ecodan®

UNDERFLOOR HOT WATER RADIATOR POOLS

Next Generation Hot Water Heat Pumps

MITSUBISHI ELECTRIC | Quietly Superior

Combine Whole Home Central Heating with Hot Water

As you have come to expect, Mitsubishi Electric Ecodan Heat Pumps are advanced systems that can do more than just efficiently heat water. The extensive line-up also includes total home heating solutions that cover all of your hot water needs as well as super energy efficient room heating – all through the one system.

These total home heating solutions provide room heating using radiators, fan coils, underfloor heating, or any combination of these.

It's the ultimate in total home comfort.

Want to Make Significant Savings on Your Power Bill?

Have you ever stopped to consider what the key contributors to your monthly electricity usage are? You may be surprised that in New Zealand, on average, domestic hot water heating combined with heating your home accounts for a whopping 67%† of the overall energy bill!

So if you are trying to find ways to make significant savings on your electricity consumption, domestic hot water heating is an obvious area to target. Up to now the majority of hot water in New Zealand is heated by traditional electric hot water cylinders – but is there another, more energy efficient way to do this?

The answer is yes, and it's called hot water heat pump technology.

"You could save up to 70%* on your heating costs when compared to traditional water heating."

† Based on BRANZ study report SR221, 2010, verified by EECA.
* Estimated using COP data based on BSEN14511 standard rating conditions. 7°C outdoor temp, 35°C outlet water temp. The BSEN14511 testing relates to the heat pump performance only and not the entire heating system.

Hot Water Heat Pumps are Better for the Environment

Did you know a traditional electric hot water heater produces up to three times the amount of greenhouse gas compared to a low emission alternative such as a hot water heat pump? Instant gas hot water systems are even greater greenhouse gas contributors, producing a staggering seven times more emissions compared to hot water heat pump technology.*1

This makes water heating one of the largest single sources of greenhouse gas emissions from the average Kiwi home. As such, EECA has identified heat pumps as playing a key role in the ability to significantly reduce costs and greenhouse emissions from energy use.

Currently an estimated 67% of New Zealand homes use a traditional electric hot water system in the home.*2 Substituting existing, less efficient technologies with more efficient ones such as a hot water heat pump therefore has the ability to make a significant reduction in overall greenhouse emissions.

If you are looking for super energy efficient water heating that is kind to the environment, Mitsubishi Electric Ecodan Hot Water Heat Pumps are the natural choice.

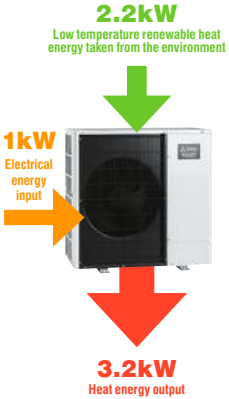
*1 Based on electrical and gas emission factor for New Zealand (EECA Genless).
*2 Based on E3 Policy Framework data for New Zealand.

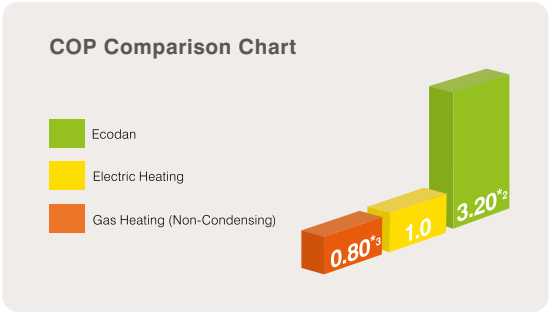
How Efficient is a Hot Water Heat Pump?

The efficiency of a heat pump is known as the Coefficient of Performance or COP. This is a ratio of the heat delivered to power consumed. For every 1kW of electrical input energy, Ecodan absorbs freely available heat energy from the outdoor air to provide the home with an average of 3.2kW*3 of heat output.

Compared to typical gas and direct electric heating systems that can have higher running costs with inefficient COPs as low as 0.80*4, Ecodan Hot Water Heat Pumps provide a real energy efficient alternative.

"Now you can enjoy hot water responsibly all year round!"





*3 As independently tested by BSRIA based upon BSEN14511 Part 3 standard rating conditions. Due to the method of operation, the performance of heat pumps will vary based upon the temperature of the heat source and the requirements of the heat delivered. The BSEN14511 testing relates to the heat pump performance only and not the entire heating system.
*4 Based on manufacturer information for gas instant hot water heater (non-condensing).

How Does an Ecodan Hot Water Heat Pump System Work?

There are three key components to the Ecodan Hot Water Heat Pump System.

The Outdoor Unit

Just like a heat pump for space heating, the Ecodan outdoor unit uses electricity to absorb freely available heat energy from the surrounding air and then transfers it to your home so it can provide energy efficient hot water heating and heating for underfloor, radiators or fan coils.

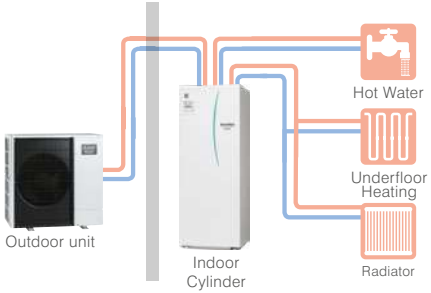
The Hot Water Cylinder

Ecodan provides your home with hot water via a dedicated all-in-one pre-plumbed 200 or 300 litre cylinder that is specifically designed to integrate with the Ecodan outdoor unit. Alternatively, the Ecodan outdoor unit can be connected up to a different size hot water cylinder via the Ecodan Hydrobox module.

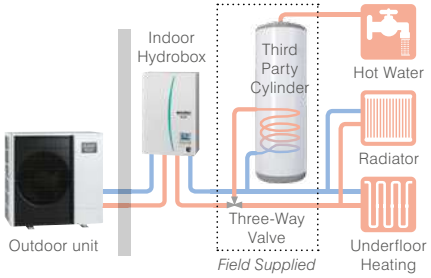
Intelligent Control

Ecodan Hot Water Heat Pump Systems come standard with built-in Smart Energy Control. This easy-to-use interface provides homeowners with smart energy monitoring to maximise energy efficient operation. Furthermore, the advanced weather compensation feature ensures the system delivers comfortable heating no matter the season.

Ecodan Cylinder System



Ecodan Hydrobox System



Designed for New Zealand Conditions

Mitsubishi Electric Ecodan Hot Water Heat Pumps are the dependable solution for year-round efficient hot water when you need it most. Ecodan Hot Water Heat Pumps will especially be appreciated during the winter months, when taking longer and hotter showers as a reprieve from the cold is typical!

Zubadan Series installed at *The Lodge – Ruapehu Ski Club.*

Full Rated Capacity Even When Outdoor Temperatures Are as Low as -15°C*

For those that live in areas of New Zealand where many frosty days in winter are prevalent, it is good to know that the Mitsubishi Electric Ecodan Hot Water Heat Pump Range has specific sub-zero models called the Zubadan Series. These models are designed to effectively produce hot water even on the coldest of winter days.

Our installation on Mount Ruapehu is a testament that an Ecodan Hot Water Heat Pump with Zubadan Technology is well and truly designed for New Zealand's low temperature conditions. With temperatures regularly dropping below 0°C in winter, this system continues to effectively provide hot water for showers, washing facilities and the kitchen for all of its club members throughout the winter season.

Ecodan is Designed to Work Efficiently With All Types of Water

Depending on where you live in New Zealand, you may experience hard water that typically manifests itself as calcium build-up. Mitsubishi Electric Ecodan Hot Water Heat Pump Cylinders and Hydrobox incorporate advanced Scale Trap Technology to minimise scale build-up, ensuring the system will always be working at its best.

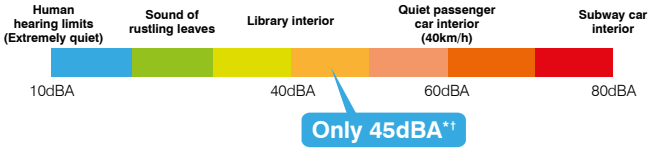
* For Zubadan Model PUHZ-SHW112VAA (according to EN 14511).

Quiet Outdoor Operation – Ideal for Higher Density Housing

With higher density housing becoming more common in New Zealand, quiet outdoor operation is important if you want to keep your neighbours happy!

Specific residential design features enable quiet outdoor operation to be maintained at all times. This ultra-quiet operation means homeowners can now choose the most convenient location for their Ecodan without disturbing neighbours.

Mitsubishi Electric has always been at the forefront of improving technology including sound levels, to meet the ever-changing needs of consumers. So it should come as no surprise that with the urban landscape rapidly changing to more high-density housing, Mitsubishi Electric has specifically tackled outdoor sound levels across the Ecodan Range.



The ultra-quiet Ecodan Series operates discreetly with a sound pressure level as low as 45dBA* and as a result, these systems offer greater placement flexibility as the outdoor unit can now be located much closer to property boundaries than ever before.

* Measured at 1m from the front of the outdoor unit operating under normal heating conditions at outdoor temperature 7°CDB/ 6°CWB, outlet water temperature 55°C.

Manage Your Hot Water Consumption with Advanced Monitoring

On-screen power usage information gives you the visibility and freedom to efficiently manage your overall hot water power use. Daily and weekly timers mean you can take advantage of off-peak tariffs and save even more on your power bills.

For those who have chosen a hot water central home heating system, 2-Zone control can be used to set different temperatures for up to two different zones, or turned off completely. This is the ultimate in zone control.

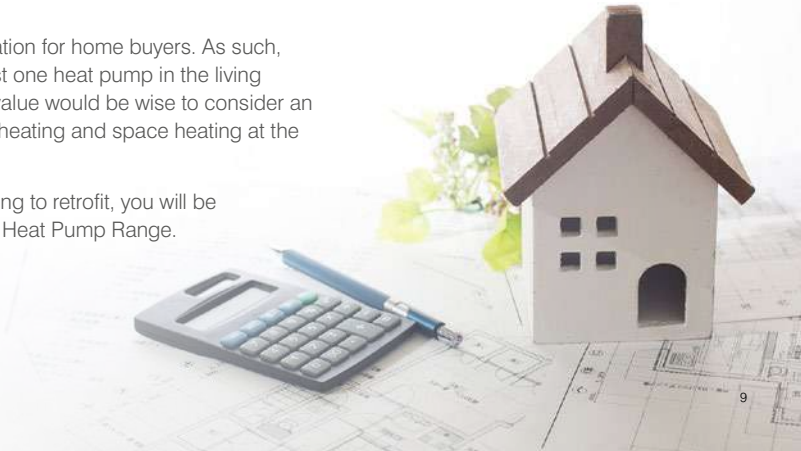
“Ecodan is revolutionising the way New Zealand heats water.”

New Build, Renovate or Retrofit – Add Value to Your Home with an Ecodan Hot Water Heat Pump

Updating your home heating and water heating to a heat pump system is an investment that will not only instantly reflect lower electricity bills for you every month, but is sure to make a real impression with potential home buyers in the future.

The energy efficiency of a home is becoming a stronger purchasing consideration for home buyers. As such, properties on the market are expected to have adequate insulation and at least one heat pump in the living room at a minimum. Homeowners looking to future proof and add additional value would be wise to consider an Ecodan Hot Water Heat Pump System to provide super energy efficient water heating and space heating at the same time.

Whether you are building a new home, renovating an existing property or looking to retrofit, you will be able to find the perfect solution from the Mitsubishi Electric Ecodan Hot Water Heat Pump Range.



Case Study: Ngaio Renovation Project

On the hills of Mount Kaukau near Wellington City is the suburb of Ngaio, where this family residence underwent a considerable makeover with the goal of significantly reducing their energy use in their newly renovated home.

The Goal

The owners vision was to create a modern family dwelling that was warm, dry and healthy. The first stage included upgrading the insulation levels in the ceiling, walls, and floors as well as tackling all the windows with double glazing. The second stage addressed the big energy users in the home; the heating of the rooms and hot water.

Whilst living overseas, the owners had experienced the comfort and ease of a central heating system. As a result, they were especially keen on integrating radiator heating in their revamped Ngaio home. Furthermore, they were seeking an integrated solution that combined both hot water heating and space heating at the same time.

The Challenge

The owners bought the house with the intention to renovate. It was originally built in three phases in the ‘50s, ‘60s and ‘70s to the code and specifications of the era. This meant that the house had no insulation, no heating aside from one log burner and the thinnest single glazing on the windows. To add to this, the hot water cylinder was a low-pressure header tank fed system with a small capacity which ran out after two showers.

The Solution

The Ecodan Hot Water Heat Pump System chosen achieved the overall goal of having an effective and efficient whole home solution that delivers both radiator heating and hot water from the single heat pump system.

The homeowners were especially keen on a central heating radiator system to cover their space heating requirements with enough capacity to ensure all the rooms were adequately heated and sufficient hot water was available at all times to meet the growing family’s needs, even in the depths of a Wellington winter.

Super Efficient Ecodan Hot Water Heat Pump for Space and Water Heating

An 11.2kW capacity Mitsubishi Electric Ecodan Hot Water Heat Pump System was the perfect solution to cover the daily hot water needs as well as the home’s space heating requirements at the same time.

A packaged system was chosen that conveniently comes pre-plumbed and pre-wired. This solution incorporates a 200 litre water cylinder and the heat exchanger all in the one package. The system features fast heat-up

times through the use of Plate Heat Exchanger Technology that works in conjunction with smart energy monitoring and control.

Built-in Smart Control with Energy Monitoring

With a state-of-the-art integrated Fifth Generation (FTC5) Controller, energy monitoring and management of the Ecodan Hot Water Heat Pump System is easy. The control has given the homeowners the visibility and freedom to efficiently manage their overall water heating power consumption. Furthermore, the controller now enables the family to take advantage of off-peak tariffs, to save even more on their electricity bill.

Stylish Radiators Used for Space Heating

Eleven radiators have been installed throughout the home to provide contemporary space heating to the various rooms. Radiators are the ideal solution for responsive heating that can be mixed and matched to each room. Quick to heat up as well as turn down or off, radiator heating is easy to control room by room.

The Result

Having a well-insulated house with the biggest energy users in the home addressed by a high-efficiency Ecodan Hot Water Heat Pump System by Mitsubishi Electric, this family is happier and healthier than ever.

Rob the homeowner explains: “I was rather surprised that radiators have moved on in their technology and we installed units with fan systems for even quicker heating. We would never go back. The Ecodan System has been the making of the house.

We just don’t think about being cold anymore. We find that we are able to fully heat the house and then keep that heat rather than losing it. The system is simple to use and most impressively we have seen our power bills more than halve from our previous heating system and electric element hot water cylinder in the same home during winter. The only downside is that now we get caught out forgetting to take a coat as we don’t know how cold it is outside until we go out.”

“The Ecodan System has been the making of the house. We just don’t think about being cold anymore.”

Equipment Breakdown

- 1x 11.2kW PUHZ-W112VHA
- 1x EHPT20X-VM2C-200L
- 1x FTC5 Wall Controller

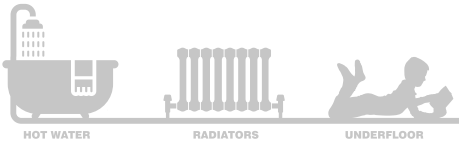
Leon Smith Plumbing

Herriot Melhuish O’Neill Architects

Mitsubishi Electric – Global Leaders in Hot Water Heat Pump Technology

Since 1994, Mitsubishi Electric have utilised their heat pump technology leadership and expertise to specifically design and manufacture hot water heat pump solutions. The range is called Ecodan and is now well and truly established in Japan and Europe as the preferred way to heat water efficiently with minimal environmental impact.

With the full range of Mitsubishi Electric Ecodan Hot Water Heat Pump Systems now available right here, it's New Zealand's turn to reap the benefits.



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For more information please visit our website or call our Customer Service Team.

www.mitsubishi-electric.co.nz | 0800 784 382

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