DAIKIN

Inverter

Sales Guide for Floor Salesmen

Up to 50% Energy Savings!

In all of us,
a green heart

Why Daikin?

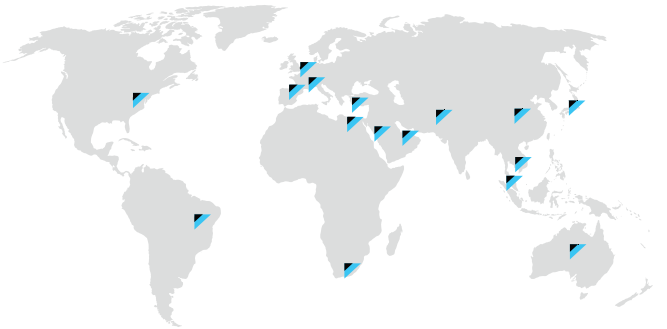
As a world leader in air conditioning technology, Daikin can be trusted to control the temperature, airflow and air quality in a broad range of environments. From homes to high rises, from hospitals to hotels, Daikin has an air conditioning solution that provides superior comfort in any application.

Daikin 5 Key Facts

Fact 1

Global No. 1 HVAC manufacturer with more than 90 years of Japanese expertise

Daikin is the market and technological leader since 1924. Daikin has over 90 production facilities all over the world, sells around 19 Billion USD to more than 150 countries worldwide.



- » Japan
- » Malaysia
- » Thailand
- » China
- » Australia
- » India
- » United Arab Emirates
- » KSA
- » Egypt
- » South Africa
- » Turkey
- » Czech Republic
- » Italy
- » Belgium
- » Brazil
- » USA

Fact 2

An air conditioning expert; not home appliances seller!

Daikin is the only air conditioning company in the world that specializes in manufacturing, sales and after sales service, not to mention refrigerants.

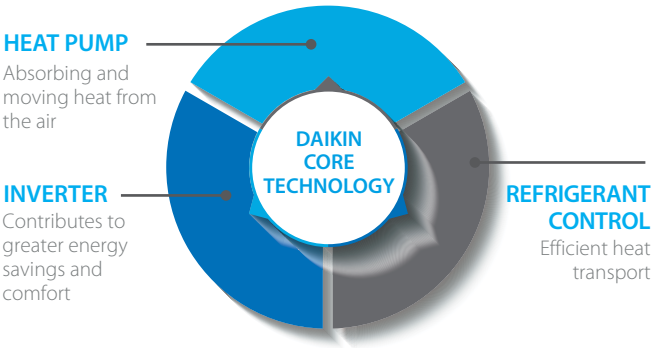
Daikin's core business is air conditioning, not home appliance!

Daikin is unique throughout the world in being the only producer of refrigerants and compressors, as well as manufacturing air conditioning, heating, refrigeration, chilled water systems and ventilation solutions. As a result, Daikin is the only one to have full control of every component within the air conditioner you purchased and can bring the very latest innovations to our products.

Fact 3

Technological leader

Daikin leads the way in the air conditioning market with the 3 cutting-edge core technologies:



Why Daikin?

Fact 4

Not just 'quality', but 'Daikin quality'

Innovation and quality have always been the keystones of Daikin philosophy. Daikin strongly believes that by offering only the best products, success can be achieved.

Wherever the production location is, Daikin applies very strict quality standards. We do not just offer any 'quality', but 'Daikin quality' from the design stage to delivery to customer.

Also, all major components are engineered and manufactured by Daikin, ensuring maximum performance, reliability and efficiency. From the internal motors and compressors to the exterior anti-corrosion treatment and self-diagnostic function, Daikin systems are built with durability.

Fact 5

Strong and quality-oriented after sales support

Daikin guarantees your comfort in every facet of our service. Daikin's dedicated After Sales Support Team is second-to-none in providing you with the necessary coverage for your continued comfort beyond purchase.

Good to know about Daikin

Daikin is the global leader in the HVAC market for over 90 years.

**Data presented here are as of 31st March 2017.*

Why Inverter?

There are two main technologies to be considered when purchasing a split air conditioner:

- **ON/OFF systems,** so called "Non-Inverter", used in conventional air conditioners.
- **Inverter systems,** variable speed using the latest technology in the air conditioning

You always want the best for your home: best TV, best phone etc… This approach should be the same when it comes to purchasing an AC knowing that you will use it almost every day in the year!

What is the difference between the various technologies available in the market and why are some of them are more expensive than the others?

At first look, both systems offer similar functionality: cooling the air. But, in reality, they are different in terms of compressor drive. Old technology systems use a fixed-speed (Non Inverter) and advanced systems use variable speed (Inverter).

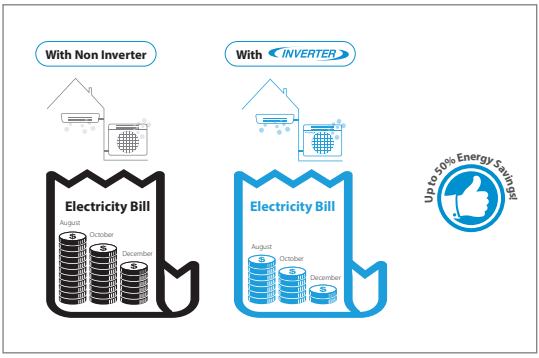
The 5 tips to sell Daikin Inverter technology

Tip 1

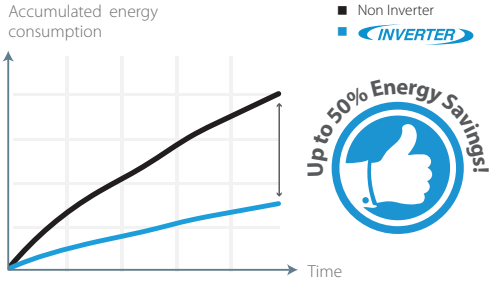
Saving money – we all want that!

Do you know that conventional splits (Non Inverter) are using compressor running at high (maximum) fixed speed all the time? This, combined with the repeated restart of the compressor, will lead the air conditioner to consume a lot of energy. In reality, an ON/OFF system is very inefficient and costly to use.

The variable speed compressor of the Inverter split adjusts the power according to the temperature in the room; **in simple words, the unit will run at higher speed when you need more cooling and at lower speed when you need less**. The electricity you will use then depends on your actual needs, not more! Inverter technology will **lower the consumption of the air conditioner down to 50%**, so you pay less money for your electricity bills!



The 5 tips to sell Daikin Inverter technology



With Daikin Inverter, produce what you need when you need and save on your electricity bill!

Tip 2

Fastest and most powerful cooling

Daikin Inverter technology speeds up at the start-up time so the room is cooled down quicker.

With Daikin Inverter, the cooling is quick and powerful, even under extremely high outdoor temperatures.

Because Daikin Inverter is smart, it's capable of adjusting the cooling power accurately to your actual needs. You will have a comfortable temperature all year round and you will never feel too warm or too cold.

Tip 3

Eco-friendly

As you can see all around you, it is all about how we can reduce our impact on the environment and reduce the energy use! You can contribute to lowering the environmental impact by making a smart choice for your AC.

Because Daikin Inverter can adjust speed and cooling capacity according to your needs, it uses less energy than traditional AC. Less energy use means lower carbon footprint (CO_2 emissions), which is more friendly to the environment.

Also, Daikin uses the latest refrigerants with amazing cooling performance, specially selected for our hot and harsh climate, and less impact to the environment compared to other brands. Refrigerants used by Daikin do not deplete the ozone layer!

Tip 4

Longer life

As the compressor does not turn on and off all the time and runs at lower speeds and pressures, it makes the AC's life longer as you will reduce the stress on the compressor, which is the heart of your AC.

Tip 5

Quieter operation

As the Daikin Inverter is the most recent technology, it also offers the most silent operation. You will no longer experience disturbing ON/OFF and high fan noise.

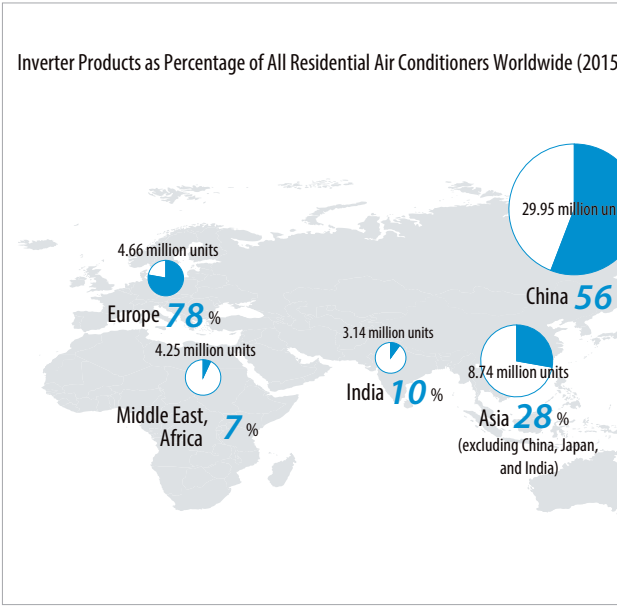
FAQ

Q1 How long has the inverter compressor been used in the world?

Inverter AC has been invented in 1980! Today, it is the most selling technology in many countries!

First inverter AC has been launched in 1980 but the spread of the technology over the world only started after 2005 when every market started to realize the importance of saving electricity consumption through air conditioning.

Today, Inverter is the most selling technology in Japan, Australia, Europe and China.

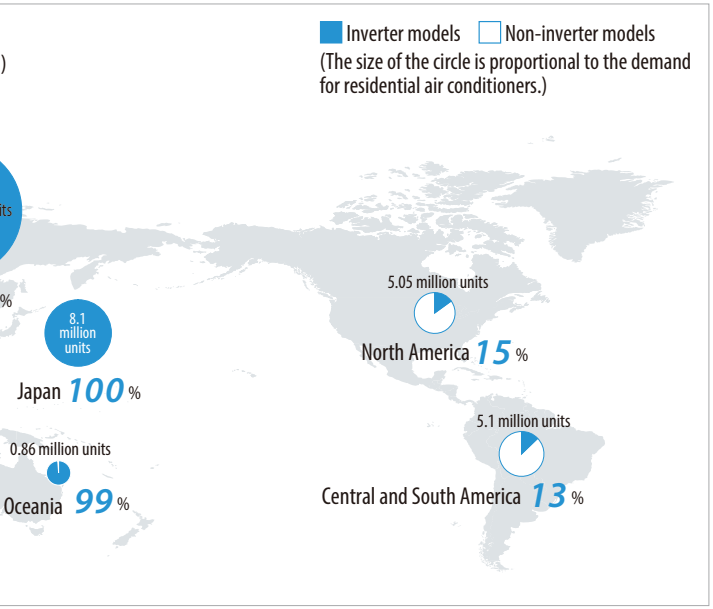


Q2

Why do you need Inverter in Middle East?

Your cooling needs are different in summer and winter; your AC should adjust to that!

The amount of cooling (heating) capacity required depends on the outside temperature and the heat inside the room to be treated. Since the outside temperature varies all year long, the cooling requirements will also vary all year round. Only Inverter has the inner intelligence to adjust the speed to deliver the exact amount of cooling required.



	Summer	Mid-season	Winter
	50°C DB 22°C DB	35°C DB 22°C DB	25°C DB 22°C DB
Temperature Difference	**Very High**	**Medium**	**Low**
Cooling Capacity Need / Compressor speed			

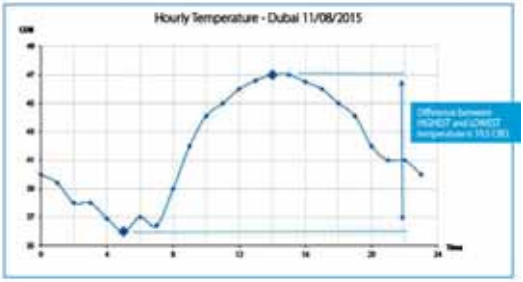
Your cooling needs vary over the year, your air conditioner should adjust to that!

Q3

Why do you need Inverter in summer?

Your cooling needs vary during the day even in summer; your AC should adjust to that!

Did you know that even during a hot summer day, there will be a high temperature fluctuation over that entire day? Peak temperature will happen during mid-day while morning and evening will be a bit colder. Temperatures difference between the hottest and lowest temperatures can reach up to 15CDB! Only Inverter has the inner intelligence to adjust the speed to deliver the exact amount of cooling required.



Source: Dubai Airport Weather Station 2015

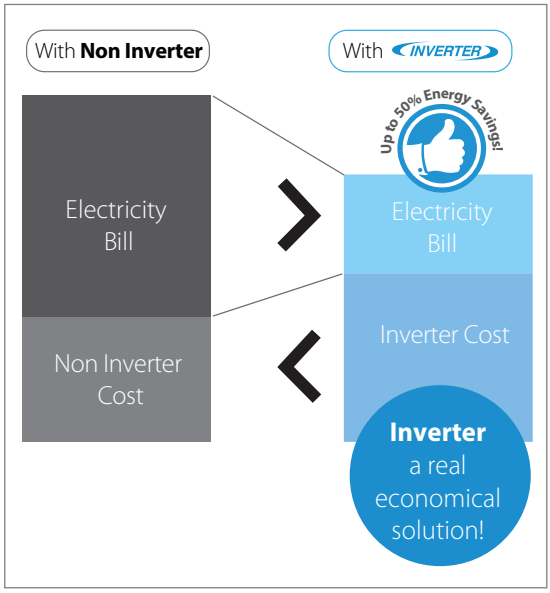
Your cooling needs vary over the day and your air conditioner should adjust to that.

Q4

Why Inverter is more expensive?

Inverter is not expensive! It is a real cost-effective solution.

Although Inverter solutions will require a higher investment cost compared to traditional systems, the total life cycle cost is much less and allows you to make real savings throughout the year: **inverter units pay by themselves after a short period!** When you purchase a unit, the real cost that you pay is not only the unit cost but also the electricity cost that it will consume! To make real savings, you always need to compare the total cost, including the operation cost. Inverter will help you save on your energy bill.



FAQ

Q5 Why Daikin is more expensive?

Daikin is not expensive!

Equipment cost reflects technological expertise and quality of components used.

» Unlike other brands, Daikin does not compromise on Quality for Price!
» Daikin designs and selects carefully all the components of the air conditioner, to ensure durability and long lifetime.
» As Daikin equipment is extremely efficient, initial investment is returned back quickly through low running costs.
» Daikin is a global company with strong local presence and unmatched after sales support.

Q6 How can I compare efficiency between Inverter and Non Inverter?

Inverter savings: beyond declared EER or star rating!

Today, the only official way to compare performance of the AC is to look at EER or star rating But what is the real meaning of EER? EER stands for "Energy Efficiency Ratio"; it will give you an indication on how your system performs at one fixed temperature condition. Using this methodology can be considered as acceptable to assess efficiency of non-inverter system as it provides a fixed capacity throughout the year and the average power consumption. Thus efficiency, will be on average the same over the entire year.

The situation for Inverter is different as it has the ability to adjust capacity to meet the application requirements. Adjusting capacity is done through the regulation of compressor speed; thus power input will constantly be adjusted.

So, representing efficiency of inverter through EER that is measuring efficiency at full capacity at one fixed condition is not really correct.

In order to measure the real efficiency of an air conditioner, the formula must integrate the full weather conditions (all temperatures) at which the system will operate in a certain location. The global trend is towards using "Seasonal Efficiency Ratio" (SEER) as an indicator of the efficiency of an air conditioner: it will measure efficiency of the system at all temperatures and capacity conditions. Different regions have different measuring formulas adapted to their local weather pattern in Europe, US or Japan etc. Now, a Technical Committee of ISO TC86 is working on a SEER calculation standard for Hot Climates that could be adapted to specific cities' weather bin in the region. SEER will then apply to both Inverter and Non-Inverter systems and will greatly help the consumer to know a realistic figure of his estimated yearly energy consumption.

REMEMBER:

1. EER will give you an indication on how your system performs at one fixed temperature condition at full capacity.
2. Inverter has the built-in intelligence to constantly adjust capacity based on your exact needs: it will run at higher speed when you need more cooling and at lower speed when you need less. The electricity you will use then depends on your actual needs, not more!
3. When you compare equivalent capacity models, even if they have same EER and star rating, real life saving with inverter will be much higher than with non-inverter.

To make it simple, even if the systems – inverter and non inverter – have the same EER or star rating, the inverter will always consume up to 50% less throughout the year as it will only consume the electricity to meet your actual cooling needs, not more!

FAQ

Q7 What does it mean when Inverter can reach up to 130% capacity?

Inverter can modulate capacity from a minimum to a maximum level!

You have to remember that inverter is a smart system equipped with variable speed motors. It can modulate the capacity output from a minimum level to a maximum level by varying its speed accordingly.

Inverter can usually cover a capacity range from 30% (minimum level; this level can reach down 10% on VRV systems) to 130% (maximum level) against the capacity declared in the commercial brochure.

For example, Daikin Inverter R-32 split FTKM24 PVM can modulate its capacity between 6.5 kBtu up to 29.5kBtu while catalogue data is showing 24kBtu.

When you select your inverter AC, in order to reduce your investment cost, you can select it based on maximum capacity. However, if you select it based on the rated value, the performance and lifetime will be optimized as the unit will work less time at full load.

Q8 Is Inverter air conditioner more complicated to maintain?

Not really!

Thanks to the built-in intelligence implemented in the electronics that will allow achieving huge savings by regulating the compressor, inverter units are considered more sophisticated systems.

Daikin technicians and installers are experienced and extensively trained by Daikin on installation, maintenance and troubleshooting. In fact, cause and type of failure can be faster and easier diagnosed on Inverter thanks to the self-diagnosis function.

What is important to remember, to keep your air conditioner lifetime as long as possible, is to conduct periodical maintenance, as per manufacturer recommendations.

Q9

What about spare parts cost for Inverter?

Equivalent parts have similar cost except for the compressor.

The main differences in terms of components between inverter and non-inverter are:

» Compressors (drive)
» PCB (Printed Circuit Board; electronics)

The cost of Inverter compressor is of course more expensive than traditional non inverter compressor as it is the latest technology. But lifetime of inverter compressor is estimated to be longer than traditional non inverter: less start / stop cycle and lower inrush current and speed vs non inverter. Also, thanks to the inverter compressor, your system will realize huge energy savings. The higher purchase cost will be compensated by the reduction of electricity cost.

To prevent your air conditioner from major failure, it is crucial to periodically maintain your AC as per manufacturer recommendations.

FAQ

Q10 What about the lifetime of Inverter compressor?

Longer lifetime for Inverter!

The variable speed operation of inverter allows extension of compressor lifetime compared to non-inverter equipment. Non inverter system must repeatedly turn ON and OFF its compressor, resulting in a higher stress on the motor.

Q11 Can we install inverter units near to sea? Does salty environment affect the inverter components?

Daikin Inverter air conditioners are equipped with anti-corrosion protection as standard.

All Daikin standard equipment, regardless of technology, are equipped with anti-corrosion protection.

In very harsh environment, regardless of the technology, if the outdoor location is less than 500m from the sea shore and the unit is facing direct wind, Daikin requires purchasing additional heavy anti-corrosion protection option. The type of treatment will depend on the environment. For more details, please contact a Daikin representative.

Do you have any questions? Do not hesitate to contact us or your Daikin representative.

Notes

DAIKIN

The Daikin INVERTER Difference

Reduce your electricity bill with Smart Technology

Think Smart, think Green, **think Daikin Inverter!**

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