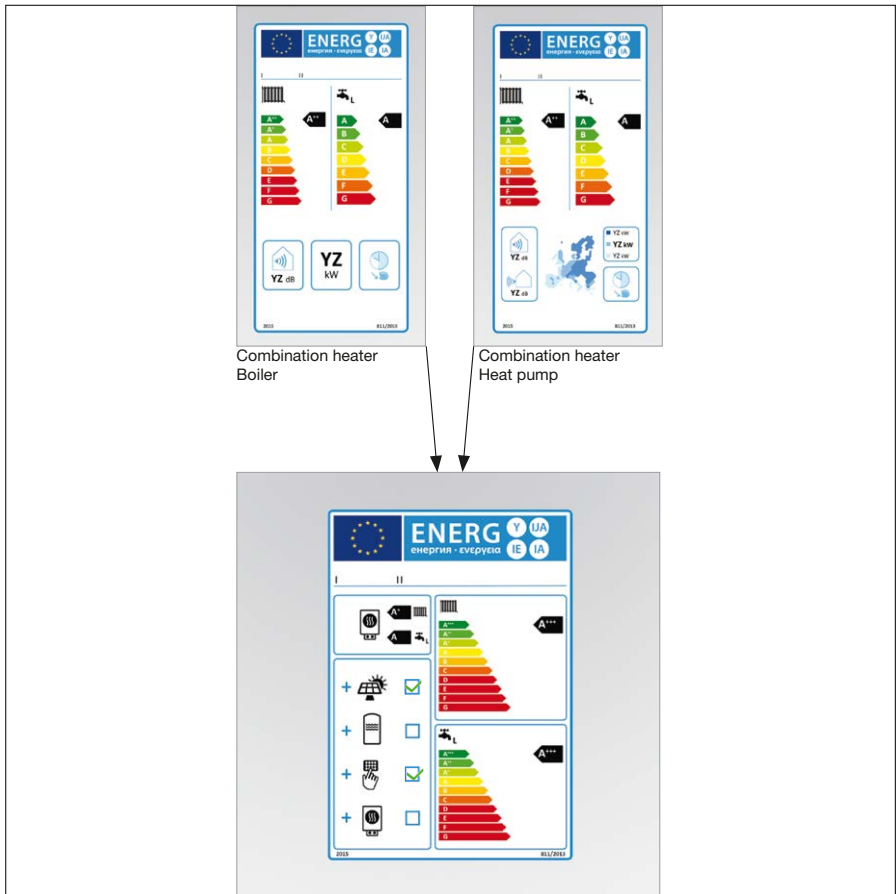
The ErP Directive provides installers and dealers with the option to choose from the variety of components of different manufacturers.

This allows the composition of packages consisting of the best components tailored to the specific building situation and the earmarked investment budget. Individual packages thus offer advantages over the pre-defined package solutions of a manufacturer!

Proceeding from the product label for the heat generator, the package is up-graded by the additional components, i.e. solar device, storage tank and temperature control. The ErP Directive includes package fiches which are used for the determination of the energy efficiency of the package.

Higher label classes can be accessed by selecting components with excellent technical characteristics.

Example calculations can be found from page 7 onwards.



- 1 Label for packages consisting of space heater, temperature control and solar device
- 2 Label for packages consisting of combination heater, temperature control and solar device

Measure	Package label required?
Installation of a new heat generator (without additional extension)	No, a product label is enough.
with simultaneous installation of a solar device and a storage tank and/or	Yes
with simultaneous installation of a temperature control and/or	Yes
with simultaneous installation of an additional heat generator	Yes
Installation of a solar device including storage tank in an existing installation with existing product label for the heat generator	No, but possible on a voluntary basis.
with simultaneous installation of a temperature control and/or	
with simultaneous installation of an additional heat generator	
Installation of a solar device including storage tank in an existing installation without existing product label for the heat generator	Not possible, as a heat generator always forms the basis of the label calculation.
with simultaneous installation of a temperature control and/or	
with simultaneous installation of an additional heat generator	

Responsibilities of trade and wholesalers

Individual appliances:

It must be ensured that each appliance at the point of sale bears the energy efficiency label provided by the manufacturer on the outside of the front of the appliance in such a way as to be clearly visible. If the appliance is offered for sale without being displayed, the product fiche provided by the manufacturer has to be included within the offer.

Packages:

If the package is offered for sale (to the end-user) it must be ensured that any offer for a specific package clearly displays the package label and that the duly filled in package fiche is provided with the offer. The manufacturer has to provide the required information.

Advertisement:

It must be ensured that any advertisement relating to a space heater, combination heater, water heater, hot water storage tank or package and containing energy-related or price information includes a reference to the energy efficiency class. The same applies to any technical promotional material concerning these products.

Responsibilities of industry

Advertisement:

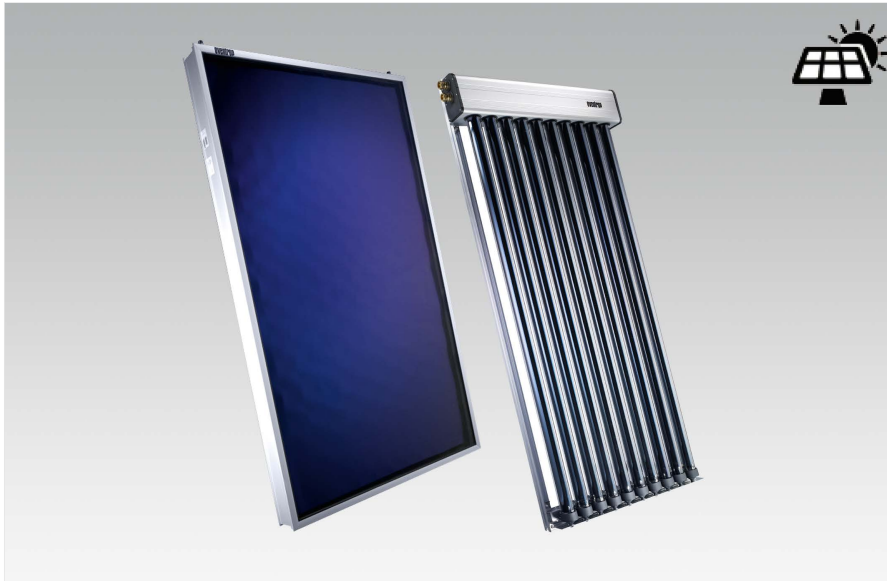
It must be ensured that any advertisement of the manufacturer relating to a space heater, combination heater, water heater, hot water storage tank or package and containing energy-related or price information includes a reference to the energy efficiency class. The same applies to any technical promotional material concerning these products.

Label:

From 26.09.2015 at the latest, manufacturers have to provide a printed label for each space heater, combination heater, water heater and hot water storage tank.

Product fiche, package fiche:

From 26.09.2015 at the latest, manufacturers have to provide a product fiche for each space heater, combination heater, water heater and hot water storage tank. In addition, space heaters, combination heaters and water heaters have to be provided with a package fiche for the possible integration into a package. This fiche is used for the calculation of the energy efficiency class of a package.



1

Oventrop package components already fulfill the high demands of the ErP Directive and distinguish themselves by excellent technical characteristics. Standard connection points allow a simple and optimum integration into the system, not only in new buildings but also during refurbishment.

1 Flat-plate collectors “OKF” and vacuum tube collectors “OKP” are tested according to DIN EN 12975 and certified according to “SolarKeymark”. The collectors are suitable for heating of potable or swimming pool water and solar support of the heating system. Due to the high-selective absorber surface, a high solar share is achieved. The high quality corrosion resistant materials ensure a long service life of the Oventrop collectors.

2 Heating systems consist of various components which are often installed separately and need to be co-ordinated. This problem is solved by the Oventrop energy storage centre “Regucor WHS”. It consists of a highly insulated heating water storage cylinder for efficient heat storage and components which are hydraulically co-ordinated.

The special thermal insulation reduces the standby losses to a minimum.

The heating management of the integrated system controller guarantees an optimum interaction between the heating water storage cylinder and all other components. The “Regucor WHS” which allows a time- and space saving installation can be connected to different heat generators.

The Oventrop energy storage centre “Regucor WHS” consists of:

- Solar station
- Fresh water station
- Heating circuit station
- Hot water storage cylinder
- System controller
- Heat generator connection (boiler, heat pump)

Oventrop also offers other storage systems with highly efficient thermal insulation.

3 The Oventrop system controller “Regtronic” allows the control and integration of additional system components, such as boiler, solid fuel boiler, post-heating, circulation, thermal disinfection etc. The energy efficiency can be visualised and monitored and data can be recorded on a PC/Smartphone via SD card slot and data logger.



2



3

Advantages of Oventrop products for packages:

- The excellent technical characteristics of the Oventrop products (storage cylinder insulation, collector efficiency, etc.) allow access to a higher label class.
- Standard connection points allow a simple and optimum integration into the system.
- Software and hotline support in labelling.

6

oventrop

Gas fired condensing boiler + solar device for hot potable water

Example of calculation

Example of calculation of a package* for hot water preparation consisting of:

- Gas fired condensing boiler, rated heat output $P_{\text{rated}} = 10 \text{ kW}$
- Solar hot water storage tank "Hydrocor HS" type 500 (tank volume: 0.5 m^3 , tank rating: C) with fresh water station "Regumaq X"
- Flat-plate collectors "OKF-CK22", 3 pieces $\hat{=}$ collector surface 6.03 m^2

Water heating energy efficiency of the combination gas fired condensing boiler and hot water storage tank:

$\eta = 75\%$

Energy efficiency class: A

with load profile:

"L" with a maximum of 10 l/h

$$\eta = 220 \times Q_{\text{ref}} / Q_{\text{non-sol}} = 1.7$$

($Q_{\text{non-sol}}$ calculated according to the "SOLCAL" method)

$$\eta = Q_{\text{aux}} \times 2.5 / (220 \times Q_{\text{ref}}) = 9.6$$

Q_{aux} : Auxiliary electricity consumption (solar controller and solar pump)

$Q_{\text{ref}} = 11.655 \text{ kWh}$ for load profile "L"

Result:

Water heating energy efficiency of the package: 116.5%

Water heating energy efficiency class: A⁺

1 Package fiche for water heating energy efficiency

2 System sketch

3 Package label for water heater, solar device and hot water storage tank

Water heating energy efficiency of water heater

75 %

Declared load profile:

L

Solar contribution
From fiche of solar device

Auxiliary electricity

$$(1,1 \quad 75\% - 10\%) \times 1.7 - 9.6\% - 75\% = +41.5\%$$

Water heating energy efficiency of package under average climate

116.5 %

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 %
X 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 %

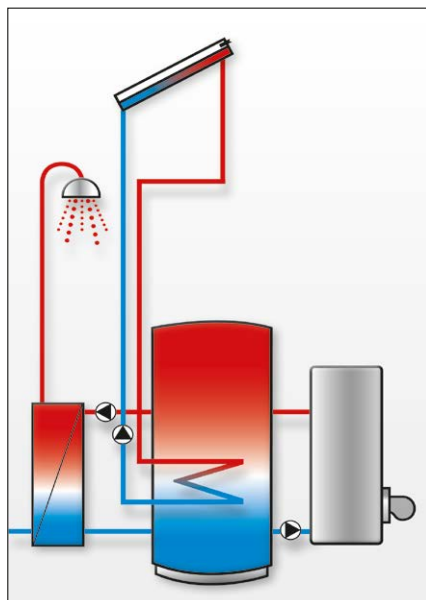
Water heating energy efficiency under colder and warmer climate conditions

$$\text{Colder: } 116.5 - 0,2 \times 41.5 = 108.2 \%$$

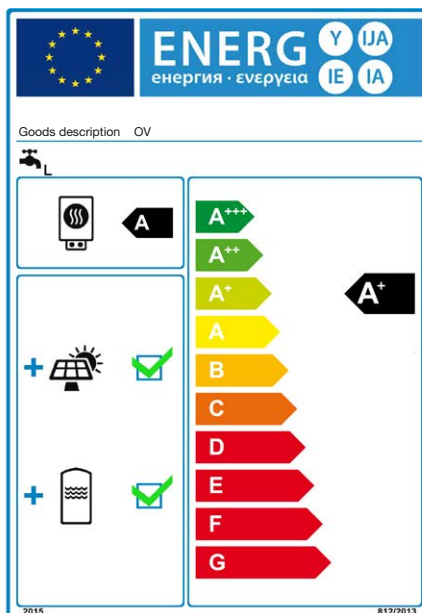
$$\text{Warmer: } 116.5 + 0,4 \times 41.5 = 133 \%$$

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.

1

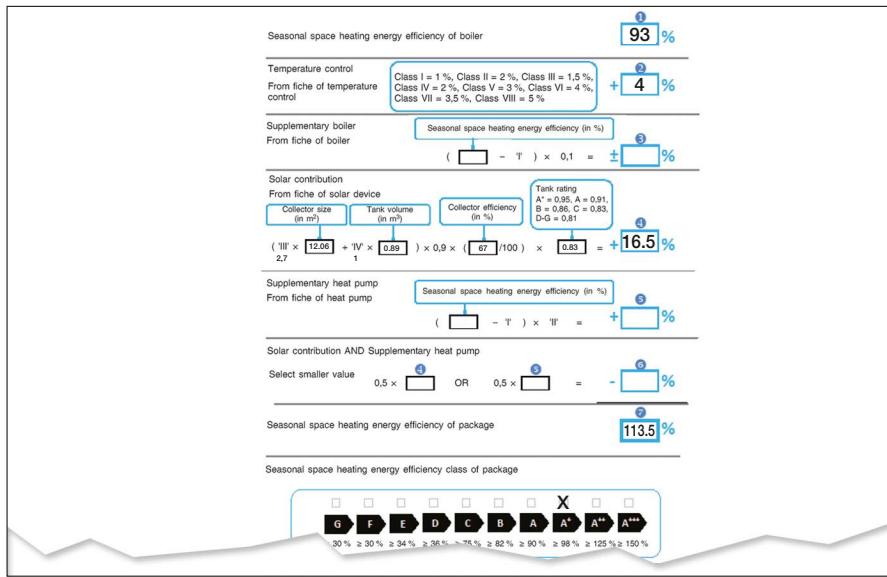


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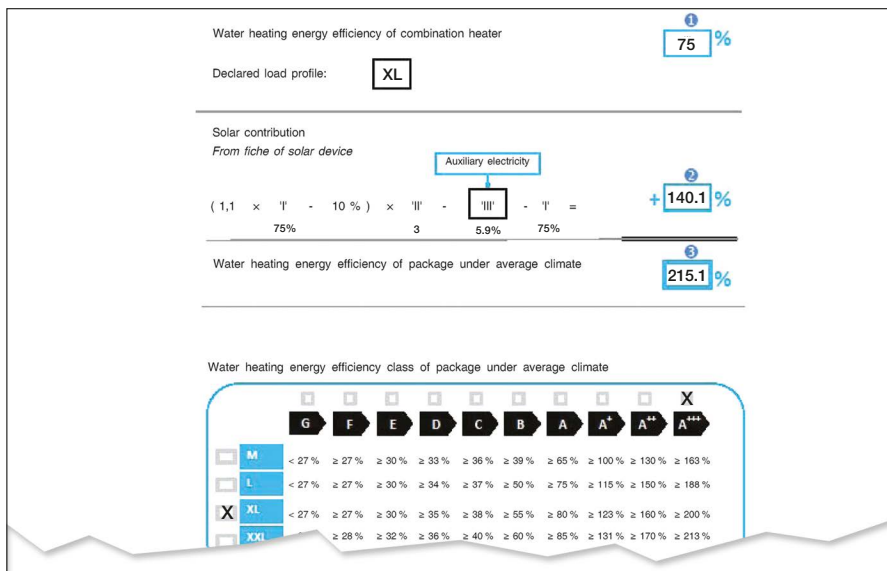


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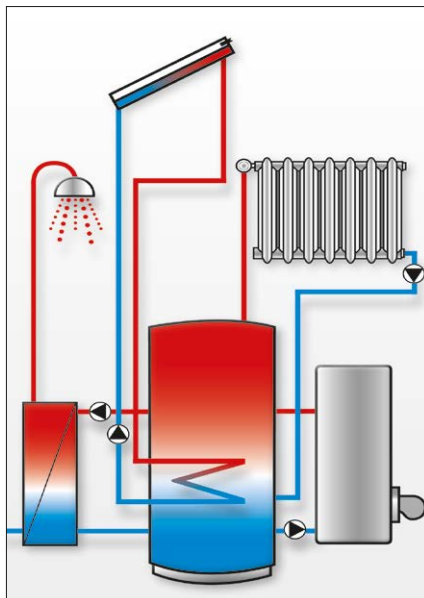
* with provisional values



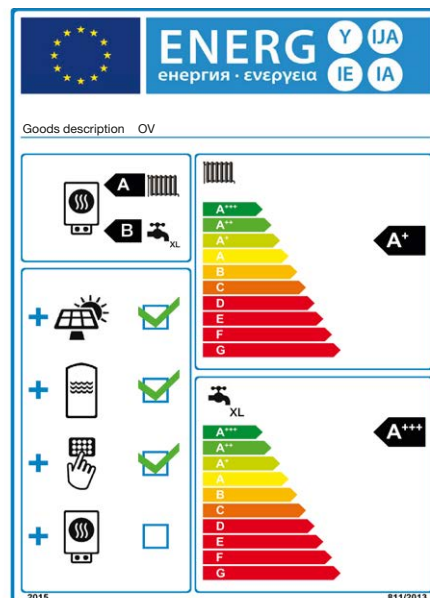
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4

Example of calculation of a package* for support of the heating system and hot water preparation consisting of:

- Gas fired condensing boiler, rated heat output $P_{rated} = 10 \text{ kW}$
- Temperature control "Regtronic RS-B" with room sensor, class VI, **2** = 4%
- Flat-plate collectors "OKF-CK22", collector efficiency = 67%, 6 pieces $\triangleq$ collector surface 12.06 m²
- Energy storage centre "Regucor WHS", type 1000 (tank volume: 0.89 m³, tank rating: C)

1. Calculation of the space heating energy efficiency:

Factors III and IV:

$$III = 294 / (11 \times P_{rated}) = 2.7$$

$$IV = 115 / (11 \times P_{rated}) = 1.0$$

Result:

Seasonal space heating energy efficiency of the package = 113.5 %

Energy efficiency class: **A**

2. Calculation of the water heating energy efficiency of the package*

Water heating energy efficiency of the combination gas fired condensing boiler and hot water storage tank

I = 75%

Energy efficiency class: **B**

with load profile:

"XL" with a maximum of 10 l/h

$$II = 220 \times Q_{ref} / Q_{nonsol} = 3$$

(Q_{nonsol} calculated according to the "SOLCAL" method)

$$III = Q_{aux} \times 2.5 (220 \times Q_{ref}) = 5.9$$

Q_{aux} : Auxiliary electricity consumption (solar controller and solar pump)

$Q_{ref} = 19.07 \text{ kWh}$ for load profile "XL"

Result:

Water heating energy efficiency of the package: 215.1%

Water heating energy efficiency class: **A+++**

1 Package fiche for space heating energy efficiency

2 Package fiche for water heating energy efficiency

3 System sketch

4 Package label for combination heater, temperature control, solar device and hot water storage tank

* with provisional values

Seasonal space heating energy efficiency of heat pump **120 %**

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 % **+ 4 %**

Supplementary boiler
From fiche of boiler
Seasonal space heating energy efficiency (in %) **- 3 %**

Solar contribution
From fiche of solar device
Collector size (in m²) **8.04**
Tank volume (in m³) **0.71**
Collector efficiency (in %) **67**
Tank rating A* = 0,95, A = 0,91, B = 0,86, C = 0,83, D-G = 0,81 **0.83**
$$\left(\frac{III' \times 8.04}{3} + \frac{IV' \times 0.71}{1,2} \right) \times 0,45 \times \left(\frac{67}{100} \right) \times 0.83 = + 6.2 %$$

Seasonal space heating energy efficiency of package under average climate **130 %**

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' = **3 %** Warmer: **5** + 'VI' = **3 %**

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 the 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.

Example of calculation of a package* consisting of:

- Air-to-water heat pump, rated heat output $P_{rated} = 9 \text{ kW}$
 - Temperature control "Regtronic RS-B" with room sensor, class VI, **2** = 4%
 - Flat-plate collectors "OKF-CK22", collector efficiency = 67%, 8 pieces Δ collector surface 8.04 m²
 - Energy storage centre "Regucor WHS", type 800 (tank volume: 0.71 m³, tank rating C)
- Calculation of the required factors:
 $III' = 294 / (11 \times P_{rated}) = 3$
 $IV' = 115 / (11 \times P_{rated}) = 1.2$

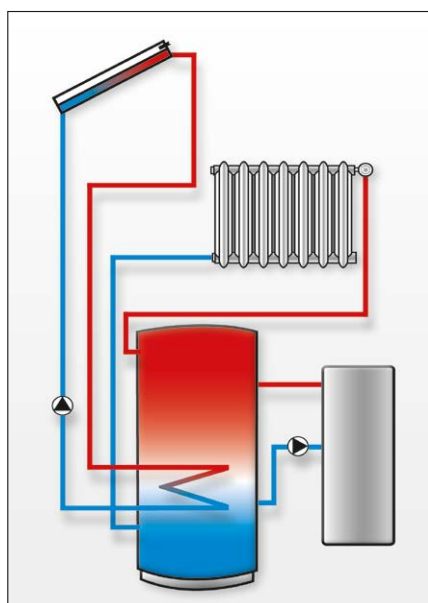
Result:

Seasonal space heating energy efficiency of the package = 130%

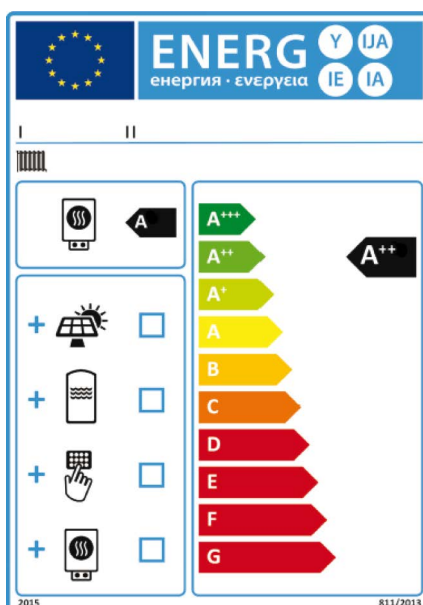
Energy efficiency class: A⁺⁺

- 1 Package fiche for space heating energy efficiency
- 2 System sketch
- 3 Package label for space heater, temperature control, solar device and hot water storage tank

1

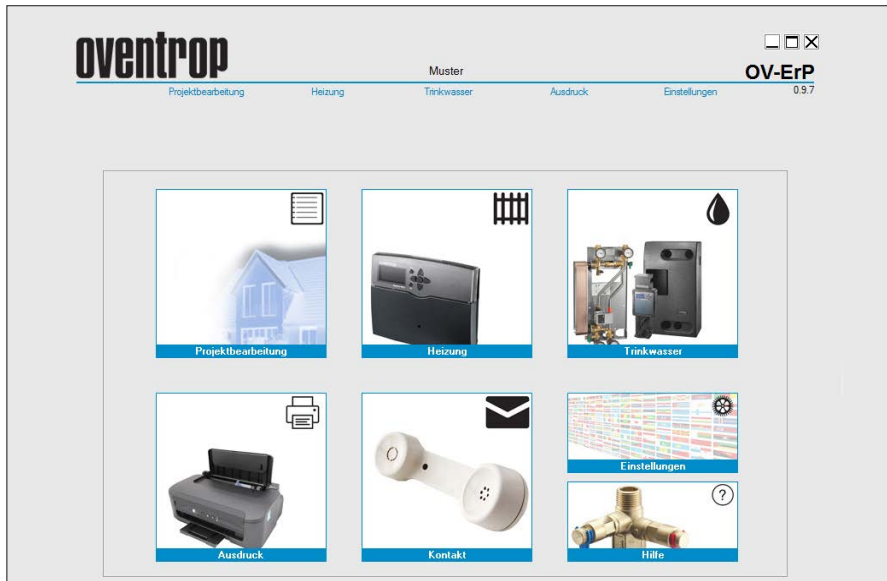


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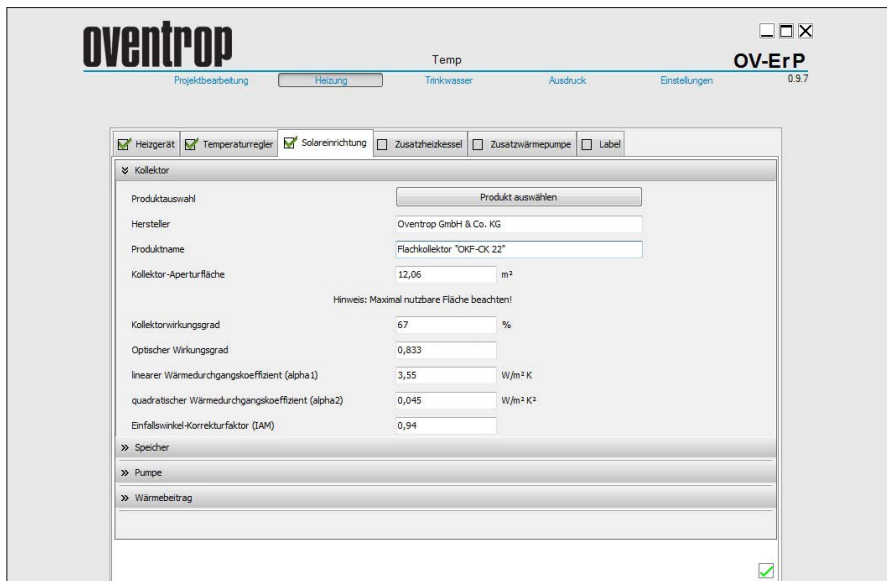


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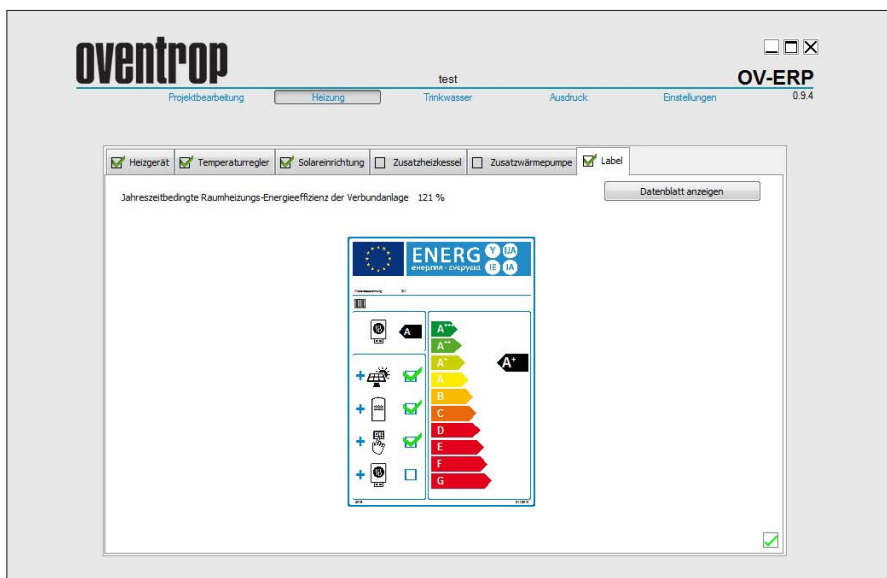
* with provisional values



1



2



3

Oventrop software "OV-ErP"

"OV-ErP" enables the calculation of the energy efficiency classes of packages according to the ErP Directives (Lot 1 and Lot 2) for potable water and heating systems.

Proceeding from a selection of different products, a package label with the required information can be generated with the help of the "OV-ErP" software within a few steps. This enables the user to fulfil the demand of the ErP Directive already at the offer stage. The software can be updated in a data base and any new technical data for ErP relevant products can be downloaded via internet.

After having selected the products for the package to be calculated, the programme determines the energy efficiency class, generates the label and adds the relevant completed ErP package fiches. A material list is generated, too. All documents can be printed or be sent via e-mail.

The official texts of the corresponding EU Directive can be called up online from the software.

1 Start screen of the Oventrop ErP software
2-3 Screenshots of an example calculation with subsequent label calculation of a package (with provisional values).

* available on the Oventrop homepage
www.ventrop.com

Datenblatt

Seasonal space heating energy efficiency of boiler **93.0 %**

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 % **+ 3.8 %**

Supplementary boiler
From fiche of boiler
Seasonal space heating energy efficiency (in %) **(93.0 - 93.0) × 0.1 = ± 0.0 %**

Solar contribution
From fiche of solar device
Collector size (in m²) **16.1** Tank volume (in m³) **1.40** Collector efficiency (in %) **67.0** Tank rating A* = 0,95, A = 0,91, B = 0,86, C = 0,83, D-G = 0,81 **+ 28.8 %**

Supplementary heat pump
From fiche of heat pump
Seasonal space heating energy efficiency (in %) **(93.0 - 93.0) × 0,0 = + 0.0 %**

Solar contribution AND Supplementary heat pump
Select smaller value **0.5 × 28.8 OR 0.5 × 0.0 = - 0.0 %**

Seasonal space heating energy efficiency of package **125.3 %**

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?
From fiche of heat pump **50** + (50 × 0.0) = **0.0 %**

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 the 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.

1 Example* of an ErP package fiche completed by the "OV-ErP" software for a package consisting of gas fired condensing boiler, temperature control and solar device.

As the package consists of components with excellent technical characteristics, the energy efficiency of the complete system is upgraded from A to A++.

2 Oventrop App:

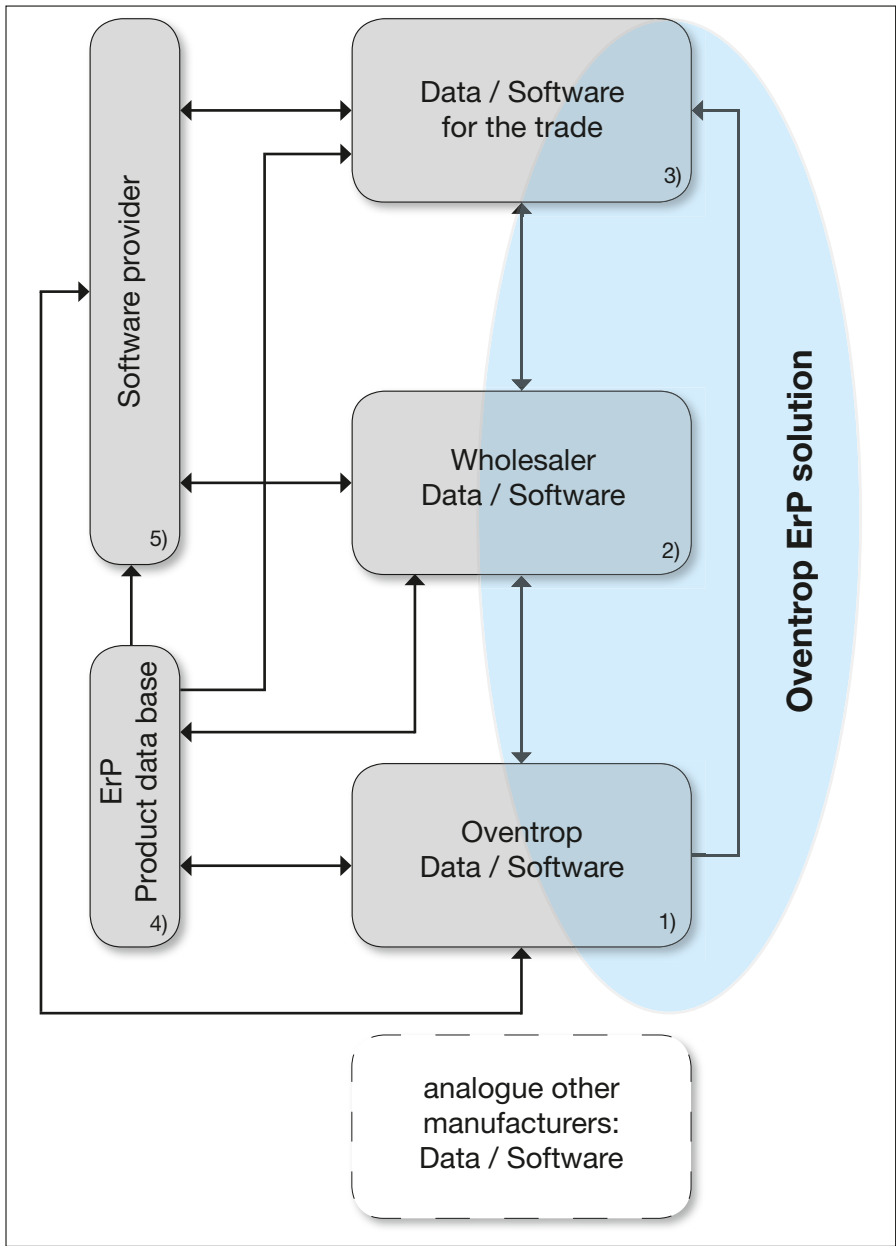
The package calculation cannot only be carried out by use of the software but also via the Oventrop App.

* with provisional values

1



2

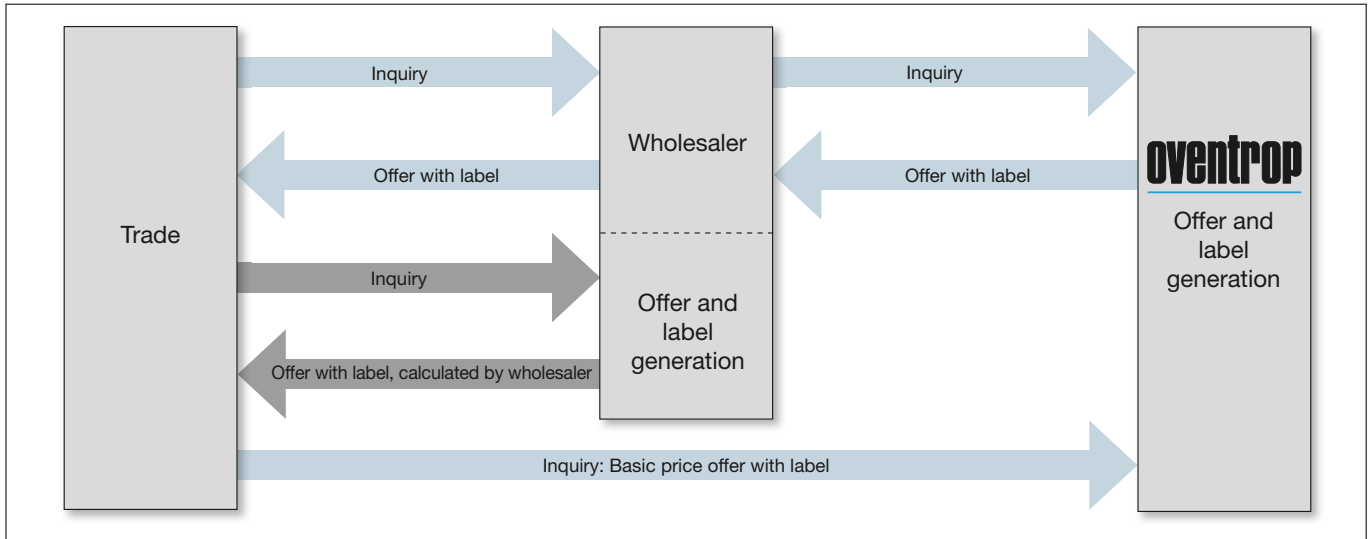


The Oventrop ErP solution allows the integration of other business software, such as wholesaler software, via interfaces. A corresponding web service permits the calculation of the energy efficiency class of packages with up-to-date data at the offer stage. The integration of a wholesaler software for instance, requires an individual coordination.

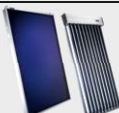
1 Flow of the ErP data in the three-stage distribution system

- Legend:**
- 1) Oventrop provides the ErP relevant data and software.
 - 2) Wholesaler software, mainly commercial software, such as SAP, ... or others for the calculation of the energy efficiency class.
 - 3) The data flows gather at this point and enable the trade to generate the required product label with the help of the Oventrop ErP data and the data of other manufacturers.
 - 4) Database with ErP products and data
 - 5) Other software providers using ErP data, such as Oventrop data, data of the VdZ portal or wholesaler data, for instance for offer generation.

2 Path to the package label in the three-stage distribution system



2

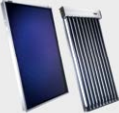
Alternative solutions		I	II	III	IV	V
Components	Product	Gas fired condensing boiler, 10kW, "A"	Gas fired condensing boiler, 10kW, "A"	Gas fired condensing boiler, 8kW, "A"		Gas fired condensing boiler, 10kW, "A"
	Costs					
Heat pump (air-to-water, water-to-water, brine-to-water)	Product				Air-to-water, 9kW, "A"	Air-to-water, 9kW, "A"
	Costs					
Temperature control (type) 	Product	"Regtronic EH"	"Regtronic RS-B"	"Regtronic EH"	"Regtronic EH"	"Regtronic EH"
	Costs					
Collector (type, size) 	Product		Flat-plate collector "OKF-CK22", 5 pieces, 10.05m ²	Flat-plate collector "OKF-CK22", 8 pieces, 16.08m ²		
	Costs					
Storage tank (type, volume) 	Product		"Regucor WHS", type 1000, 0.89m ³	"Hydrocor HP", type 1500, 1.4m ³		
	Costs					
Additional costs (accessories, wages)	Description					
	Costs					
Energy efficiency class of the package						
Costs of the package*		approx. 6,000 - 7,500 €	approx. 11,000 - 16,700 €	approx. 14,000 - 20,000 €	approx. 14,000 - 21,000 €	approx. 19,000 - 27,000 €
Costs for low investment measures (e.g. hydronic balancing. These measures are paramount for an optimisation of the running costs and the amortisation.)		Depending on the implementation approx. 500 to 1,500 Euro				
Costs for other measures	Description					
	Costs					
Total costs (based on costs of 1,000 Euro for low investment measures)		approx. 7,000 - 8,500 €	approx. 12,000 - 17,700 €	approx. 15,000 - 21,000 €	approx. 15,000 - 22,000 €	approx. 20,000 - 28,000 €

* Estimated investment costs (see also BDH brochure "Future of heating systems? Heating system of the future!")

☐ Offer ☐ Calculation		Sender:	Addressee:
Accompanying documents:			
Person in charge:	Date:	Signature:	

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Costs / Energy efficiency calculation

Alternative solutions		I	II	III
Boiler (gas, oil), cogeneration	Product			
	Costs			
Heat pump (air-to-water, water-to-water, brine-to-water)	Product			
	Costs			
Temperature control (type) 	Product			
	Costs			
Collector (type, size) 	Product			
	Costs			
Storage tank (type, volume) 	Product			
	Costs			
Additional costs (accessories, wages)	Description			
	Costs			
Energy efficiency class of the package				
Costs of the package				
Costs for low investment measures (e.g. hydronic balancing. These measures are paramount for an optimisation of the running costs and the amortisation.)	Description			
	Costs			
Costs for other measures	Description			
	Costs			
Total costs				



Glossary

Heater

means a space heater or combination heater.

Space heater

means a device that provides heat to a water-based central heating system of a building.

Combination heater

means a space heater that is also designed to provide heat to deliver hot drinking or sanitary water.

Solar device

means a solar-only system, a solar collector, a solar hot water storage tank (potable water storage tank and buffer storage tank) or a pump in the collector loop.

Oventrop products:

“OKF” flat-plate collectors and “OKP” tube collectors, “Regtronic” solar controller, “Regusol” stations, “Hydrocor” storage cylinders and “Regucor” energy storage centres

Temperature control

means an electronic controller that interfaces with the end-user regarding the values and timing of the desired room temperature and communicates relevant data to an interface of the heater.

Oventrop products:

“Regtronic RH-B”, “Regtronic RS-B” and “Regtronic RM-B” electronic controllers

Package

means a package offered to the end user containing one or more space/combination heaters combined with one or more temperature controls and/or one or more solar devices or a package containing one or more water heaters and one or more solar devices.

Water heater

means a device that is connected to an external supply of drinking or sanitary water and generates and transfers heat to deliver hot drinking or sanitary water.

Hot water storage tank

means a vessel for storing hot water for water and/or space heating purposes.

Oventrop products:

“Hydrocor” storage cylinders and “Regucor” energy storage centres



FAQ

- Is hydronic balancing taken into consideration in the ErP label calculation?

Hydronic balancing is not taken into account in the calculation. It is, however, assumed that it is carried out professionally as a hydraulically balanced heating system is paramount for the targeted energy savings.

- Are solar collectors provided with an own product label?

The ErP Directive does not call for an own product label for solar collectors. You will, however, receive important additional data which is required for the calculation of a corresponding package label.

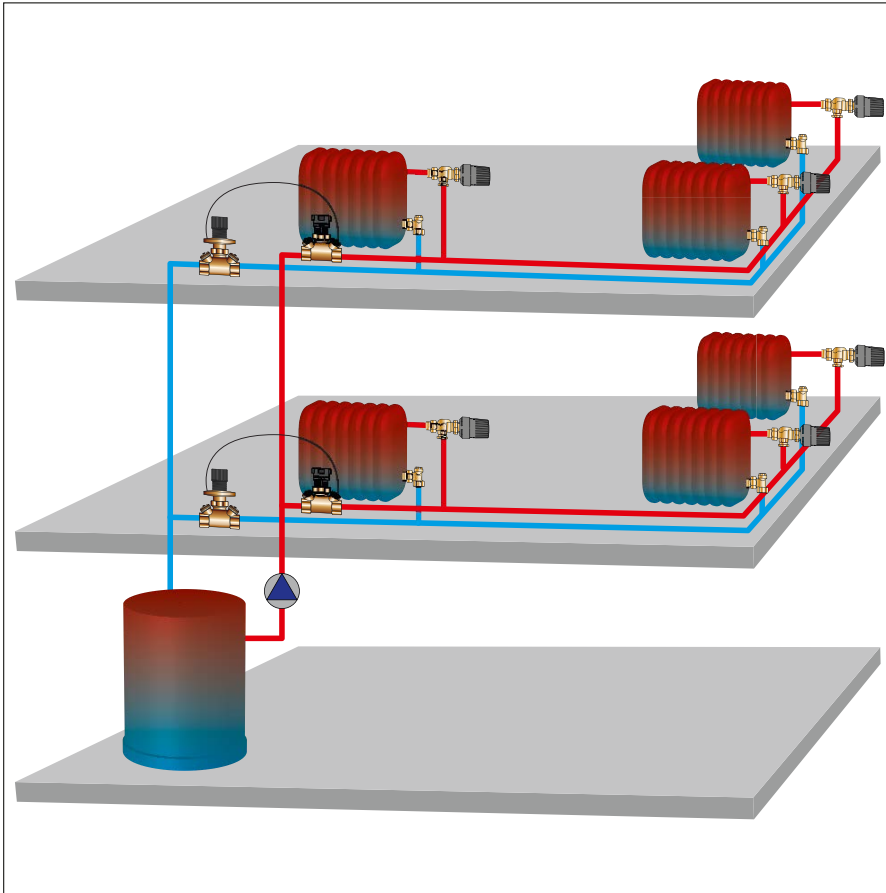
- Are potable water storage tanks and buffer storage tanks labelled identically?

Yes, the Directive does not distinguish between potable water and buffer storage tanks so that both types are provided with a product label up to 500 l.

- Can storage tanks with a content of more than 500 l be taken into account in the package label even though a product label does not exist?

The relevant technical data which is required for the calculation of the package label is included in the product fiche of the storage tank up to 2000 l which is provided by the manufacturer.

Do you have questions regarding the ErP Directive? We will be pleased to assist you: service@oventrop.de



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Oventrop products and systems allow a significant increase of the energy efficiency of buildings. This does not necessarily call for a complete refurbishment of the building envelope and the system technology. The energy efficiency can be improved in small steps with low investments. Significant savings of energy can, for instance already be achieved by an energetic refurbishment of the system technology. Useful low investment measures are:

Hydronic balancing

- at the radiator or the surface heating
- in the riser

Hydronic balancing does not only save energy but also increases comfort. This is confirmed by many studies, such as the Optimus study. Up to 21 % of energy can be saved by carrying out the hydronic balancing described therein.

Replacement of thermostatic heads

Almost 10% of energy can be saved by replacing old thermostatic heads with new ones. Energy can also be saved by installing double regulating and commissioning valves, differential pressure regulators and high-efficiency pumps. The benefit/cost ratio of these low investment measures is excellent. Amortisation times of three to four years can be achieved.

1 Hydraulically balanced installation

2 Thermostat "Uni XH"

3 Thermostatic valve "Series AV 6/ AV 9"

4 Double regulating and commissioning valve "Hycocoon VTZ" and differential

pressure regulator "Hycocoon DTZ"

5 Boiler connection system "Regumat M3"

Further information can be found in the Oventrop catalogue "Products" and on the internet.

Subject to technical modifications without notice.

Private persons may purchase our products from their qualified installer.

Presented by:



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3



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