DAIKIN

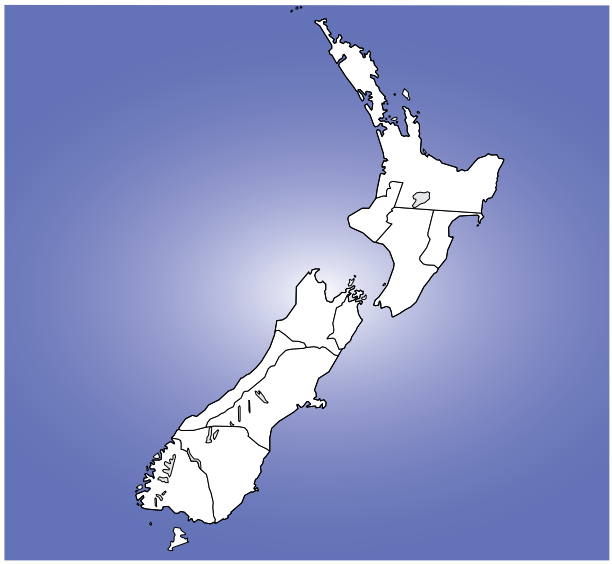
the ultimate

heat pump air conditioning guide

Whether you know little or nothing about heat pump air conditioning, or you know quite a lot, you'll find this guide helpful. It provides easy-to-understand explanations of everything you need to help ensure you get the heat pump air conditioning system that's right for you.

The ultimate heat pump air conditioning guide

1 Introducing the heat pump air conditioning specialist



Daikin is a world leader in heat pump air conditioning. Daikin's advanced technology is focused on bringing climate controlled comfort to places where people live, work, meet and relax.

Heat pump air conditioning should not be treated as 'just another appliance'. Its purpose is to deliver superior comfort by controlling the temperature, airflow and air quality in a broad range of environments. Designing and manufacturing high quality heat pump air conditioners requires specialised knowledge in the fields of mechanics, electronics and chemistry.

Installing heat pump air conditioning also requires specialist knowledge to ensure you get the right advice, and the system that's right for you.

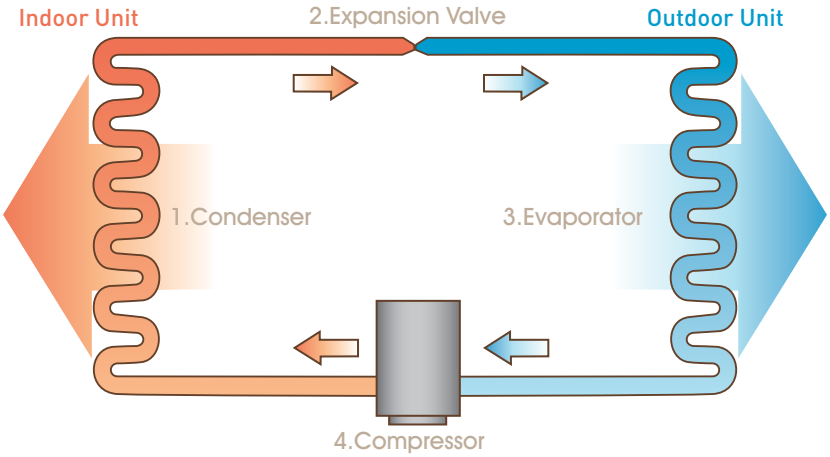
Daikin products are available from their network of Daikin Specialist Dealers in New Zealand, who will ensure you get the right heat pump air conditioning system to suit your needs.

Call 0800 324 546 or visit www.daikin.co.nz for your nearest dealer.

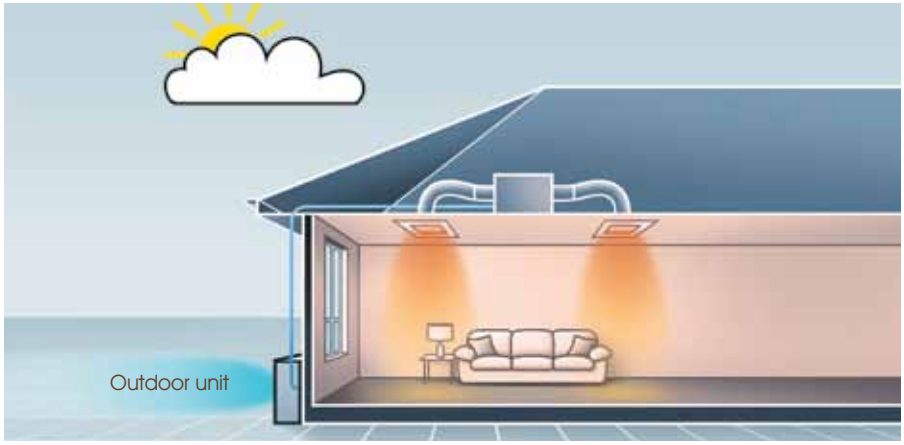
2 The basic principle of heat pump air conditioning

Heat pump air conditioners can cool or warm your home. In summer, the heat is absorbed from inside your home and exhausted outside leaving your home cooler. In winter, heat is absorbed from the outside air and used to heat your home. Heat pump air conditioners use a refrigeration cycle to transfer heat in or out of the home. Heat pump air conditioning from a specialist like Daikin is one of the most efficient forms of heating your home using electricity.

To make this happen there's an indoor and outdoor unit, both of which need to be professionally installed.



Refrigeration Cycle



Warm in Winter

Heat is absorbed from the outdoor air to warm your home inside. Even when it gets down to 0° there is still warmth in the air that can be utilised.

Cool in Summer

Heat is absorbed from inside and exhausted outside leaving your home cooler.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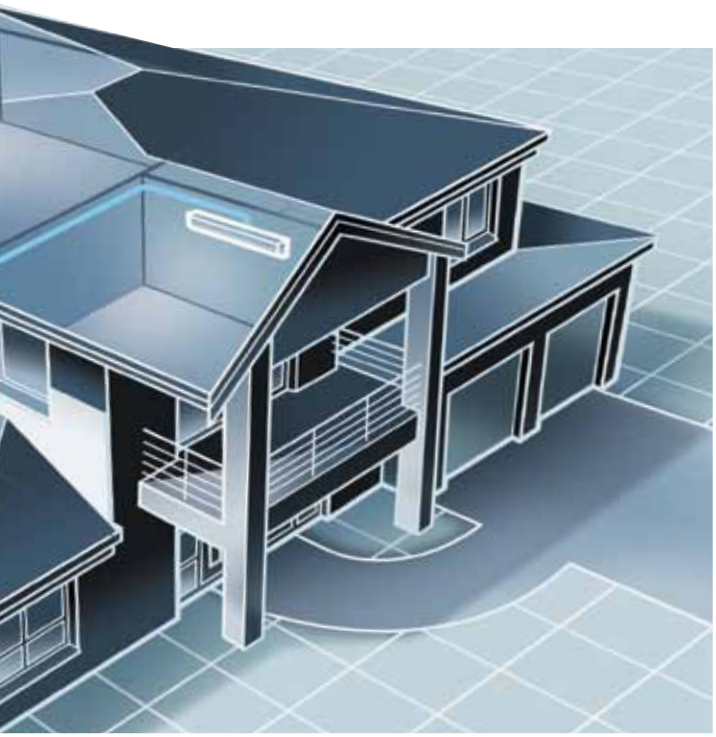
3 The value of professional installation

When buying a heat pump air conditioner, it is very important to seek expert advice. A Daikin Specialist Dealer is a great place to start.
They will devote the time and effort to ensure you choose the right air conditioner for your individual needs.

Your Daikin Specialist Dealer will ensure that whatever you select is correctly positioned and professionally installed, so it works efficiently. They'll also show you how to operate the unit so that you enjoy comfort and efficiency from your investment.

Without expert advice and professional installation, your heat pump air conditioner may be too small for the job and won't heat the space effectively.
On the other hand, choosing a model that's too large for your space will increase power bills unnecessarily.

4 The 'ins and outs' of noise levels



It's very important to consider the noise level of a heat pump air conditioning unit whether it is inside or outside your home.

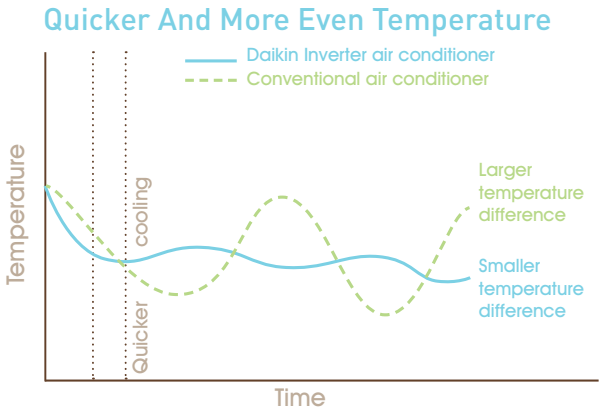
The noise level of the outdoor unit should also be considered in urban areas where neighbours live in close proximity, or where the unit is located near an outdoor entertaining area. Also in certain areas, due to local government regulations, outside units must conform to allowable noise levels.

Not all heat pump air conditioners are the same. Different split system heat pump air conditioners have different noise levels. The indoor unit noise levels of a modern split system are quiet when operating at low speeds. However, at higher speeds, some are noticeably quieter than others.

Make sure the heat pump air conditioning system you choose provides an ultimate comfort level for you and your neighbours.

For your own comfort and peace of mind, it's important that you compare the noise levels of different heat pump air conditioning systems and find out what distance the noise level readings are taken from. However, remember that there are different noise levels at different airflow levels. So to get an accurate comparison, make sure you speak to a Daikin Specialist Dealer.

5 The importance of energy efficiency



Some forms of heating are more efficient than others. The more efficient they are, the less energy they use during operation.

Daikin heat pump air conditioners are one of the most efficient forms of heating using electricity.

Inverter Technology

Conventional heat pump air conditioners operate at a fixed speed, delivering a fixed amount of cooling and heating. They try to maintain a set temperature using a 'stop/start' principle. Inverter heat pump air conditioners have more advanced technology and operate quite differently. An inverter works like the accelerator of a car, gently increasing or decreasing power. They reach the desired temperature faster, and steadily maintain it without fluctuations. That means uninterrupted comfort and significant savings on running costs.

Heat pump air conditioners are available in Cooling Only and Heating & Cooling, plus you can choose from inverter and hybrid split system models.

Daikin has a full range of Minimum Energy Performance Standards (MEPS) compliant split and ducted heat pump air conditioning systems. This means they comply with the MEPS stipulated by the government.

Not all heat pump air conditioners have the same energy rating. Energy ratings, like the star system, are calculated by taking the amount of energy put out by the air conditioner and dividing it by the amount of energy it takes in. Simply put, this rates the energy efficiency of the heat pump air conditioning system.

Make sure you compare the energy levels of different heat pump air conditioning systems, but remember there are different energy levels at different heating and cooling outputs. So make sure you speak to a Daikin Specialist Dealer to get a fair comparison.

6 Efficient operation in extreme conditions

When climatic conditions are extreme is when you need your air conditioner the most. So when it's really cold, you're warm and when it's unbearably hot, you're comfortably cool.

Daikin inverter models are very reliable when temperatures are extreme. Selected Daikin heat pumps even operate when temperatures fall as low as minus 15°C (heating) or soar as high as 46°C (cooling).

7 Star energy rating

Always look for the star energy rating label on a heat pump air conditioner. The more stars awarded, the more energy efficient the heat pump air conditioner. The higher the rating, the more efficient the unit is during operation. The efficiency of any unit is further improved by ensuring you have the most suitable heat pump air conditioning unit for the size of your room or home.

New Star Rating Calculation

As of April 1st 2010, there have been changes to the way energy star ratings are calculated. While the appearance and dimensions of the energy labels are similar, the revised calculation will reduce the number of stars on the label for the same energy consumption. For more information, download the Daikin Split System brochure from daikin.co.nz

8 Energy Star

Daikin is an ENERGY STAR partner with a range of ENERGY STAR qualified heat pumps. Only the most energy efficient heat pumps, in both heating and cooling modes, qualify for the ENERGY STAR mark. ENERGY STAR is promoted in New Zealand by Energy Efficiency and Conservation Authority (EECA). For a list of ENERGY STAR qualified products and simple tips about energy efficiency visit www.energywise.govt.nz

energy
ENERGY STAR PARTNER

9 Purifying the air

Heat pump air conditioning not only cools or warms your home, it can also purify the air inside it.

A quality heat pump air conditioner would normally have a built in air-purifying filter that traps fine airborne particles (eg. smoke particles). Some heat pump air conditioners have air-purifying filters that help to trap microscopic particles, decompose odours and even adsorb bacteria and viruses.

New Zealand has one of the highest rates of asthma in the world, and high levels of seasonal hay fever and other allergies. This makes an air-purifying capability an important consideration when purchasing a heat pump air conditioner.

DAIKIN.
A Sensitive Choice.

The Only Split System Air Conditioners

When the Asthma & Respiratory Foundation New Zealand introduced its new Sensitive Choice program to help identify products that are better suited for people who suffer from asthma and allergies, they chose Daikin as the only heat pump air conditioner authorised to display the ***Sensitive Choice*** butterfly symbol.

Advanced Filters

Daikin Split System heat pump air conditioners have advanced air-purifying filters that may help to reduce some of the triggers that affect asthma and allergy sufferers and help to provide a cleaner and healthier indoor environment.

Double Action

All Daikin Split System heat pumps have been fitted with an air-purifying filter. Most of these heat pumps are fitted with a more advanced Titanium Apatite Photocatalytic Air-Purifying filter. These filters not only trap microscopic airborne particles, but also decompose odours and adsorb and deactivate bacteria and viruses. There are also mould-proof filters and a mould-proof operation that helps prevent the generation of mould and mould odours inside the unit.

Doubly Sure

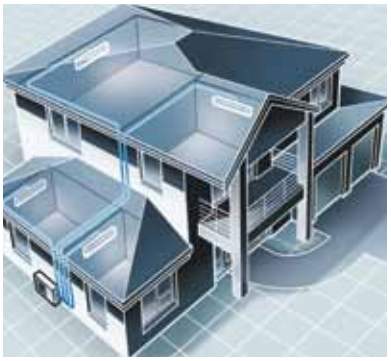
To be sure you get the right advice and the split system heat pump that's right for your home, talk to a Daikin Specialist Dealer. This ensures professional installation, all backed up by Daikin's 5-year warranty.

10 Choosing the right system for your home

The type of heat pump air conditioning your home requires will depend upon different factors such as the size of the room or your home, its location and your specific needs to name just a few. To see what system is best for you, seek expert advice from a Daikin Specialist Dealer. Here is a brief outline of the different systems available and where they might be ideally suited.

Split

Split system heat pump air conditioners have an outdoor condenser connected to an indoor fan coil unit by small copper pipes and wiring. The indoor unit is either wall mounted, under ceiling mounted or is a floor standing model. Each has electronic controls and a fan that circulates either warm or cool air. Split systems are ideal for those wanting to air condition one room or area of their home.



Multi-Split

A multi-split heat pump system can air condition multiple rooms with the outdoor condenser connecting to multiple fan coil units.

Multi-split systems are ideal where there is limited space for a number of outdoor units or insufficient space for ducting. They also allow individual temperature control in each room.

Ducted

With a ducted heat pump system, a condenser is installed outside the home. The indoor fan coil is usually located in the ceiling or under the floor with flexible ductwork distributing warm or cool air through vents located in each room of the house. Ducted systems can be designed to operate in two or more zones, so they can be heated or cooled at different times depending on the season. Since 1983, Daikin has manufactured ducted indoor units designed specifically for Australian and New Zealand climates, in Australia.

Altherma

Altherma is a highly flexible, energy efficient home heating system that extracts the heat from the outside air, raises this heat to a higher temperature and then distributes warmth around the home through high quality heating units. At the heart of the system lies an air to water heat pump. Altherma now offers the option of the Domestic Hot Water Tank, which supplies you with your domestic hot water needs all year round. With the inclusion of the Domestic Hot Water Tank, Daikin Altherma now offers the total heating solution.

11 Where to position the unit

This can also be an important factor in a heat pump air conditioning system operating at optimum efficiency. Here is where to best position each type of unit.

Wall Mounted Unit

Wall mounted heat pump air conditioning systems are the most common in New Zealand homes. They are mounted on the wall and circulate air to heat or cool a room evenly. They should be located so the airflow can reach as much of the room as possible.

Floor-Standing Units

These are positioned on the floor against a wall. To operate efficiently, they need clear space in front of them. So they should not be positioned behind lounge suites or couches that obstruct the airflow. Some units can also be semi-recessed into the wall to make them less obtrusive.

Flexi Units

These units can be positioned on the wall at floor level or attached to the ceiling. The major benefit of these units is that they are highly practical in homes where wall and floor space is limited.

12 A comprehensive warranty

When you're looking for a heat pump air conditioner, it is advisable to look for a brand that has a comprehensive warranty on parts and labour. Daikin has a 5 year Parts and Labour Warranty on all heat pump air conditioners and heat pump air conditioning systems purchased and installed in New Zealand.

DAIKIN 5 YEAR WARRANTY

In the unlikely event of unit malfunction, Daikin has an established service department, including an in house call centre, spare parts division and technical support centre for all technical enquiries, ensuring prompt after sales support for all our customers. Daikin also provides in depth training to its dealers and installers, allowing them to provide extra sales support to consumers.

13 Your checklist

Now that you've read this guide, you should have a basic understanding of all the 'ins and outs' of heat pump air conditioning. Everything from the basic principles of heat pump air conditioning to the different types of units and systems available, how they work as well as how to gauge their energy efficiency. To help you assess what heat pump air conditioning system best meets your needs, there is a checklist included below.

Make Your Own Comparison, Use The Checklist Below

- ☐ Energy Efficiency/MEPS/Star Rating/Low cost to run
- ☐ Low interior and external noise levels
- ☐ Inverter Technology
- ☐ Air Purification
- ☐ Heat pump air conditioning – heating and cooling
- ☐ Operation in extreme conditions
- ☐ Professional installation by a qualified technician
- ☐ 5 year warranty on parts and labour/reliability

For More Information

If you have any questions or would like more information on any aspect of reverse cycle air conditioning, talk to a reputable specialist. A Daikin Specialist Dealer is a great place to start.

Qualifications

Daikin Industries Limited is the first air conditioning equipment manufacturer in Japan to receive ISO 9001 certification. All Daikin manufacturing facilities have been certified to ISO 9001 Quality Management System requirements. ISO 9000 Series Certificate is awarded to suppliers fulfilling the requirements of ISO standards. ISO 9001 is a certificate for quality assurance concerning 'design, development, manufacturing, installation and related service' of products manufactured at that factory.

CERTIFIED JQA MANAGEMENT SYSTEM QUALITY SYSTEM

MEPS COMPLIANT MINIMUM ENERGY PERFORMANCE STANDARDS

Residential Air Conditioning Manufacturing Div. (ISO 9001)
JQA-0486 May 2, 1994 (Shiga Plant)

Commercial Air Conditioning and Refrigeration Manufacturing Div. (ISO 9001)
JMI0107 December 28, 1992
(Kanaoka Factory and Rinkai Factory at Sakai Plant)

Industrial System and Chiller Products Manufacturing Div. (ISO 9001)
JQA-0495 May 16, 1994 (Yodogawa Plant and Kanaoka Factory and Kishiwada Factory)

Daikin Europe N.V. (ISO 9001)
Lloyd 928589.1 June 2, 1993

Daikin Industries (Thailand) Ltd. (ISO 9001)
JQA-1452 September 13, 2002
(ISO 9001)

Daikin Australia Pty Limited (ISO 9001)
QEC 23256 May 31, 2006
Sydney, Brisbane, Adelaide, Melbourne, Newcastle, Townsville, Perth
CEM 20437 October 27, 2006
Sydney, Brisbane

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Daikin New Zealand
Visit our website at www.daikin.co.nz
For your nearest Daikin Dealer call 0800 324 546

Dealer: