

Guidelines for Topten Public Procurers

Air Conditioners

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Why follow Topten criteria?

- Topten.eu/pro (www.topten.eu/pro) is a European web portal helping buyers, professionals, public procurers and large buyers to find the most energy efficient products available in Europe. The products are selected and updated continuously, according to their high energy and environmental performances, independently from the manufacturers.
- The Topten criteria below can be inserted directly into tendering documents.
- All air conditioners displayed on www.topten.eu meet the criteria contained in these guidelines. Procurers can therefore use the website to check the availability and assortment of products currently on the market, which meet the [Topten selection criteria for Air Conditioners](#).
- Topten.eu/pro links to national partners Topten Pro websites and was developed under the Topten Act project, supported by the European Union through Horizon 2020 programme.

How much can you save?

The category air conditioners, listed on www.topten.eu, includes mono- and multi-split room air conditioners, single- and double-ducts. Considering the following assumptions, it is possible to achieve the savings indicated in the next table.

- Assumptions {
- Lifetime expectation: 10 years
 - Typical cooling / heating capacity of 4 / 5 kW
 - Electricity cost: 0.20 €/kWh

	Topten model	Inefficient model
Type	Multi Split	Multi Split
Energy Class (cooling / heating)	A+++ / A+++	A+ / A+
Cooling / heating capacity (kW)	4 / 5	4 / 5
Electricity consumption	1,379 kWh/year	1,646 kWh/year
Use cost (electricity in 10 yrs)	2,758 €	3,292 €
Savings in 10 years	16% energy / unit ⇒ 535 € / unit	

The typical air conditioner allows not only for cooling, but also reversely for heating. Comparing models with same cooling and heating capacity, the Topten models allow electricity savings of 16% or 535 € per unit over their lifetime of 10 years.

Differences in electricity consumption between inefficient and Topten models rise as the cooling / heating capacity grows, leading to higher energy savings and consequently greater money savings.

Procurement criteria

The following criteria can be inserted directly into tendering documents. The Topten selection criteria and the product lists are updated regularly. The newest versions are always available at www.topten.eu/pro.

SUBJECT: HIGHLY ENERGY-EFFICIENT AIR CONDITIONERS

TECHNICAL SPECIFICATIONS

1. Energy efficiency class

Depending on the type, the air conditioners must have at least the following energy efficiency classes, declared in agreement with the European Energy Label:

Air conditioner type	Efficiency class cooling / heating function
Split ≤ 4kW	A+++ / A+++
Split > 4kW	A++ / A++
Multi-split	A++ / A++
Single ducts	A++ / A+ (no models at the moment)
Double ducts	A++ / A+ (no models at the moment)

2. Refrigerants

Units must contain a refrigerant with a GWP of 700 or lower.

Verification

Bidders must supply the energy label and technical data according to EU Regulations No. 626/2011 and No. 206/2012.

ADDITIONAL INFORMATION

EU Energy Label

The Energy Label defines classes from A+++ to G. Split models with lower efficiency than class B (cooling)/ A (heating) are no longer permitted on the market since January 2014.

Split devices and Single/Double duct devices have their own Labelling Scales. The scales are not comparable.

Air Conditioner types

The distinction between the types of ACs is important as they differ significantly in terms of energy efficiency.

Given the construction of Single- and Double ducts, they have a low efficiency.

 <p>Split air conditioner: indoor and outdoor unit</p>	<p>Split and multi-split Split systems are fixedly installed and consist of at least two units. The outdoor unit contains compressor and condenser. The indoor unit contains the evaporator and can have different shapes and be placed on the ceiling, wall, floor or in a canal. Multi-split systems combine two or more indoor units with an outdoor unit. The indoor units can be placed in different rooms.</p>
	<p>Single- and Double ducts (also: local air coolers, LACs) LACs consist of one single unit. The whole unit is placed inside while the air is exchanged through one or two ducts leading through a window or wall opening. Because of the waste heat that is exhausted indoors and the required opening in the wall or window and insulation LACs are not efficient. LACs have their own Labelling scale - the efficiency of a class A single or double duct corresponds to a class F split air conditioner!</p>

To increase savings and reduce environmental impact, procurers should evaluate life cycle costs when tendering for air conditioners. Thus, it is advisable to include in the tender a costing exercise - even if simple - for the product life cycle costs.

Table 1: Example of a breakdown costs table, to be filled in by bidders

	Information details	Different unit costs in € (excluding tax)	Total cost in € (excluding tax)
Delivery			
Installation			
Use*	Energy consumption in kWh/year (for heating & cooling) x product life time (10 yrs) x n° units	Electricity cost**: 0,20 €/kWh	
Maintenance			
Recycling and disposal			

* Example of how use costs can be determined.

** This figure is just an example. The procurer can use the average electricity price paid during the last 2 or 3 years, and also include subscription fee and taxes.

Advice and support

If you would like further assistance in using the information presented here in your own procurement actions or more information on [Topten Pro](#) contact your national Topten team (find it on [Topten.eu](#)).

The European Commission's [Green Public Procurement](#) website contains valuable legal and practical guidance together with procurement criteria for a range of commonly procured products and services.



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