

Yutaki-M and Yutaki-S air source heat pumps

15% of the emission cuts planned by 2020 will be through domestic small-scale renewable energy. With forthcoming incentives from the UK Government – such as the Renewable Heat Incentive (RHI) - along with a VAT rate of 0% for new build and 5% in retro fit applications, this represents a great opportunity to update an existing heating system, or incorporate as part of a new installation.

Suitable for both refurbishment projects and new installations, the Yutaki family of heat pumps can be connected to all common radiators, underfloor heating systems, convectors and water heaters.



Yutaki heat pumps work by transforming energy from the outside air into heat, meaning every 1kW of electricity used to power the heat pump is capable of providing up to 5kW of energy in a well-insulated home – helping to reduce heating bills by up to 60% and cutting CO₂ emissions by 50% compared to traditional boiler-led systems.

The Benefits

For homeowners

- Lower fuel bills
- Access to Government incentives such as the forthcoming Renewable Heat Incentive*
- Reduced carbon emissions
- Self-contained heating and hot water solution - just add a hot water tank
- Suitable for new build and renovation projects - can even be used with an existing boiler
- Up to 5x more efficient than a traditional gas boiler
- Satisfy renewable energy planning requirements
- 5 year warranty.

* applies to Yutaki-M only

For installers

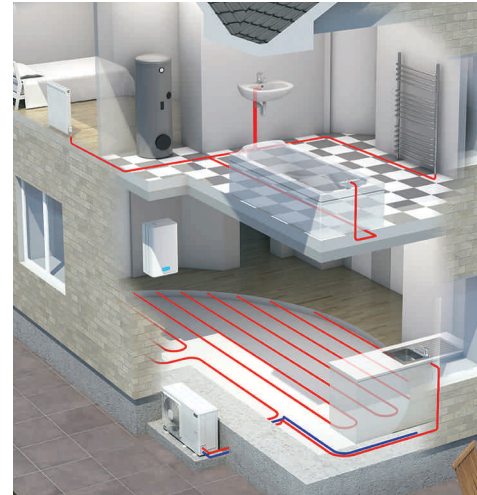
- Simple and fast installation with no refrigeration handling required*
- Inverter technology means heat output matches the heating load of the property
- MCS Approved*
- High COPs - market-leading COP of 5.0 (2HP model)
- Weather-compensation control
- World-renowned, highly-reliable Hitachi high pressure scroll compressor
- Outputs from 5kW to 24kW
- From 600mm compact height options
- Integrate with other renewable technologies such as solar thermal
- 5 year warranty.

The Products

Yutaki-M

A compact solution where a single unit is installed on the outside of the property, taking up no space inside and can be used alongside an existing heating solution.

- Monobloc air-to-water heat pump system
- Domestic hot water as well as heating – ideal boiler replacement technology
- Energy efficient
- Screed drying function ideal for new builds
- Easy-to-use wireless controller with one-touch holiday button and frost protection as standard.
- Weather Compensation Control



Yutaki-S

A split system with auxiliary heating as standard.

- Split air-to-water heat pump comprising indoor and separate outdoor unit
- Domestic hot water and multiple heating/cooling settings – ideal boiler replacement technology
- Energy efficient
- Range includes 20kW and 24kW models for ultimate flexibility
- Suitable for heating swimming pools
- Available with electric auxiliary heating as standard
- Screed drying function ideal for new builds
- Easy-to-use wireless controller with one-touch holiday button and frost protection as standard.
- Weather Compensation Control



In summary

- 1kW of energy consumption can achieve an impressive 5kW output
- Save up to 60% on running costs compared to traditional boiler-led systems
- Up to 50% reduction in CO₂ emissions
- Compact and virtually silent outdoor unit with award-winning DC Inverter PAM technology.

Yutaki-M		RHUE 3.0AVHN1	RHUE 4.0AVHN-HM	RHUE 5.0AVHN-HM	RHUE 5.0AHN-HM	RHUE 6.0AVHN-HM	RHUE 6.0AHN-HM
Rated Heat Output @7/35	kW	7.5 (6.2 ~11.0)	9.5 (5.0~10.9)	12 (6.9~15.0)	12 (6.9~15.0)	14 (7.8~17.5)	14 (7.8~17.5)
COP @ 7/35		4.43	4.06	4.01	4.01	4.31	4.31
Power Supply	V/Ph	230/1	230/1	230/1	400/3	230/1	400/3
Recommended Fuse Size	(A)	25	25	32	16	40	20
Sound Pressure Level	dB(A)	49	49	51	51	52	52
Height	mm	800	1480				
Width	mm	1250	1250				
Depth	mm	444	444				
Weight	Kg	110	150	155	160	159	164

Yutaki-S		RWM 2.0FSN3E	RWM 3.0FSN3E	RWM 4.0FSN3E	RWM 5.0FSN3E	RWM 6.0FSN3E	RWM 8.0FSN3E	RWM 10.0FSN3E	
Connectable Outdoor Units 230V/1Ph		RAS-2HVRN2	RAS-3HVRNME-AF	RAS-4HVRNME-AF	RAS-5HVRNME-AF	RAS-6HVRNME-AF	-	-	
Connectable Outdoor Units 400V/3Ph		-	-	RAS-4HRNME-AF	RAS-5HRNME-AF	RAS-6HRNME-AF	RAS-8HRNME-AF	RAS-10HRNME-AF	
Rated Heat Output @7/35	kW	5.1 (2.3~8.0)	7.5 (3.1~11.0)	9.8 (4.8~13.5)	12 (6.3~16.3)	14 (5.9~17.8)	19.6 (11.3~25.5)	24 (11.6~32.0)	
COP @ 7/35		5.02	4.55	4.47	4.36	4.11	4.45	4.41	
Indoor Unit	Sound Pressure Level	dB(A)	26	27	28	28	29	29	
	Height	mm	890					890	
	Width	mm	520					670	
	Depth	mm	360					360	
	Weight	Kg	55	56	59	61	61	81	85
	Power Supply	V/Ph	230/1		230/1 or 400/3			400/3	
	Recommended Fuse Size (1Ø/3Ø)	A	20	20	40/16	40/16	40/16	-/20	-/20
Outdoor Unit	Sound Pressure Level (Set Back)	dB(A)	45(43)	42(38)	44(40)	46(42)	48(45)	52(50)	55(53)
	Height	mm	600	800	1380			1650	
	Width	mm	792	950	950			1100	
	Depth	mm	300	370	370			390	
	Weight	Kg	42	67	107	108	108	170	170
	Power Supply	V/Ph	230/1		230/1 or 400/3			400/3	
	Recommended Fuse Size (1Ø/3Ø)	A	16/-	25/-	20/16	32/16	32/16	-/16	-/20

Yutaki-M sizing guide

A heat pump that uses air as its heat source will perform better as the air temperature increases. The industry standard for quoting the output and efficiency of an air to water (ATW) heat pump is 7°C external temperature and a 35°C flow temperature (see Table 1). However, to ensure optimum performance and to reduce electricity costs, it is typical to size the heat pump to meet the heating load of the property when the external temperature is -7°C with a flow temperature of 45°C (see Table 2).

Calculate the heat requirement for the property through a Standard Assessment Procedure (SAP) or Energy Planning Certificate (EPC) and match the output of the heat pump (shown below) to the heat requirement. This is indicative only – contact Hitachi or an approved Hitachi distributor for an exact quotation.

Table 1

Outdoor Temperature	Units	RHUE 3.0AVH1	RHUE 4.0AVHN	RHUE 5.0AVHN	RHUE 6.0AVHN
35°C Flow					
7°C	kW	7.5	9.5	12.0	14.0
	COP	4.43	4.06	4.01	4.31
-7°C	kW	6.5	6.9	8.4	9.3
	COP	2.4	2.55	2.61	2.6

Table 2

Outdoor Temperature	Units	RHUE 3.0AVH1	RHUE 4.0AVHN	RHUE 5.0AVHN	RHUE 6.0AVHN
45°C Flow					
7°C	kW	7.1	9.2	11.3	13.3
	COP	3.34	3.05	3.01	3.35
-7°C	kW	6.4	6.5	8.1	9.0
	COP	2.01	2.22	2.28	2.21

It is important that the design of the heat emitter - whether for underfloor heating or radiators - is done correctly to ensure best performance for the heat pump. These tables show the approximate property size for each Yutaki heat pump, based on a flow temperature of 45°C and an external temperature of -7°C:

Year Property Built	RHUE 3.0AVH1	RHUE 4.0AVHN	RHUE 5.0AVHN	RHUE 6.0AVHN
2010	160m ²	161m ²	202m ²	225m ²
2005 - 2010	128m ²	130m ²	162m ²	180m ²
1995 - 2005	80m ²	81m ²	102m ²	113m ²
1970 - 1995	64m ²	65m ²	81m ²	90m ²
Pre 1970	54m ²	55m ²	68m ²	75m ²

For help deciding which Yutaki heating solution is right for you, contact Hitachi.