



Domestic
Heating

Heat pumps

HITACHI
Inspire the Next

Hitachi Heat pumps

User-friendly controls and market-leading efficiency

The perfect heating and cooling solution for modern homes – saving energy and money all year round

How do Hitachi's heat pumps save me energy and money?

Hitachi's air source heat pumps – Yutaki and AquaFREE - work by transforming energy from outside air into heat.

Put simply, every 1 kilowatt of electricity used to power the heat pump is capable of providing up to 4 kilowatts of energy in a well-insulated home – helping to reduce heating bills.

The heat pumps are controlled by energy-saving weather-compensation sensors that adjust according to the difference between inside and outside temperatures.

And because Hitachi heat pumps require significantly less fossil fuels (such as gas and oil) to operate, they allow homeowners to save up to 60% on running costs.

HITACHI and environmental protection

- Hitachi uses the environmentally friendly refrigerant R410A that causes no harm to the ozone layer
- Hitachi systems comply with the European RoHS Directive, limiting the use of environmentally harmful substances
- Hitachi is committed to recycling its end-of-life devices and replaced systems – fulfilling the European WEEE Directive



The benefits

Are they easy to install?

Yes – in both modernisation projects and as new installations. Hitachi heat pumps can be connected to all common radiators, underfloor heating systems, convectors and water heaters – tailored to your requirements.

Can I make long-term savings?

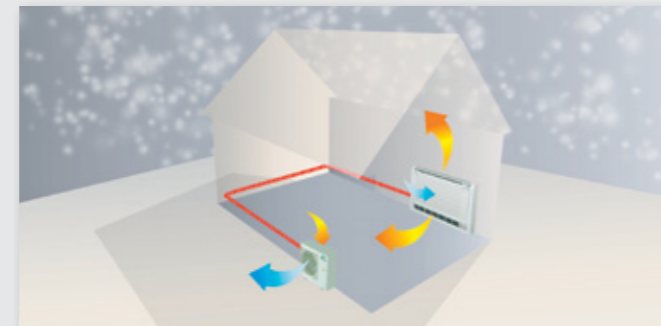
Because Hitachi heat pumps are capable of reducing CO₂ emissions by 50% compared to a boiler-led system, this makes them a worthwhile long-term investment.

And with fewer moving parts to go wrong, the heat pumps have a long life expectancy. They also increase the value of homes and give you access to government grants and funding.

How does the heat pump actually work?

Air source heat pumps use a refrigeration process to transfer low-grade energy from the outside air into high-grade energy, perfect for heating and domestic hot water. Even at temperatures as low as -20°C, the heat pump can supply significantly more energy than it uses.

The AquaFREE can also reverse this procedure. During the summer, it can reduce the temperature of rooms by withdrawing heat and releasing it outside via an outdoor unit.



During winter, heat energy is transferred from outside to inside a home.



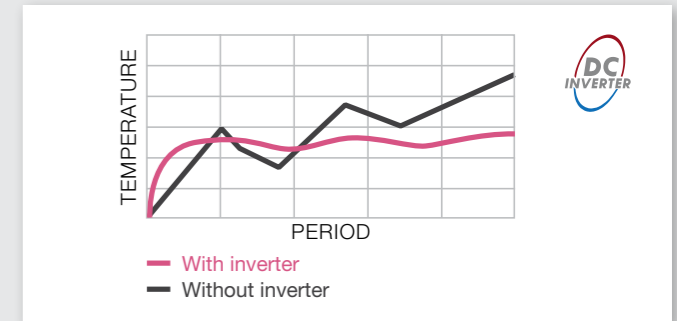
In summer, heat energy is released from inside to outside (only possible with AquaFree).

Technical features

What features make Hitachi heat pumps so energy efficient?

Hitachi is one of the first manufacturers to use cutting-edge DC Inverter Technology.

This keeps temperature fluctuations to a minimum, giving customers the opportunity to tailor the temperature of their homes to their own preference, whilst saving up to 40% of energy compared to systems without this technology.



Which Hitachi heat pump do I need?

This decision depends on many factors, including the size of your flat or house, the type and number of heating elements involved and warm water function. Your living environment also plays an important role. In general, you can use both Yutaki and AquaFREE in connection with common radiators or underfloor heating systems.

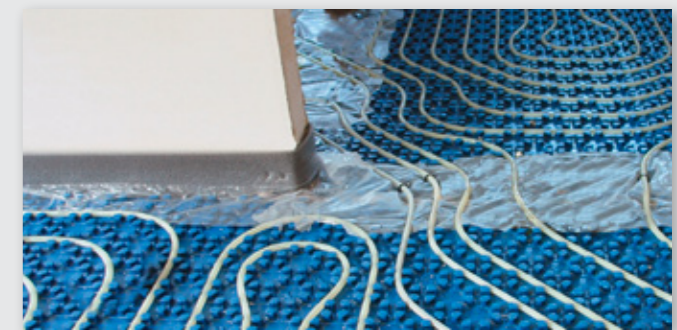
The AquaFREE heat pump is a split system, consisting of an outdoor unit and a separate indoor unit. It can be fitted with auxiliary heating, but requires additional space inside your home. The AquaFREE pump is extremely quiet and highly efficient.

In contrast, the Yutaki heat pump is a compact solution, whereby only a single unit has to be installed on the outside. It does not take up much space and can use an existing heating solution.

Your Hitachi specialist dealer will be happy to help you make the right decision.



Radiator connection: simple installation (to all common models).



Underfloor heating connection, invisible installation, comfort and even optimal temperature.

AquaFREE system components

Yutaki system components

AquaFREE outdoor unit

In winter, the outdoor unit withdraws the heat from the outside air and transfers it to the AquaFREE indoor unit via a refrigerant circuit. The system can reverse this procedure in summer, with heat withdrawn from the interior via convectors and released outside. The AquaFREE outdoor unit is quiet and reaches high coefficient performance (COP) (> 4).



AquaFREE indoor unit

The AquaFREE hydraulic module is fitted on the inside of the building. It is connected to the outdoor unit via refrigerant circuit and feeds the generated heat into the heating circuit, which can include radiators. The AquaFREE system replaces or complements your existing heating solution.



AquaFREE room thermostat

Homeowners can control and programme the entire AquaFREE unit simply and comfortably to suit their requirements. These functions provide optimal room temperatures and reduce energy consumption:

- weekly programming at hourly intervals
- two different setpoint temperatures
- overnight heat reduction
- comfortable, wireless control thermostat (optional)



AquaFREE connection options:

- 1 Radiators**
Low temperature (48°C)
- 2 Underfloor heating**
Can be used in combination with radiators
- 3 Convectors**
Required to reach a comfortable temperature in summer



Yutaki compact solution

The unit doesn't take up any space inside the home as it's installed outside, and it only takes a few days to install with minimal disruption when connected to an existing system.



Yutaki room thermostat

Yutaki's wireless programmable thermostat is intuitive and quick to use. The Hitachi system controller automatically runs the entire heating system and domestic hot water production – including controlling any pre-existing boiler – meaning total automatic control.



Programming features include:

- Weekday and weekend timer
- Turn-off facility
- Overnight heat reduction function

Yutaki connection options:

- 1 Radiators**
Low temperature (55/65°C)
- 2 Underfloor heating**
Can be used in combination with radiators
- 4 Hot water boiler**
In particular for new installations



- Heating and cooling possible
- Available with and without out electric auxiliary heating
- Split system: outdoor and indoor unit only available as a set

AquaFREE split system



The AquaFREE split indoor and outdoor unit uses simple principles of thermodynamics to move heat from one place to another. It absorbs heat from the air outside and transfers it to the internal unit, which in turn transfers the absorbed heat to the water circuit.

The water circuit – which is controlled by the system - can determine and adjust heating requirements depending on outdoor temperature. So if it is hot outside, flow temperature will be reduced – saving the homeowner unnecessary energy waste and lowering heating bills. The flow temperature reaches values from 18 to 48°C. By also fitting an optional evaporation tray, it is even possible to reach temperatures of up to 7°C in cooling mode.

Connection options:

- Low temperature radiators
- Underfloor heating (also in combination with radiators)
- Convectors



RWM-3FSN1E
RWM-4FSN1E
RWM-5FSN1E

with additional heating:
RWM-3FSN1E-4.5H1
RWM-4FSN1E-6H1
RWM-5FSN1E-6H1
RWM-4FSN1E-6H3
RWM-5FSN1E-6H3



Remote control



RAS-3HVRNE



RAS-4H(V)RNE
RAS-5H(V)RNE

AquaFREE air source heat pump

Model Indoor unit		RWM-3FSN3E	RWM-4FSN3E	RWM-5FSN3E	RWM-6FSN3E	
Connectable Outdoor units 230 V / 1 Ph		RAS-3HVRNME-AF	RAS-4HVRNME-AF	RAS-5HVRNME-AF	RAS-6HVRNME-AF	
Connectable Outdoor units 400 V / 3 Ph			RAS-4HRNME-AF	RAS-5HRNME-AF	RAS-6HRNME-AF	
Heating Capacity	Rated heating output ¹ (Control range) Inlet 30°C / Outlet 35°C Outside air +7°C DB +6°C WB	kW	2.2/7.5/11.0	4.8/9.8/13.5	6.3/12.0/16.3	5.9/14.0/17.8
	Rated heating output (Control range) Inlet 40°C / Outlet 45°C Outside air +7°C DB +6°C WB	kW	2.1/7.1/9.4	4.5/9.2/12.8	5.6/11.3/16.0	5.6/13.3/16.7
	Rated heating output (Control range) Inlet 30°C / Outlet 35°C Outside air -7°C DB -8°C WB	kW	1.3/6.4/7.0	2.9/7.6/9.5	3.3/9.0/9.9	3.5/9.4/10.3
	Rated heating output ¹ (Control range) Inlet 40°C / Outlet 45°C Outside air -7°C DB -8°C WB	kW	1.2/6.0/6.9	2.8/7.1/8.3	3.1/8.3/9.1	3.2/8.7/9.3
COP		4.55	4.47	4.36	4.11	
Total rated power consumption (Heating)	kW	1.65	2.19	2.78	3.41	
Cooling Capacity	Rated cooling output (Control Range) ² Inlet 12°C / Outlet 7°C Outside air – 35°C DB	kW	2.9/6.0/6.9	3.6/7.2/8.2	4.9/9.2/10.3	5.2/10.5/11.5
	Rated cooling output (Control Range) ² Inlet 23°C / Outlet 18°C Outside air – 35°C DB	kW	3.9/7.1/8.0	4.9/10.0/11.2	6.7/12.9/15.0	7.1/15.0/17.8
EER		4.10	3.88	3.92	3.40	
Water discharge limits (heating)	°C			20 ~ 60		
Water discharge limits (cooling)	°C			5 ~ 22		
Pump input power	kW	0.10	0.13	0.14	0.14	
Power consumption electro auxiliary heating 3kW (step 1/step 2/step 3)	kW			1.0/2.0/3.0		
6kW (step 1/step 2/step 3)	kW		2.0/4.0/6.0	2.0/4.0/6.0	2.0/4.0/6.0	
Maximum electrical power consumption	A (1~/3~)	20/-	32/11	32/11	32/11	
Dimensions (H x W x D)	mm			890 x 520 x 360		
Net weight	kg	56.3	58.6	61.0	61.0	
Sound pressure level ³	dB(A)	27	28	28	28	
Configuration ⁴		Remote control with control function of the circuit, Radio transmitter: range 100m (30m in the building)				

Model Outdoor unit		RAS-3HVRNME-AF	RAS-4HVRNME-AF	RAS-5HVRNME-AF	RAS-6HVRNME-AF	RAS-4HRNME-AF	RAS 5HRNME-AF	RAS 6HRNME-AF
Power supply Outdoor unit 50 Hz		230V / 1Ph	230V / 1Ph	230V / 1 Ph	230 V / 1 Ph	400 V / 3 Ph	400 V / 3 Ph	400 V / 3 Ph
Specifications (H x W x D)	mm	800 x 950 x 370	1380 x 950 x 370	1380 x 950 x 370	1380 x 950 x 370	1380 x 950 x 370	1380 x 950 x 370	1380 x 950 x 370
Weight	kg	67	103	104	104	107	108	108
Sound pressure level (night mode) ³	dB(A)	42(38)	44(40)	46(42)	48(45)	44(40)	46(42)	48(45)
Refrigerant Pipe Connection								
Liquid	mm	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)
Suction	mm	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
Limits Outdoor unit Cooling	°C				+10 ~ +46 (dry bulb temperature)			
Limits Outdoor unit Heating	°C				-20 ~ +35 (wet bulb temperature)			

¹ Rated refrigeration resp. heat output at temperatures in accordance with the respective column (without electro auxiliary heating), Tube length 7.5m, Height difference 0m.

² The cooling mode is not an option with radiators (condensed water formation). Only possible with fan convectors with condensation water tray.

In addition, an evaporation tray has to be fitted at the indoor device (AF-DPK-WH).

³ Sound pressure level measured at a distance of 1.5m (measured in a completely soundproof room without reflections).

⁴ A separate control (AF-BCK-01) is available for the combined operation with conventional heating systems. Cooling with fan convectors requires the installation of a condensation water tray (Standard: AF-DPK-NH, with electro auxiliary heating: AF-DPK-WH).

- Energy efficient
- Closed refrigeration circuit
- Variable combinations
- Control of numerous systems

Yutaki compact solution



Yutaki Air / Water Heat pump

Mode		RHUE3AVHN	RHUE4AVHN	RHUE5AVHN	RHUE5AHN	RHUE6AVHN	RHUE6AHN
Power supply Outdoor unit 50 Hz	V/Ph	230/1	230/1	230/1	400/3	230/1	400/3
Rated heat output ¹ (Control range) Input 30°C / Output 35°C (Outside air 6°C FK)	kW	7.1 (5.0~8.2)	9.5 (5.0~10.9)	12 (6.9~15.0)	12.0 (6.9~15.0)	14.0 (7.8~17.5)	14.0 (7.8~17.5)
Rated heat output ¹ (Control range) Input 40°C / Output 45°C Outside air +7°C (+6°C FK)	kW	7.1 (5.0~8.1)	9.2 (5.0~10.2)	11.3 (6.8~14.0)	11.3 (6.8~14.0)	13.3 (7.6~16.5)	13.3 (7.6~16.5)
Rated heat output ¹ (Control range) Input 30°C / Output 35°C Outside air -7°C (-8°C FK)	kW	5.2 (3.7~5.9)	6.9 (3.8~7.9)	8.4 (5.0~10.9)	8.4 (5.0~10.9)	9.3(6.1~12.3)	9.3(6.1~12.3)
Rated heat output ¹ (Control range) Input 40°C / Output 45°C Outside air -7°C (-8°C FK)	kW	5.3 (3.8~6.1)	6.5 (3.7~7.7)	8.1 (5.0~10.5)	8.1 (5.0~10.5)	9.0 (5.8~12.0)	9.0 (5.8~12.0)
COP (Coefficient of performance) ²	W/W	4.28 (A)	4.06 (A)	4.01 (A)	4.01 (A)	4.31 (A)	4.31 (A)
Rated power consumption ³	kW	1.66	2.34	2.99	2.99	3.25	3.25
Sound pressure level ⁴	dB(A)	48	49	51	51	52	52
Specifications (H x W x D)	mm	1480 x 1250 x 444	1480 x 1250 x 444	1480 x 1250 x 444	1480 x 1250 x 444	1480 x 1250 x 444	1480 x 1250 x 444
Weight	kg	150.0	150.0	155.0	160.0	159.0	164.0
Recommended Fuse Size	A	20.0	25.0	32.0	20.0	32.0	20.0
Limit outside air	°C	-20°C (WB) ~ +40°C (DB) (please note layout diagrams)					
Limit flow temperature	°C	+20 ~ +55°C (Bivalent to 65°C / please note layout diagrams)					
Standard equipment		System controller radio thermostat (incl. receiver module), outside temperature sensor, 3 x water temperature sensor					

¹ Rated refrigeration resp. heat output at temperatures in accordance with the respective column (without electro auxiliary heating), Tube length 7.5m, Height difference 0m.

² The rated power consumption refers to the following conditions: warm water inlet/outlet temperature: 30°C / 35°C; inlet air temperature via airside heat exchanger 7°C (TK), 6°C (FK). The power consumption does not contain the water pump.

³ The COP value refers to the following conditions: input temperature 30°C; output temperature 35°C; outside air temperature +7°C (+6°C FK).

⁴ Sound pressure level measured at a distance of 1m (measured in a completely soundproof room without reflections).

Yutaki is a compact heating solution, installed on the outside of a building and therefore saving inside space. It integrates seamlessly with different types of heating systems such as traditional radiators, underfloor heating and can contribute to domestic hot water.

The Hitachi programmable wireless controller means Yutaki can be controlled efficiently, providing comfortable temperatures when you are at home and energy savings when you are away.

It is very easy to operate too, incorporating control options such as a hot water loading function, screed drying and automatic switch off if a certain outside temperature is reached.



RHUE3AVHN
RHUE4AVHN
RHUE5AVHN
RHUE5AHN



Room thermostat

Connection options:

- Low and high temperature radiators
- Underfloor heating (also in combination with radiators)
- Water heaters

Specifications in this catalogue are subject to change to allow Hitachi to continue to bring the latest innovations to their customers.

Hitachi Europe Ltd.

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