Energy labelling
New labels for heat generators and water heaters
Guidelines for installers and dealers
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Efficiency made transparent
Clarity for the way ahead

The protection of the climate and finite resources is one of the most important concerns of our time. To promote the ecological design of energy related products (ErP) in Europe, the EU Commission has issued a directive, the provisions of which will ultimately have to be implemented by member states. For heat generators and water heaters, the Ecodesign Directive, as it is known, sets out binding minimum efficiency standards that will apply across Europe from 26 September 2015. Products that fail to meet these requirements will not be permitted to be sold from this date onwards. At the same time, a requirement to apply energy labelling to all heaters also comes into effect.

Uniform energy labels for heaters, water heaters and packages are intended to provide guidance to consumers and simplify comparisons. The regulations, however, present major challenges to manufacturers, dealers and installers. In order to offer end users competent advice and to help identify the suitable and economically appropriate solution for them, some background knowledge and expertise is required.

Daikin is offering its trade partners the best service for professional planning and consultation. Comprehensive information on the regulations, specialist training courses, information literature and online resources form a basis for meeting the statutory requirements. Our products and complete systems, of course, meet the latest efficiency standards, making sure that you are always on the safe side.
Data, facts, background

Key information at a glance

Ecodesign Directive and Energy Labels

The Ecodesign Directive defines the minimum standards for the environmental characteristics of heaters, water heaters and combi appliances. From 26 September 2015, heat generators of up to 70 kW output and tanks of up to 500 litres must be marked with a label showing their energy efficiency. This applies to all individual products (product label) and heating systems (package label) brought onto the market from this date. In addition, a product datasheet containing detailed information must be made available for each item.

Identical across Europe

The Ecodesign Directive for heat generators and water heaters, and the obligation to identify products and system solutions with energy labels, will apply to all member states of the European Union. The aim is to promote the manufacture and development of more environmentally responsible and energy efficient heating systems and to simplify comparisons for consumers.

From green to red

The principle is well-known from refrigerators, washing machines and TV sets: Devices and appliances are split into efficiency classes on a scale from A+++ to G. Dark green represents the highest level of efficiency, dark red the lowest. The scales differ between the individual product groups.
Product labels

The EU Directive defines two product groups:

**Lot 1: Heat generators**
for space heating only, and combi heaters for space heating and domestic hot water heating (gas, oil and electrical boilers, heat pumps and CHP units).

**Lot 2: Water heaters and tanks**
From September 2015, all of these must have a label (traditional water heaters, solar water heaters, heat pump water heaters and storage tanks).

Package labels

Combinations of several products, such as heat generator with room controller or solar thermal system, are called packages and must also have a label. The values for these package labels are calculated on the basis of the efficiency values of the individual components. Packages pre-configured by the manufacturer will be delivered with package labels and the relevant fiches from the factory. This will simplify the work of dealers and installers.

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How the values are derived

When categorising into the different energy efficiency classes it is important to take into account the seasonal space heating efficiency or water heating efficiency, depending on the tapping profile. Put simply, this is based on the relationship between useful heat and the total energy input. The key element is the primary energy comparison: The higher the share of renewable energy in heat generation, the higher the efficiency class. Heat pumps therefore, by definition, fall into the highest efficiency classes (A+ and better), followed by gas and oil condensing boilers. On the defined criteria, conventional boilers have the poorest efficiency values in comparative terms. For package labels, the best label classes are achieved by combining heat pumps and solar energy, since this maximises the proportion of renewable energy. Condensing boilers also score well when combined with solar energy.

No advertising without labels

From 26 September 2015, not only the appliances themselves but also advertising material and merchandising documents tailored to a specific model must have the appropriate energy label. This includes catalogues, brochures, advertisements, posters and displays in the showroom. Appliances on display or at trade fairs will also have to be labelled in future, and product fiches must be available at the same time.

Expert advice

With the introduction of the energy label, the need for skilled consultation from installers will increase. After all, the best efficiency class is not automatically the best solution for the customer. The rating takes no account of the investment and operating costs of products and systems. Only specialist analysis of the building’s characteristics and the customer’s requirements will result in sensible – that is, customized, efficient and cost-effective – solutions for space heating and water heating.
Be on the safe side with Daikin

All Daikin products are tested and meet the criteria of the Ecodesign Directive. The energy labels reliably show the precise efficiency class, both for individual products and for packages. Perfectly matched in terms of their individual components, our complete systems provide both maximum comfort and peace of mind – for dealers, installers and end users.

Our service

Daikin helps its partners to meet their obligations regarding the Ecodesign Directive and energy labelling. Labels and product fiches for each individual product, as well as for combined packages, are part of the standard delivery. As of September 2015, they will be available as downloads at any time from the Energy Label Generator at www.daikineurope.com/energylabel/lot1_2/Daikin. With our system configurator, individual solutions can be put together quickly and easily using Daikin system components – including corresponding package labels. Comprehensive information materials and training courses at our Info Centers across Europe provide in-depth expertise and ensure that our specialist partners can advise their customers competently on all issues around the energy efficiency of heaters.
Product labels

Top scores for efficiency and sustainability

Three categories of product labels are defined:

- heat generators (up to 70 kW)
- water heaters and tanks (up to 70 kW or 500 litres)
- combi appliances for central heating and water heating

On all labels, the fields for manufacturer’s name, brand and model identifier are identical, as are the scales of efficiency classes with arrows coloured dark green to dark red. For heat generators, the scale runs from A++ to G (A+++ to D from 2019); for water heaters and tanks it runs from A to G (A+ to F from 2017). Combi heaters will receive a package label with two efficiency scales. To the right of the scale, a black arrow always indicates the efficiency class of that specific appliance. In addition, the labels contain further information specific to the technology – such as noise levels, rated heating output, annual consumption, tapping profile and more.

Highest energy efficiency standards: The Ecodesign Directive envisages raising the minimum efficiency standards in two stages. From 2017 and 2018 respectively, space heater and water heaters that fail to meet the higher standards may not be offered for sale.
Heat pumps

Heat pumps use a high proportion of renewable energy. This makes them significantly more efficient than conventional heat generators and means they are categorised in the highest energy classes. Alongside the efficiency scale for medium temperature (up to 55 °C) operation, the energy label for heat pumps includes a second scale for low temperature (35 °C) applications; heat pumps operating solely at low temperature have a separate label. In addition, the labels include noise emission details and a map of Europe divided into three climate zones, with the output values applicable to each. The label is always based on the average climate zone; details on efficiency in the warm and cold temperature zones are included in the technical fiche.

Heat pumps use renewable energy as a heat source and reduce energy consumption and costs to a minimum. Daikin offers individual solutions for the use of heat pumps – for new build and for modernisation, as a total package or a sustainable addition to existing systems. Ask us.
Heat pumps
combination heaters

Heat pump combination heaters have a label containing a scale for details of their domestic hot water heating efficiency, in addition to the energy efficiency scale for space heating. The scale for heat generation ranges from A++ to G, whilst that for domestic hot water heating runs from A to G. Also, the label shows information regarding temperature-dependent performance, noise emissions and the tapping profile.

The Daikin Altherma integrated solar unit is an ideal combination of heat pump internal unit and hygienic thermal store. Bringing these functions together sets new standards in terms of space-efficiency and energy utilisation. On a footprint of just 0.36 m² (300 litre storage volume) or 0.64 m² (500 litre storage volume), it accommodates the space heater, water heater and a solar stratification tank.
Beyond the ordinary
Daikin total solutions

As the market leader in heating systems that use renewable or recovered heat, we have a very extensive product range that has been designed for optimal performance and provides a flexible and total solution in almost every possible circumstance. Whether you are looking for heating, cooling or domestic hot water production, Daikin has a system to suit. Well known for our innovative Daikin Altherma air-to-water heat pumps, we also have hybrid heat pumps, ground source heat pumps, Solar systems and air-to-air heat pumps.
Heat generators

Boiler combination heaters

Combi boilers used both for space heating and for domestic hot water (DHW) heating are given a label showing two efficiency values – one for space heating and one for DHW heating. Similarly to the labels for simple space heating, the scale for heat generation runs from A++ to G, and those for DHW heating from A to G. Output, noise emission and tapping profile are also shown.

Daikin’s gas condensing boilers are amongst the most advanced on the market. Providing domestic hot water and heating by using the instantaneous water heating principle, their extremely high levels of operating efficiency are delivered through the advanced use of a 2-in-1 heat exchanger. And as there are very small moving parts, the maintenance costs of these boilers is very low making these boilers one of the most cost effective as well as most efficient on the market.
Domestic hot water tanks

The identifier for hot water storage tanks is the cylinder symbol shown in the top left-hand corner of the label. As well as energy efficiency, the labels show the standing energy loss in watts and the storage volume in litres.

Durable, compact, low maintenance:
The Daikin thermal store is designed according to the latest requirements of heating technology and DHW hygiene. It is fundamentally different in design from conventional hot water storage tanks. It provides optimum hygiene for domestic hot water by separating the cylinder contents from the potable water. Deposits of sludge, rust, sediment or bacteria therefore cannot occur.
Solar water heaters

In addition to the efficiency scale from A to G (A+ to F, from 2017) and corresponding energy efficiency data for water heating, the label for solar water heaters also shows information on the draw-off profile and noise emissions, as well as a European solar map. This map divides Europe into three global insolation zones.

Daikin domestic hot water tank with solar support uses the free power of the sun for DHW heating and provides effective central heating backup. Optimum temperature stratification in the Daikin solar tank increases the solar benefit. In addition, further heat generators can also be linked up. And all with optimum water hygiene.

Water heaters and tanks
Packages consisting of heat generators and supplementary components such as controllers, tanks, solar thermal systems and/or an additional heat generator carry a package label showing the efficiency of the complete system on a scale from A+++ to G. There is a difference between labels for space heater packages and those for combination heater packages. Each gives information regarding the efficiency class of the heat generator or water heater, the types of components combined and the efficiency class of the complete package according to its seasonal space heating or water heating efficiency. This is calculated from the efficiency values of the individual appliances. The key factor here is the effect of the linked appliances on the energy efficiency of the main heat generator. The efficiency class can therefore be significantly improved by combining with renewable energy, such as a combination of condensing boiler and solar.

Package labels made easy with Daikin:
The distributor is responsible for displaying the package labels. In the case of packages put together individually, this will be wholesalers and installers. Daikin will prepare the necessary documentation for this and from September will be offering its trade partners a practical service tool in time for the introduction of the labelling requirement. This will take the form of the Energy Label Generator at www.daikineurope.com/energylabel/lot1_2/Daikin. Packages pre-configured by us will already be supplied with a package label. Its components are designed to work perfectly together. For best performance and maximum reliability.
Package systems including space heaters, temperature controllers and solar thermal systems

There are package labels for packages including space heaters and solar thermal systems, hot water storage tanks, temperature controllers or another heat generator. They show pictographs of the individual system components, together with the efficiency class of the heat generator as an individual appliance and the overall efficiency class of the system.

Daikin Altherma low temperature heat pump and solar panel
Package systems including combi heaters, temperature controllers and solar thermal systems

Combi appliances for space heating and DHW heating can be combined with a control unit and solar thermal system to form a package system with the corresponding package label. There are efficiency classes for the individual space heater and water heater, as well as for the space heating energy efficiency of the package system. In addition, the water heating efficiency of the entire system can be found on a second scale.
For over 90 years, Daikin has been developing complete, well thoughtout heating systems and components for a perfect climate in which to live or work. Right from the start, environmental protection has sat alongside customer benefit at the heart of our business. That is why all our products function reliably and efficiently, with innovative technology and maximum environmental compatibility.
Best label for heat pumps

Daikin is one of the leading manufacturers of heat pumps in the world. We offer individual heat pump solutions for every demand. Flexible in use, with maximum efficiency. As space heaters or combi appliances, Daikin heat pumps are entitled to the best possible energy labels.

Combination with solar: Excellent package label ratings

Daikin offers heat generators which are optimised to work in combination with solar energy – either integrated from the start or for retrofitting, for which they are ideally prepared. By means of integrated solar heating support and large storage volumes, these heaters achieve top ratings on the package labels. Large buffer volumes in combination with gas condensing boilers and solar achieve ratings in the highest efficiency classes. The combination of heat pump and solar achieves outstanding results: The efficiency of this fully renewable solution is unique.

Large tanks and extreme insulation

With its 500 litre thermal store, Daikin supplies one of the largest labelled heat stores on the market. The large buffer volume, with its enormous energy capacity, ensures an excellent level of efficiency for domestic hot water heating. The extreme rigid PUR foam insulation reduces heat losses to a minimum. This increases efficiency and significantly improves the efficiency class.

A strong team:

Daikin Altherma integrated solar unit with solar panel. Solar energy and heat pump complement each other perfectly, whether for domestic hot water heating or for space heating – an unbeatable combination where energy efficiency is concerned.
A strong partner

Daikin supports you when you are advising your customers, in a competent, considered and reliable way.

With our products and service tools on the Ecodesign Directive and energy labelling, we create the conditions for you to concentrate on the most important aspect – providing expert advice for your customers. We would be pleased to answer your questions at any time and are at your side as a reliable partner.

**Product labels and fiches**

All of our products affected by the Ecodesign Directive has been tested for its energy efficiency. Every appliance is supplied with the required energy label and is, of course, delivered along with the similarly specified technical fiches.

**Energy Label Generator**

From September 2015, the product and package labels as well as technical fiches for all our heating products and systems will be available for download at any time at www.daikineurope.com/energylabel/lot1_2/Daikin. With our product configurator, in just a few clicks you can put together an individual package system using Daikin components. Our system will automatically calculate the energy efficiency of your packaged selection. So you can directly download the corresponding energy label.

**Information materials**

This brochure provides you with an overview of the most important facts and terms in the EU Directive and gives initial guidance on the subject of energy efficiency labels for heat generators. From September 2015 all Daikin product brochures and the Daikin website will, of course, contain all the necessary information and required labels.

**Daikin Academy**

In the Daikin Europe Academy, we sharpen the know-how and skills of our employees and business partners. Both externally as well as internally, the Academy offers a wide range of training courses oriented towards all of the Daikin branches in Europe, the Middle East and Africa. The courses range from training courses on products, technical and commercial skills to human skills and management techniques. Continuous training is enriching, because the more knowledge you have, the more fascinating your job becomes. The training courses take place on location or via e-learning and evolve along with trends and needs.

**Product advertising**

Daikin can support you in your advertising. We develop templates for your advertisements, press releases on the subject of energy efficiency labelling and products, as well as materials for presentation in your exhibition and showroom. With the most important information at a glance – attractively designed and clearly expressed. For professional sales promotion.
You can rely on us.
What makes Daikin different?

We offer individual solutions for optimum living and working that are straightforward, intelligent, and futureproof.

Daikin is a manufacturer and supplier of complete innovative and environmentally responsible heating systems – building on decades of experience. For more than 90 years, Daikin stands for innovation and know-how in the field of heat generation, storage and distribution. In the development of products for our high grade and perfectly matched components we focus on user benefits.

The Daikin product range extends from air-to-water heat pumps, condensing boilers for gas, solar thermal systems and thermal stores, not forgetting underfloor heating, right up to a comprehensive installation system for all sanitary and heating equipment. Innovative systems that facilitate the optimum use of conventional and alternative fuel types in both modernisation and new build projects. Daikin products stand for unique cost efficiency with maximum environmental compatibility and the highest levels of flexibility.

Daikin Europe N.V. is a wholly-owned subsidiary of Daikin Industries Limited and a major European producer of air conditioners, heating systems and refrigeration equipment, with approximately 5,500 employees throughout Europe and major manufacturing facilities based in Belgium, the Czech Republic, Germany, Italy, Turkey and the UK.

Globally, Daikin is renowned for its pioneering approach to product development and the unrivalled quality and versatility of its integrated solutions. With more than 90 years’ experience in the design and manufacture of heating and cooling technologies, Daikin is a market leader in heat pump technology.

Daikin Europe N.V. participates in the Eurovent Certification programme for Liquid Chilling Packages (LCP), Air handling units (AHU) and Fan coil units (FCU). Check ongoing validity of certificate online: www.eurovent-certification.com or using: www.certiflash.com