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# LEAP

## THERMAGENIUS

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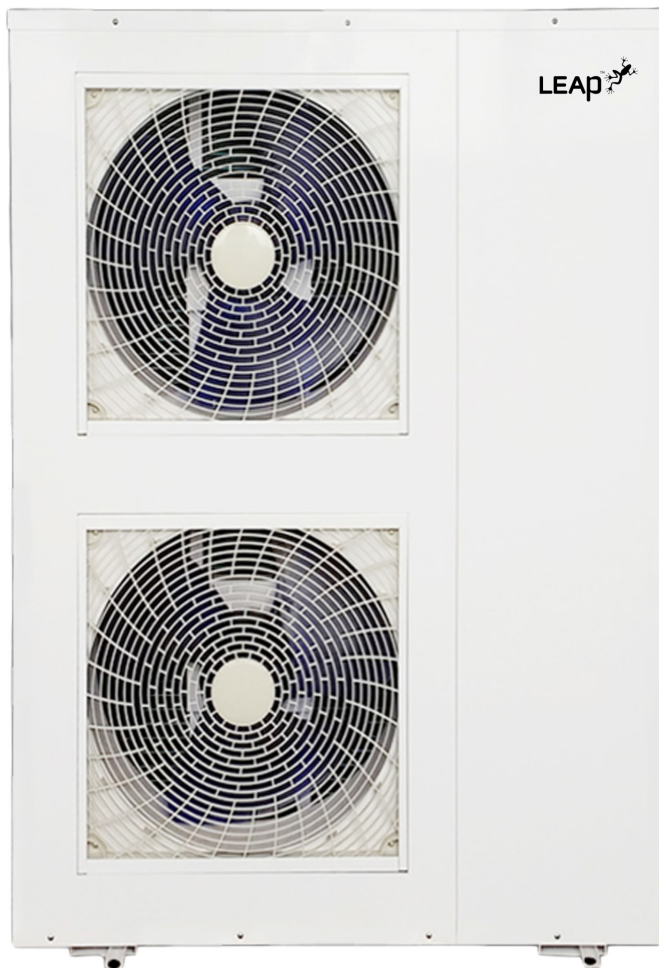
HEAT PUMP WATER HEATER FOR CENTRAL HEATING



# THERMAGENIUS

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USES RENEWABLE ENERGY TO HEAT WATER



**THERMAGENIUS Hot Water Heat Pumps extract renewable energy stored in the air to heat water. THERMAGENIUS is not dependent on weather and operates throughout the year even during long winter nights. With efficiencies in excess of 300%, payback on a THERMAGENIUS can be as low as 3 years.**

Unobtrusive, easy to install and cheap to run, a THERMAGENIUS is a great way to provide hot water for the home and underfloor heating. The only energy used by a THERMAGENIUS is electricity to power components that deliver three or four times its value in heat output.

THERMAGENIUS heat pumps are air-source heat pumps. Air-source heat pumps extract heat energy stored in the air surrounding the home and converts into heat via a

compressor generating up to 5kWh of thermal energy for every 1kWh of electrical energy used.

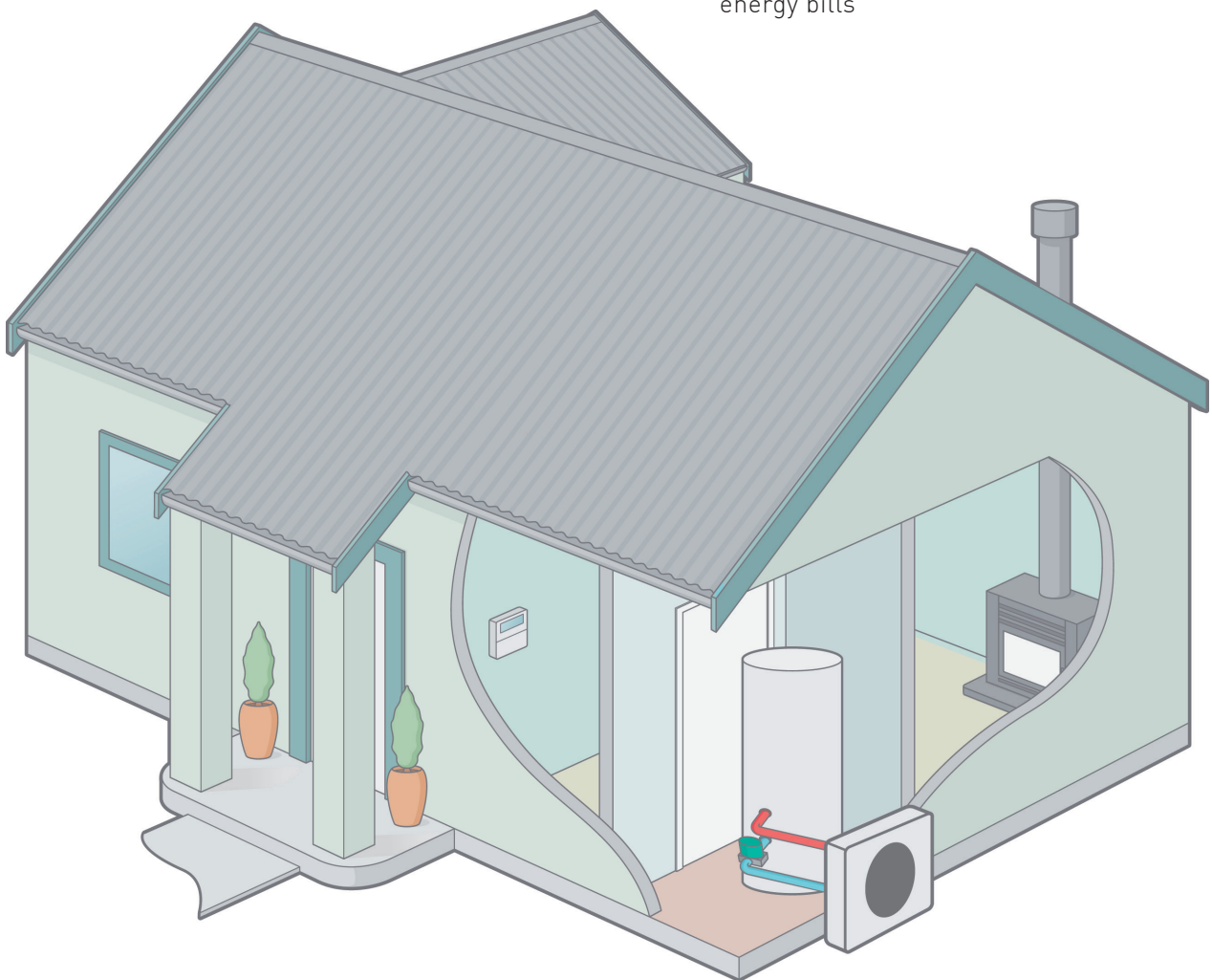
Hot water heat pumps operate like a refrigerator in reverse, transferring low temperature energy to a refrigeration loop, compressing the refrigerant to a high temperature, and transferring this heat to the hot water and heating distribution system.

# THERMAGENIUS

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## AT A GLANCE

- **RETROFITTING** to existing hot water or home hydronic heating systems is easy and inexpensive
- **USES FREE NATURAL ENERGY** from the air to heat water efficiently, reducing energy bills



- **QUIET AND UNOBTRUSIVE** with a heat pump unit that can be placed anywhere around the house

# WHY THERMAGENIUS IS BETTER

## EFFICIENT

A THERMAGENIUS draws approximately 1/3 to 1/4 of the electricity of standard electrical hot water elements for the same amount of heating, reducing utility bills and greenhouse gas emissions accordingly. Heat pumps are more efficient than oil, gas, and electric resistance heating in climates such as New Zealand.

## CONNECTS TO EXISTING PLUMBING

THERMAGENIUS can be integrated to existing under floor heating or other home hydronic heating systems.

## BLUE FIN ANTI CORROSION

A standard inclusion in Heat Pumps, Blue Fin is a high performance 2-pack epoxy finish aluminium foil, specifically designed for application to aluminium that remains flexible.

Blue Fin is ideal for refrigeration heat exchanger coils where they might be exposed to harsh coastal conditions or mild hazardous industrial or commercial environments that are corrosive to the materials of the coil.

Blue Fin offers excellent resistance to common corrosive agents such as ammonia, sodium hydroxide, saltwater and sodium chloride.

## GUARANTEED

Because of its unique design and construction, THERMAGENIUS is guaranteed against material or manufacturing defects for 5 years.

## SUITABLE FOR COLD LOCATIONS

Some heat pumps can lose efficiency if they're installed in a region with temperatures typically lower than 5°C. This is because winter frost builds up on the outdoor heat exchanger coils, which prevents the unit from heating water efficiently. THERMAGENIUS uses a highly efficient active de-icing method to stop this from occurring. An added benefit is that this method uses approximately 60% less energy than traditional de-icing systems.

## DEFROST/ANTI-FREEZE FUNCTION

When outdoor temperatures fall below freezing, the heat pump is equipped with a defrost function to prevent the heat pump from icing. The de-icing function is automatic and does not require user interaction.

## ANTI-LEGIONELLA FUNCTION

The growth of Legionella in DHW tank is suppressed and safe allowing clean hot water to be supplied at all times.

## EASIER TO INSTALL AND OPERATE

Heat pumps use a full colour touch screen controller with software designed specifically for our heat pumps. This makes our units simple to integrate into homes and simple to set up and operate.

## AUTOMATED TO RUN EFFICIENTLY AND SAFELY

Multiple sensors and switches have been incorporated into THERMAGENIUS to ensure the unit isn't damaged in the unlikely event of a malfunction. Such devices include compressor time delay protection (which ensures motor temperatures are correct during start phase), sensor fault protection for water, evaporator and ambient air temperatures and water flow protection to ensure adequate flow.

## INTELLIGENT CONTROLLER

THERMAGENIUS comes with an intelligent controller allowing users to manage operation of their system including timers for "on and/or off" functions, features to integrate with other heating devices such as solar, backup electricity, etc.

## SIMPLE CONTROLS

Your heat pump parameters will be set by your installer, you will not need to alter any settings.

Your system is then controlled by a traditional room thermostat.

The thermostat is set by you to your desired time and temperature.

The control system will be very similar to a standard home heating system.

# TECHNICAL DETAILS

COP's (Coefficients Of Performance) for THERMAGENIUS Heat Pumps range from 2 to 5 compared to 1 for a resistance heater and 0.7-0.95 for a fuel-powered boiler.

H2 rated system – a THERMAGENIUS offers users superior performance even on the coldest day of winter in most parts of New Zealand.

<b>MODEL:</b>	<b>25C078</b>
Power supply:	220-240v 50Hz
Nominal capacity (kW):*	17
Nominal input (kW):*	3.7
<b>COP'S</b>	
A-7 / W35	2.44
A2 / W35	3.47
A7 / W35	4.45
A7 / W55	2.7
Sound pressure level (dBA):	55
Heating capacity (kW):	17
Outdoor temperature range Min (°C):	-15
Outdoor temperature range Max (°C):	43
Max water flow temp (°C):	55
Electrical heaters (kW):	4
Refrigerant type	R410a
Refrigerant quantity (kg):	3.3kg
Compressor	Mitsubishi - Inverter
Heat mats fitted	Yes
Piping	DN32
Dimension outside unit - Height (mm)	1470
Dimension outside unit - Width (mm)	1007
Dimension outside unit - Depth (mm)	405
Weight (kg):	130
<b>CONTROLLER</b>	
Dimension - Height (mm):	435
Dimension - Width (mm):	290
Dimension - Depth (mm):	120
Weight (kg):	6

\*Ambient air temperature 7°C and leaving water temperature 35°C (A7 W35)

**Please note: this information is only a summary. Your plumber will need to contact LEAP for a full listing of all models and a copy of the Installation Manual which has other important information.**

# OTHER LEAP SYSTEMS



## SOLAR WATER HEATING SYSTEM

SOLARGENIUS water heating system harnesses clean, free solar energy to heat water quickly and effectively, even on cloudy days. Solar water heating systems are commonly installed in both new and existing houses, especially when renovating, and are integrated with household electricity and gas supplies. SOLARGENIUS systems are lightweight, easy-to-install solar water heaters that can save households between 40% and 75% on hot water bills.



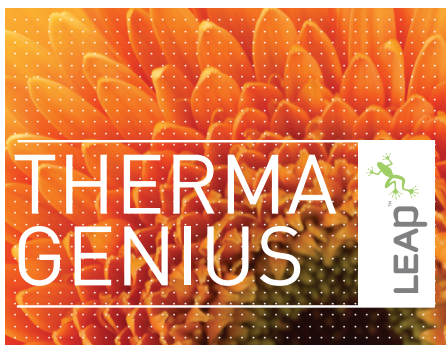
## HYDRONIC RADIATOR SYSTEMS

RADIATHERM builds on LEAP'S highly effective TERRATHERM system adding radiant heat to your home through radiator systems. RADIATHERM brings comfortable, healthy warmth to your home through a tried and true central heating system that has been popular in Europe for decades. RADIATHERM provides heat by circulating hot water through radiators on the walls in every room of your house.



## HYDRONIC HEATING SYSTEM

TERRATHERM is a highly effective and unobtrusive way to radiate comfortable, healthy warmth through your home. TERRATHERM pipes in heat via hot water circulated through flexible underfloor pipes and radiators where required. The system delivers warmth that starts at ground level then slowly rises. TERRATHERM is built-in and its zone-by-zone controls also let you manage your home heating more efficiently, ensuring heat goes where and when it's needed.



## HEAT PUMP WATER HEATING SYSTEM

THERMAGENIUS extracts renewable energy stored in the air to heat water. THERMAGENIUS is not dependent on weather and operates throughout the year from inside or outside your home. With high efficiencies, payback on a THERMAGENIUS can be very quick. Unobtrusive, easy to install and cheap to run, these units are a great way to provide hot water for the home. The only energy used is electricity to power the pumps but delivering 3 or 4 times as much energy.



## HOME FIRE SPRINKLER SYSTEM

BLAZESTOP is an affordable sprinkler system linked to a domestic water supply, putting the reassurance of sprinkler protection within reach of private homeowners. Designed especially for the home environment, BLAZESTOP uses sprinkler heads concealed in the ceiling. Flexible, concealed piping makes retrofitting into homes easy and cost-effective. Made from durable polybutylene, it isn't affected by scaling, corrosion, or microbiological growth and doesn't transmit noise.



## WASTEWATER SYSTEM

FRESHFLOW combines the advanced Hepv0 self-sealing waterless waste valve with easy to install flexible HepFlex Waste piping. This innovative system replaces space-hungry S or U traps with a hygienic valve that provides an effective and reliable barrier against sewer gases escaping into a building. As well as its space-saving advantages, FRESHFLOW leaves no standing reservoir of water which can stagnate and lead to bacterial or fungal growth.

FOR MORE INFORMATION ABOUT THERMAGENIUS CALL

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