



## Welcome to the era of the SEER

Split and Sky Air. Optimised for seasonal Energy Efficiency Ratings



### A new era of Seasonal Efficiency has begun

Seasonal efficiency is a new and more realistic way of measuring the true energy efficiency of heating and cooling air conditioning products over an entire year. A new rating system has been developed and must be used by all manufacturers. These ratings introduce: **Seasonal Energy Efficiency Ratio (SEER) value in cooling** and **Seasonal Coefficient of Performance (SCOP) value in heating**.

These ratings measure annual energy consumption and efficiency in typical day-to-day use and they take into account temperature fluctuations and standby periods to give a clear and reliable indication of the typical energy efficiency over an entire heating or cooling season.

#### Nominal versus seasonal efficiency

Until 2013, the air conditioning industry used a 'nominal' ratio for cooling (EER) and heating (COP). Nominal efficiency gives an indication of how efficient an air conditioner is when operating at full load in nominal conditions (not often achieved).

A more accurate method – the 'seasonal efficiency' ratio (SEER) – has been developed, which gives a better measure of the real-life energy efficiency of systems. Seasonal efficiency gives an indication of how efficient an air conditioner is when operating over an entire cooling or heating season (giving a more realistic efficiency measure).

#### The Energy Related Products (ErP) Directive

The new method of rating energy efficiency is driven by the EU's Energy Related Products (ErP) Directive which, through Lot 10, specifies the minimum energy efficiency requirements that manufacturers must integrate into their air conditioning systems up to 12kW, from January 2013 onwards.

This means that products not meeting these requirements are banned from the market from January 2013. The minimum energy efficiency threshold will be redefined in 2014, so even higher efficiency levels will be required to meet the ever stricter requirements.

<p>Temperature</p>		<p>Capacity</p>		<p>Auxiliary modes</p>	
<b>NOMINAL</b>	<b>SEASONAL</b>	<b>NOMINAL</b>	<b>SEASONAL</b>	<b>NOMINAL</b>	<b>SEASONAL</b>
1 Temperature condition: 35°C for cooling 7°C for heating	Several rating temperatures for cooling and heating, reflecting actual performance over an entire season	Does not reflect partial capacity	Integrates operation at partial instead of full capacity	Does not take auxiliary power modes into account	Includes consumption auxiliary modes: <ul style="list-style-type: none"> <li>• Thermostat off</li> <li>• Standby mode</li> <li>• OFF mode</li> <li>• Crankcase heater</li> </ul>
Does not often occur in reality		Benefits of inverter technology not visible	Benefits of inverter technology are shown		

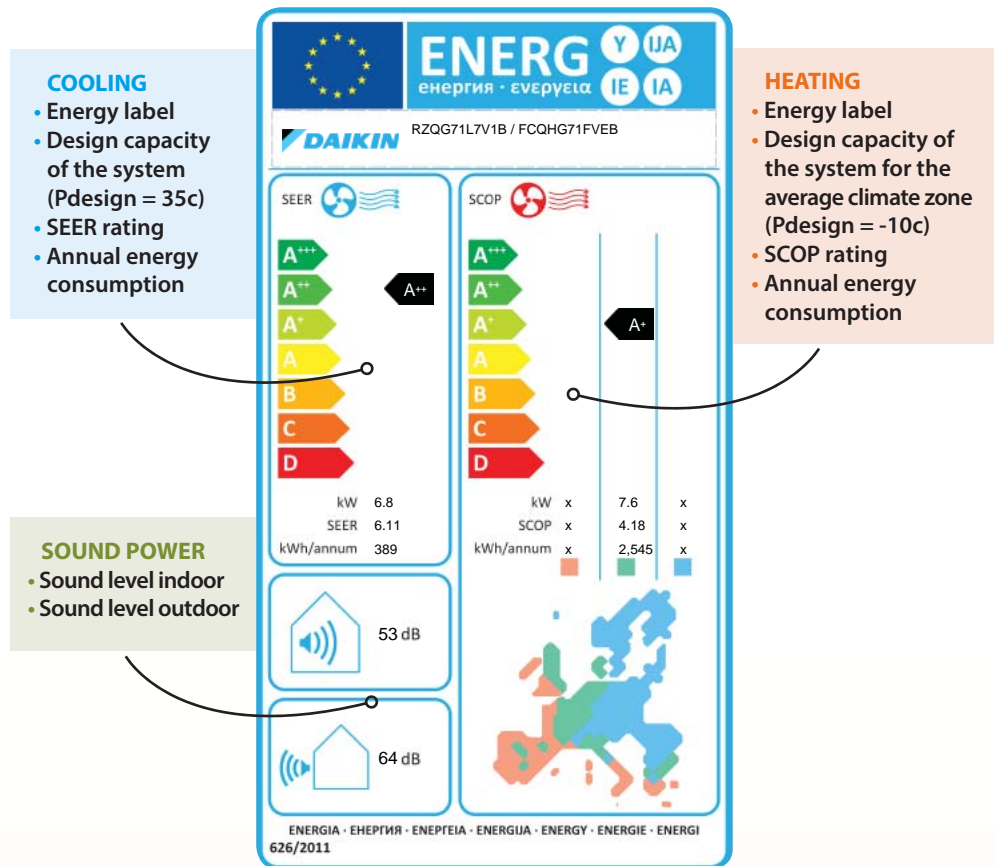
#### Daikin leads the way

Daikin's industry-leading Sky Air light commercial range has been redesigned for optimum seasonal energy efficiency, years ahead of the latest legislation. Both the Sky Air Seasonal Smart and Seasonal Classic products have been specially designed to offer a very high seasonal performance that already meets the ErP requirements for 2014. Daikin Europe N.V. was the first air conditioning manufacturer in 2010 to integrate the stricter Eco-Design guidelines into its Sky Air ranges for light commercial applications.

# How the new energy label looks

The new energy labelling indicates the energy efficiency of the product from A+++, A++, A+, A, B etc and, unlike the old label, it includes cooling and heating. It also states the sound emissions of the unit.

It is not possible to simply compare new and old energy classes (i.e. an old 'A' label' is not equivalent to a new 'A' label'). There is no direct relation between SEER and EER. The energy label will be provided in the box with the outdoor unit and on the Energy Label Generator. [www.daikineurope.com/energylabel](http://www.daikineurope.com/energylabel)



## The EU 20/20/20 Targets

The European Union 20/20/20 energy policy sets ambitious targets for energy efficiency and environmental impact:

European action plan 20/20/20

**-20%**  
CO<sub>2</sub> EMISSIONS vs. 1990

+

**20%**  
Share of RENEWABLE ENERGY

+

**-20%**  
PRIMARY ENERGY USE vs. Business as usual

By the year **2020**

## The ErP Directive

The Energy related Products (ErP) Directive specifies minimum efficiency requirements, which must be integrated into energy-using products. The ErP Directive is a compulsory programme which established EcoDesign requirements initially for residential lighting and consumer electronics – but from 2013, has introduced them for air conditioning systems too.

So far, products of less than 12kW are governed by the ErP Directive (Lot 10): typically high end residential and light commercial applications. Products that do not meet minimum seasonal efficiency standards cannot carry the CE-mark and thus can no longer be imported or sold in Europe.

## Timescales for Implementation

Low efficiency products are banned from the market from January 2013. The minimum energy efficiency threshold will be redefined again in 2014, so even higher efficiency levels will be required to meet the ever stricter energy efficiency requirements.