

DAIKIN UNDERFLOOR HEATING



Heavenly comfort at home.

**HOT WATER
HEAT PUMP**
BY DAIKIN

*All the comforts
of home.*

Happiness begins with Daikin

When the temperature's right inside your home, you also feel more comfortable.

A really cold day can leave you feeling dull and gloomy. While on a hot day, you can get cranky and irritable. A stable temperature can make you feel more comfortable in your environment.

As a world leader in air conditioning, Daikin can be trusted to keep your climate at the perfect temperature. After all, Daikin are one of the largest manufacturers of air conditioners in Japan. Daikin's Hot Water Heat Pump is no exception

With operations around the globe Daikin has invested billions of dollars in research and development to produce products that are energy efficient, quiet, simple to use, and reliable.

Daikin's Hot Water Heat Pump System is an investment that will deliver significant benefits to you and your family's environment, allowing you to live in absolute luxury.

Hot Water Heat Pump at a glance

FEEL COMFORTABLE FROM HEAD TO TOE

Daikin's Hot Water Heat Pump air-to-water system creates an optimal room temperature for you and your family. This system is available in heating only, or reverse cycle (heating & cooling) options.

The heating system is located in your floor and heats your home from the floor up, so you'll feel the warmth on your feet. This heat then radiates upwards, surrounding your entire body in warmth. You enjoy a cozy temperature in just 3 steps:

1. The heat pump extracts free low temperature heat from the outside air.
2. The system raises the temperature of the recovered heat.
3. This greater warmth is then distributed throughout your home via heating emitters.

The reverse cycle system satisfies your heating requirements, but can also be used for cooling your home. It simply reverses the heating process by extracting heat from the inside of your home and exhausts it to the outside leaving the inside of your home cooler.

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4 reasons why you'll really warm to Daikin Hot Water Heat Pump

Feel great inside.

1. LESS ENERGY, PERFECT WARMTH

Daikin's Hot Water Heat Pump makes use of the free heat in the outside air, so you use less energy while still enjoying a perfect level of comfort. And since heat collected by Daikin's air source heat pump system is free of charge and maintenance is minimal, it's the smart solution for your heating needs. In addition, the inverter technology means your energy savings are even greater.

2. STAY WARM IN EXTREME WEATHER

Even in the coldest weather, heat energy is still present in the air. This is where a Hot Water Heat Pump System excels as it can extract the heat from the air in even the coldest weather. At times where there is insufficient heat in the outdoor air the unit comes equipped with a back up heater to take care of the shortfall.

3. FLEXIBLE CONFIGURATIONS

Daikin Hot Water Heat Pump provides the latest heating technology and can be configured for use in both new and refurbishment applications. This system is ideal for new houses as the pipes can be easily installed in the floor when the house is being built. In times when pipes can't be installed in the floor (i.e. existing homes or apartments) the system can connect to heating radiators installed around the house. Daikin Hot Water Heat Pump may be easily adaptable to most components of your existing home, however your installer can discuss these options with you.

4. CLEAN & SAFE

Hot Water Heat Pump works without oil, flammable gas (LPG, natural gas) or other hazardous substances – reducing potential risks that these fuels can create. Moreover, you don't need a gas connection or a fuel tank. No risk of intoxication, smell or pollution from leaking tanks.

DID YOU KNOW THAT...

Daikin Hot Water heat pump has an automatic control system that can adjust the system's operation to varying conditions. So you always enjoy optimal comfort and efficiency.

How Hot Water Heat Pump works

Warm hearted moments.

WHAT'S THE MAGIC BEHIND HEAT PUMPS?

It all starts with the sun. The sun warms up our atmosphere and the outer layer of the earth's crust. In one year the energy sent to the earth by the sun is 50 times higher than the total consumption of energy on our planet. This makes the sun a vast source of energy. On sunny days you can feel the thermal energy from the sun on your skin. But actually, there is always a lot of thermal energy in the air, even on a cold winter night.

HOW DO THEY WORK?

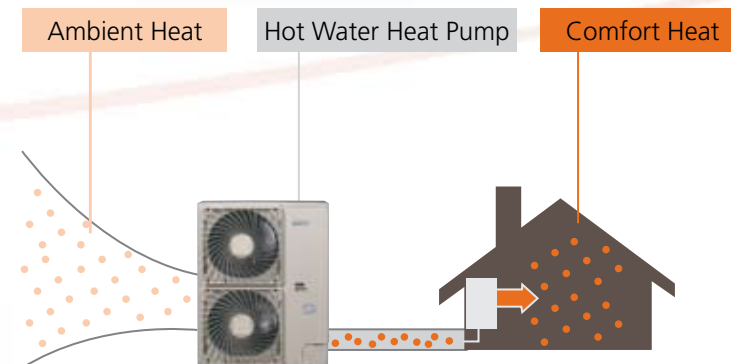
Heat pumps take thermal energy from the atmosphere, or from water (rivers, lakes...) or from the ground. With this system, energy is extracted from the outside air, which is cheaper and simpler than the other alternatives. In order to take energy from the air the heat pump needs some energy to start with and requires only 1 kilowatt of electricity to pump 3 to 5 kilowatts of heat into your home. In other words, between 66-80% of the heat produced by the hot water heat pump comes from the outside air and is free of charge.

WHERE DOES IT ALL START?

A heat pump only needs a heat source (the outside air), two heat exchangers (one to absorb and another one to release heat) and a relatively small amount of drive energy to keep the system going.

A heat pump extracts heat energy from the environment.

In the case of this system, the source is the outside air. The pump extracts the energy at a certain temperature, increases that temperature and then releases it into a medium which in this system is the water running to your low temperature radiators, under floor heating system or fan coil units. Between those two media the heat is moved by means of a refrigerant.





*Put your feet
up and relax.*

WHAT IS A REFRIGERANT AND WHAT IS ITS ROLE?

This refrigerant is a special liquid that evaporates at a lower temperature than the temperature of the outside air. Copper coils bring the outside air into contact with the refrigerant, which absorbs heat energy from the air. This is the first heat exchange. The refrigerant then evaporates and extracts heat.

COMPRESSOR – THE ESSENCE OF HEAT PUMPS

As the refrigerant passes through the evaporator and extracts heat from the air, it turns into a gas. This is where the compressor comes up. When you compress a gas, the heat energy in the gas is concentrated together and as a result, the temperature rises.

In a heat pump compressor, the temperature rises far above the original temperature of the source (outside air in the case of the hot water heat pump). Inside your house the second heat exchange takes place when the compressed gas enters the condenser, a surface that is colder than the gas itself. Finally, the gas condenses and releases heat – the heat that warms up your house.

Condensing means that the gas turns into a fluid again. It passes through an expansion valve, resumes its original pressure and the whole process can start all over.

The luxurious solution for total comfort

*Life's warmer
with Daikin.*

OUTDOOR UNIT: AN EFFICIENT USE OF ENERGY FROM THE AIR

Hot Water Heat Pump uses a natural source of energy. The outdoor unit extracts heat from the outside air and raises its temperature to a level high enough to supply heating. This heat is then transferred to the indoor unit through the cooling agent in the pipes (thus, the additional advantage is that the pipes can never freeze). The compact outdoor unit is easily installed and can also be installed in flats and apartments.

INDOOR UNIT (HYDRO BOX): THE HEART OF THE HOT WATER HEAT PUMP SYSTEM

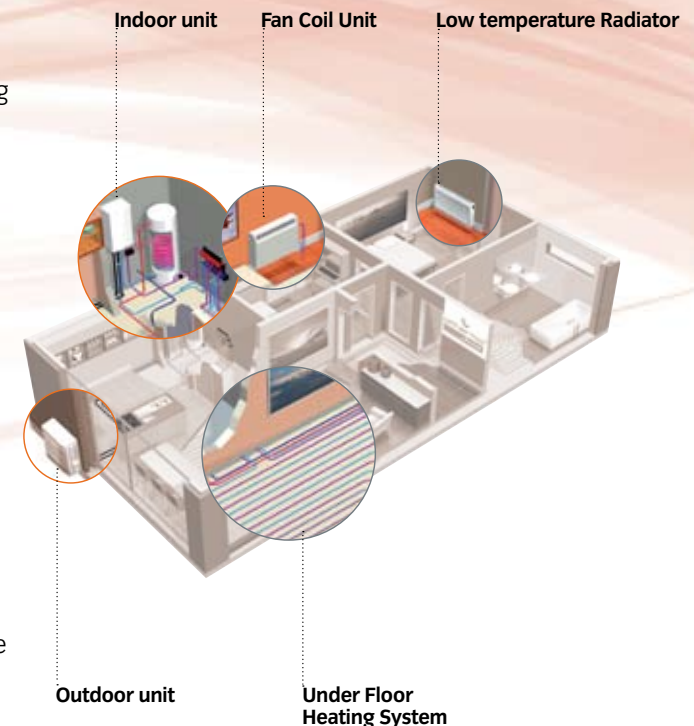
Using heat collected from the outside, the indoor unit heats the water that circulates through low temperature radiators, floor heating systems or fan coil units. If you opt for the combination of heating and cooling, then the indoor unit can also decrease the water temperature to distribute a refreshing coolness.

PROGRAM THE TEMPERATURE TO SUIT YOUR NEEDS

The operation of the system is integrated in the indoor unit. It is possible to regulate your heating and (optional) cooling system according to your needs. Your Daikin installer can set up a full weekly program for you, per hour or per day. In this way, the temperature is reduced automatically at night or during your holiday, but will be pleasantly warm when you get up or return home.

The floating set point is a built-in variable thermostat that adjusts the water temperature to the outdoor temperature. By keeping the water temperature at the lowest possible level, maximum efficiency of the system is achieved.

In instances where individual room temperature control is desired, temperature regulating systems can be provided by your installer.



WARRANTY

The Daikin 5 year Parts and Labour Warranty applies only to products in this brochure purchased and installed in Australia or New Zealand.



ASSUMPTIONS

All representations made in Daikin Marketing and Promotional material is based on the assumptions that the correct equipment has been selected, appropriately sized and installed in accordance with Daikin's installation instructions and standard industry practices.

QUALITY 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.



ENVIRONMENT QUALIFICATIONS

Daikin Industries Limited have received ISO 14001 Environmental Certification for the Daikin production facilities listed below. ISO 14001 is an international standard specifying requirement for an environmental management system, enabling an organisation to formulate policy and objectives, taking into account legislative requirements and information about significant environmental impacts. It applies to those environmental aspects within the organisation's control and over which it can be expected to have an influence.

The certification relates only to the environmental management system and does not constitute any endorsement of the products shipped from the facility by the International Organisation for Standardisation.

Head Office / Tokyo Office Certificate number: EC02J0355

Shiga Plant (Japan) Certificate number: EC99J2044

Sakai Plant (Japan) Certificate number: JQA-E-80009

Daikin Industries Ltd (Thailand) Certificate number: JQA-E-90108

Yodogawa Plant (Japan) Certificate number: EC99J2057

Dakin Australia Pty Ltd (ISO14001) Certificate number: CEM20437

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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)

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Sydney, Brisbane

That's the Daikin difference

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Dealer:

The specifications, designs and information in this brochure are subject to change without notice. Unit colours shown are as close as possible to actual unit colours. Colours depicted in this brochure may vary slightly.

Locations: Sydney, Brisbane, Adelaide, Melbourne, Darwin, Newcastle, Townsville, Perth, Tasmania, Auckland