



Save up to 30%  
on your air conditioning running costs

## Improving energy efficiency is the best short-term answer to today's energy problems

Until cleaner and sustainable sources of energy become available on a large scale, improving the energy efficiency of today's systems is the best way to reduce CO<sub>2</sub> emissions and save energy.  
And the best thing is: Everyone can contribute!



### Air Conditioning has a huge potential for efficiency improvements

Air conditioning is one of the largest energy consumers in the residential and industrial sector. Thousands of air conditioners put high demands on the electricity networks. On a smaller scale, air conditioning probably accounts for a significant part of your energy bill.

Many existing air conditioners use old and quite inefficient technology. Although improved technology has become available in more expensive systems (e.g. inverter technology), the payback time of these systems is still very long.

Instead of investing a lot of money into an expensive new system, there is an easy and affordable way to improve the energy efficiency of your unit – Upgrade it with an Aircosaver.

#### The Aircosaver...

- is an electronic control unit which adds state-of-the-art intelligence to air conditioning systems and improves their energy efficiency.
- achieves average energy savings of between 20% and 30% resulting in a short payback period.
- is a retrofit product to upgrade existing units.

# The 2<sup>nd</sup> generation Aircosaver makes saving energy even easier!

## Improved product version available now

Based on the feedback we have received from our customers of the first Aircosaver version - also sold as "AC Powermizer" and "AES Aircon Energy Saver" - we have developed the second Aircosaver generation.

### Main improvements:

- Separate versions for different power supplies available to make installation easier and cheaper (no need to fit an additional transformer).
- Each version now available with or without tension relief for the wiring to enable internal or external mounting of the Aircosaver.
- Improved software algorithms for higher savings.
- New housing made of non-flammable, shock-proof polycarbonate (UL94-V0)
- Compliant to UL and CE regulations.
- Developed and manufactured in Germany to highest quality standards.

## Energy savings of 20-30%, short payback period

Independent tests and reference installations have demonstrated average energy savings between 20% and 30% - some clients have reported even higher savings. Payback time for most applications is well below two years.

## For which systems is the Aircosaver suitable?

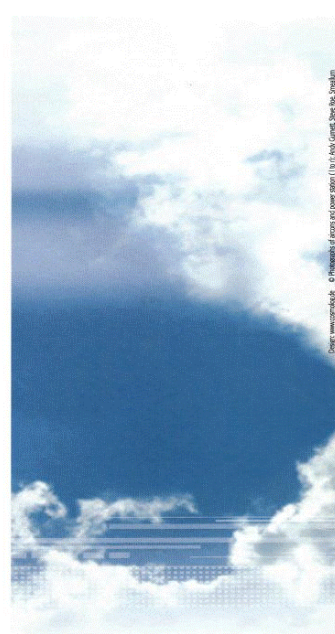
The standard Aircosaver version is suitable for most residential and light commercial DX (direct expansion) AC systems, e.g. wall-mounted and window units, single split systems and PTAC units.

If you would like to use it on larger systems, industrial units or on different applications such as reverse cycle air conditioning (incl. heating) or cold storage cooling, please contact us for customized versions.

The standard Aircosaver should not be used with chilled water systems, evaporative cooling systems, inverter type systems or multi split systems.

## Retrofit system - easy and quick to install

The Aircosaver is designed to be installed into existing systems as an after market fit. Installation is simple and takes approximately 15 minutes (depending on local situations). A detailed step-by-step installation manual is provided with each Aircosaver.



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**Your Aircosaver supplier:**

For more information please visit: <http://www.aircosaver.com>

## Upgrade your system with an Aircosaver and start saving today!

Typical Aircosaver installations include:

- homes & offices
- schools & universities
- restaurants & hotels
- shops & supermarkets

Just ask your AC service technician to install an Aircosaver next time he visits.



# How does the Aircosaver work?

## Shortcomings of typical AC systems

When switched on, typical air conditioning systems operate continuously until the room thermostat senses the desired temperature and turns the system off. As the room warms up, the thermostat switches the air conditioner back on and the cycle repeats.

Air conditioning systems are usually dimensioned to cope with the extreme cooling demands of the few hottest days of the year (plus a safety margin). However, in most operational conditions, this maximum output is not required and the system is oversized. So running the system continuously until the room thermostat switches it off means that the system operates with excess capacity most of the time.

### A typical cooling cycle with excess capacity looks like this:

- When the cycle starts, the compressor pushes cooling energy into the heat exchanger which acts as an energy storage. At this stage, the system works with high efficiency because compressors operate most efficiently when fully loaded.
- In normal weather conditions, the energy storage is soon fully "charged up". From this point onwards, the compressor provides more cooling energy than the heat exchanger can take up (thermodynamic saturation).
- Running the compressor beyond this stage does not increase the cooling effect any more. It's just a waste of energy!



## The Aircosaver compensates these shortcomings and adds intelligence to your AC systems

This is where the Aircosaver cuts in. Its sensor-driven software algorithms are designed to detect thermodynamic saturation and to optimize the compressor accordingly. When overcapacity is detected, the Aircosaver switches the compressor off and avoids inefficient overcooling.

Your unit switches into "saver mode". The fan keeps running and your system makes maximum use of the stored cooling energy in the heat exchanger. Once the stored energy is used up, the compressor can work efficiently again and is switched back on.

The set room temperature is reached without the inefficient parts of the cooling cycle. This results in significant energy savings without compromising cooling comfort.

Since the correct point to switch the compressor varies from unit to unit and changes with different weather conditions, the Aircosaver is constantly adapting its settings to ensure efficient operation of your air conditioning system at all times.

