

**Adaptable**

Can be retrofitted alongside an existing boiler or used stand-alone

**Renewable energy**

Convert 1kW into an impressive 4kW output for economical heating and domestic hot water

**Compact height**

Available from only 800mm high

**Money saving**

Our heat pumps use significantly less fossil fuels, helping you save up to 60% on running costs

**New Builds**

A screed drying function is ideal for new builds

**Introducing the Yutaki-M air source heat pump with 400% efficiency as standard**

**Flexible solution**  
For traditional radiators, under floor heating and domestic hot water up to 60°

Cheaper to install than ground-source heat pumps, Yutaki-M converts 1kW consumption into an impressive 4kW output making it economical for heating and domestic hot water. Not to mention reducing CO<sub>2</sub> emissions by up to 70%\*.

A space-saving, outside heat pump communicates with an intuitive, wireless remote control to adjust room temperatures efficiently. And in the spirit of keeping things simple, there's even a 'One-Touch' holiday button to keep your home from getting chilled while you're away.

\*compared to traditional boiler-led systems

**Yutaki Heat Pumps**

**Yutaki-M, Yutaki-S and Yutaki-S80 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

Water Flow Temp. 35°C	Yutaki-M	-	RHUE 3AVHN1	RHUE 4A(V)HN-HM	RHUE 5A(V)HN-HM	RHUE 6A(V)HN-HM	-	-
	Yutaki-S	RWM 2(H)FSN3E	RWM 3(H)FSN3E	RWM 4(H)FSN3E	RWM 5(H)FSN3E	RWM 6(H)FSN3E	RWM 8(H)FSN3E	RWM 10(H)FSN3E
	Yutaki-S80	-	-	RWH 4FS(V)NFE	RWH 5FS(V)NFE	RWH 6FS(V)NFE	-	-
Capacity <sup>1</sup> (kW)	Outdoor	5.1	7.5	9.7 (10.0)	12.0 (12.0)	14.0 (14.0)	19.6	24.0
COP <sup>1</sup>	Air Temperature 7°C	5.02	4.49	4.27 (4.31)	4.19 (4.27)	4.21 (4.05)	4.45	4.41
Capacity <sup>2</sup> (kW)	Outdoor	4.0	6.5	7.3 (10.0)	8.7 (12.0)	9.4 (14.0)	14.8	18.0
COP <sup>2</sup>	Air Temperature -7°C	2.65	2.46	2.49 (2.42)	2.51 (2.40)	2.47 (2.35)	2.63	2.61

Table 2

Water Flow Temp. 45°C	Yutaki-M	-	RHUE 3AVHN1	RHUE 4A(V)HN-HM	RHUE 5A(V)HN-HM	RHUE 6A(V)HN-HM	-	-
	Yutaki-S	RWM 2(H)FSN3E	RWM 3(H)FSN3E	RWM 4(H)FSN3E	RWM 5(H)FSN3E	RWM 6(H)FSN3E	RWM 8(H)FSN3E	RWM 10(H)FSN3E
	Yutaki-S80	-	-	RWH 4FS(V)NFE	RWH 5FS(V)NFE	RWH 6FS(V)NFE	-	-
Capacity <sup>1</sup> (kW)	Outdoor	4.7	7.1	9.2 (10.0)	11.3 (12.0)	13.3 (14.0)	18.4	22.6
COP <sup>1</sup>	Air Temperature 7°C	3.51	3.41	3.24 (3.35)	3.09 (3.22)	3.18 (3.13)	3.43	3.40
Capacity <sup>2</sup> (kW)	Outdoor	3.8	6.2	6.8 (10.0)	8.2 (12.0)	8.85 (14.0)	14.2	16.6
COP <sup>2</sup>	Air Temperature -7°C	2.10	2.17	2.18 (2.30)	2.10 (2.30)	2.01 (2.25)	2.17	2.16

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	Yutaki-M	-	RHUE 3AVHN1	RHUE 4A(V)HN-HM	RHUE 5A(V)HN-HM	RHUE 6A(V)HN-HM	-	-
	Yutaki-S	RWM 2(H)FSN3E	RWM 3(H)FSN3E	RWM 4(H)FSN3E	RWM 5(H)FSN3E	RWM 6(H)FSN3E	RWM 8(H)FSN3E	RWM 10(H)FSN3E
	Yutaki-S80	-	-	RWH 4FS(V)NFE	RWH 5FS(V)NFE	RWH 6FS(V)NFE	-	-
2010		95 m <sup>2</sup>	155 m <sup>2</sup>	170m <sup>2</sup> (250m <sup>2</sup> )	205m <sup>2</sup> (300m <sup>2</sup> )	221m <sup>2</sup> (350m <sup>2</sup> )	355 m <sup>2</sup>	415 m <sup>2</sup>
2005 - 2010	Water Flow Temp. 45°C	76 m <sup>2</sup>	124 m <sup>2</sup>	136m <sup>2</sup> (200m <sup>2</sup> )	164m <sup>2</sup> (240m <sup>2</sup> )	177m <sup>2</sup> (280m <sup>2</sup> )	284 m <sup>2</sup>	332 m <sup>2</sup>
1995 - 2005	Outdoor Air Temp. -7°C	48 m <sup>2</sup>	78 m <sup>2</sup>	85m <sup>2</sup> (125m <sup>2</sup> )	103m <sup>2</sup> (150m <sup>2</sup> )	111m <sup>2</sup> (175m <sup>2</sup> )	178 m <sup>2</sup>	208 m <sup>2</sup>
1970 - 1995		38 m <sup>2</sup>	62 m <sup>2</sup>	68m <sup>2</sup> (100m <sup>2</sup> )	82m <sup>2</sup> (120m <sup>2</sup> )	89m <sup>2</sup> (140m <sup>2</sup> )	142 m <sup>2</sup>	166 m <sup>2</sup>
Pre 1970		32 m <sup>2</sup>	52 m <sup>2</sup>	57m <sup>2</sup> (83m <sup>2</sup> )	69m <sup>2</sup> (100m <sup>2</sup> )	74m <sup>2</sup> (117m <sup>2</sup> )	118 m <sup>2</sup>	138 m <sup>2</sup>

Yutaki-S80 preliminary data

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

**Yutaki-M, Yutaki-S and Yutaki-S80 air source heat pumps**

15% of the emission cuts planned by 2020 will be through domestic small-scale renewable energy. With 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 build.

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 CO<sub>2</sub> emissions by up to 70% compared to traditional boiler-led systems.

**The Benefits**

**For homeowners**

- Modular design
- Hot water recovery time same as a boiler\*
- DHW Legionella Protection Program
- Easy-to-use remote wireless controller with one-touch holiday button and frost protection as standard
- Lower fuel bills
- Access to Government incentives such as the Renewable Heat Incentive
- Reduced carbon emissions
- Self-contained heating and hot water solution
- 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.

\* Yutaki-S80 only

**For installers**

- Simple and fast installation with no refrigeration handling required\*\*
- Easy servicing and maintenance
- 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.

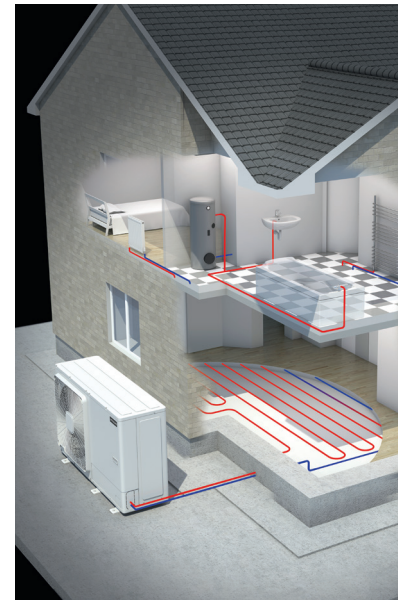
\*\* Yutaki-M only

## 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
- Screed drying function ideal for new builds
- Weather Compensation Control
- Generate water up to 60°C
- DHW Legionella Protection Program.



Yutaki-M	Outdoor 10	RHUE 3.0AVHN1	RHUE 4.0AVHN-HM	RHUE 5.0AVHN-HM	RHUE 6.0AVHN-HM	
	Outdoor 30	-	-	RHUE 5.0AHN-HM	RHUE 6.0AHN-HM	
HEATING CAPACITY	Capacity <sup>1</sup> (kW)	Water 30/35°C Air 7/6°C	7.5 (6.2 – 11.0)	9.5 (5.0 – 10.9)	12.0 (6.9 – 15.0)	14.0 (7.8 – 17.5)
	COP <sup>2</sup>		4.43	4.06	4.01	4.31
	Capacity <sup>1</sup> (kW)	Water 40/45°C Air 7/6°C	7.1 (5.9 – 10.2)	9.2 (5.0 – 10.2)	11.3 (6.8 – 14.0)	13.3 (7.6 – 16.5)
	COP <sup>2</sup>		3.34	3.05	3.01	3.35
	Capacity <sup>1</sup> (kW)	Water 30/35°C Air (db/wb) -7/-8°C	6.5 (3.5 – 7.1)	6.9 (3.8 – 7.9)	8.4 (5.2 – 10.9)	9.3 (6.1 – 12.3)
	COP <sup>2</sup>		2.4	2.55	2.61	2.6
Capacity <sup>1</sup> (kW)	Water 40/45°C Air (db/wb) -7/-8°C	6.4 (3.4 – 6.9)	6.5 (3.7 – 7.7)	8.1 (5.0 – 10.5)	9.0 (5.8 – 12.0)	
COP <sup>2</sup>		2.01	2.22	2.28	2.21	
Water Flow Nominal (min-max)	(m <sup>3</sup> /hr)	1.29 (0.9 – 2.6)	1.92 (0.6 – 3.3)	2.4 (0.8 – 4.0)	2.4 (0.8 – 4.7)	
Water Volume (minimum installation)	(l)	28	38	46	56	
Sound Pressure level	dB(A)	49	49	51	52	
Dimensions H x W x D	(mm)	800 x 1250 x 440		1480 x 1250 x 444		
Weight	(Kg)	110 / -	150 / -	155 / 160	159 / 164	
Operating Range	(°C)	(-20 – +40)db				
Power Supply		1Ph 220-240V 50Hz		1Ph 220-240V 50Hz or 3Ph 380-415V 50Hz		
Running Current (excludes pump) (10/30)	(A)	7.5 / -	13.4 / -	16.6 / 7.7	17.6 / 8.2	
Starting Current	(A)	< 10	< 10	< 10	< 10	
Recommended Fuse Size (10/30)	(A)	25 / -	25 / -	32 / 16	40 / 20	

### 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
- Available as Heating Only or Heating and Cooling versions
- 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
- Weather Compensation Control
- Generate water up to 60°C
- DHW Legionella Protection Program.



Yutaki-S	Connectable Outdoor Unit	Outdoor 10	RWM 2(H)FSN3E	RWM 3(H)FSN3E	RWM 4(H)FSN3E	RWM 5(H)FSN3E	RWM 6(H)FSN3E	RWM 8(H)FSN3E	RWM 10(H)FSN3E
		Outdoor 30	RAS 2HVRN2	RAS 3HVRNME-AF	RAS 4HVRNME-AF	RAS 5HVRNME-AF	RAS 6HVRNME-AF	RAS 8HVRNME-AF	RAS 10HVRNME-AF
HEATING CAPACITY	Capacity <sup>1</sup> (kW)	Water 30/35°C Air 7/6°C	5.1 (2.3 – 8.0)	7.5 (3.1 – 11.0)	9.8 (4.8 – 13.5)	12.0 (6.3 – 16.3)	14.0 (5.9 – 17.8)	19.6 (11.3 – 25.5)	24.0 (11.6 – 32.0)
	COP <sup>2</sup>		5.02	4.55	4.47	4.36	4.11	4.45	4.41
	Capacity <sup>1</sup> (kW)	Water 40/45°C Air 7/6°C	4.7 (2.2 – 7.5)	7.1 (2.8 – 9.7)	9.2 (4.5 – 12.5)	11.3 (5.6 – 15.5)	13.3 (5.6 – 16.5)	18.4 (10.6 – 24.5)	22.6 (10.9 – 31.0)
	COP <sup>2</sup>		3.51	3.47	3.42	3.16	3.01	3.43	3.40
	Capacity <sup>1</sup> (kW)	Water +/35°C Air -7/-8°C	4.0 (1.9 – 4.7)	6.4 (3.5 – 7.5)	7.6 (2.9 – 9.8)	9.0 (3.3 – 11.5)	9.4 (3.5 – 12.0)	14.8 (8.8 – 17.8)	18.0 (8.9 – 21.6)
	COP <sup>2</sup>		2.65	2.51	2.42	2.40	2.34	2.63	2.61
Capacity <sup>1</sup> (kW)	Water +/45°C Air -7/-8°C	3.8 (1.8 – 4.4)	6.0 (3.3 – 6.9)	7.1 (2.8 – 8.5)	8.3 (3.1 – 10.2)	8.7 (3.2 – 10.4)	14.2 (8.4 – 16.6)	16.6 (8.2 – 20.4)	
COP <sup>2</sup>		2.10	2.33	2.14	1.92	1.81	2.17	2.16	
Capacity <sup>1</sup> (kW)	Water 12/7°C Air 35/-°C	3.8 (1.8 – 5.4)	6.0 (2.5 – 6.9)	7.2 (2.6 – 8.2)	9.2 (3.3 – 10.3)	10.5 (3.1 – 11.5)	14.4 (6.7 – 16.4)	18.4 (6.4 – 20.6)	
COP <sup>2</sup>		3.05	3.07	3.06	3.03	2.61	3.53	3.12	
Capacity <sup>1</sup> (kW)	Water 23/18°C Air 35/-°C	5.4 (2.6 – 7.5)	7.1 (3.0 – 8.0)	10.0 (3.6 – 11.2)	12.9 (4.7 – 15.0)	15.0 (4.4 – 17.8)	20.0 (9.3 – 23.5)	24.5 (8.6 – 29.0)	
COP <sup>2</sup>		3.83	4.03	3.88	4.02	3.50	4.43	3.57	

Water Flow Nominal (min-max)	(m <sup>3</sup> /hr)	0.9 (0.5 – 2.2)	1.3 (0.9 – 2.6)	1.7 (1.0 – 3.3)	2.1 (1.1 – 3.6)	2.4 (1.2 – 3.6)	3.4 (2.0 – 4.7)	4.1 (2.2 – 4.8)
Water Volume (minimum installation)	(l)	28	28	38	46	55	76	92
Sound Pressure level	dB(A)	26	27	28	28	28	29	29
Dimensions H x W x D	(mm)	890 x 520 x 360						
Weight	(Kg)	55	56	59	61	61	81	85
Power Supply		1Ph 220-240V 50Hz			1Ph 220-240V 50Hz or 3Ph 380-415V 50Hz		3Ph 380-415V 50Hz	
Running Current	(A)	13.3	13.5	26.7 / 9.3	26.7 / 9.3	26.7 / 9.3	- / 14.1	- / 14.2
Recommended Fuse Size (10/30)	(A)	20	20	40 / 16	40 / 16	40 / 16	- / 20	- / 20

Sound Pressure level (Set Back)	dB(A)	45 (43)	42 (38)	44 (40)	46 (42)	48 (45)	52 (50)	55 (53)
Dimensions H x W x D	(mm)	600 x 792 x 300	800 x 950 x 370	1380 x 950 x 370			1650 x 1100 x 390	
Weight	(Kg)	42	67	107	108	108	170	170
Operating Range	(°C)	Heating (-20 – 35)°C wb / Cooling (10 – 46)°C db						
Refrigerant Piping	Liquid (mm (in))	6.35(1/4)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)*	12.70(1/2)*
	Gas (mm (in))	12.7(1/2)	15.88(5/8)	15.88(5/8)	15.88(5/8)	15.88(5/8)	28.6(1 1/8)*	28.6(1 1/8)*
Piping Lengths	Length (m)	30	30	30	30	30	30	30
	Lift (l/U/OU) (m)	30 / (20)	30 / (20)	30 / (20)	30 / (20)	30 / (20)	30 / (20)	30 / (20)
Power Supply		1Ph 220-240V 50Hz			1Ph 220-240V 50Hz or 3Ph 380-415V 50Hz		3Ph 380-415V 50Hz	
Starting Current	(A)	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Running Current (10/30)	Cooling (A)	5.2	8.2	9.8 / 3.3	12.8 / 4.3	17.2 / 5.7	5.7	8.4
	Heating (A)	4.1	6.8	9.2 / 3.0	11.6 / 3.9	14.5 / 4.8	6.3	8.0
Recommended Fuse Size (10/30)	(A)	16 / -	25 / -	20 / 16	32 / 16	32 / 16	- / 16	- / 20

### Yutaki-S80

A split system able to generate water up to 80°C.

- Split air-to-water heat pump comprising indoor and separate outdoor unit
- Domestic hot water and multiple heating/cooling settings – ideal boiler replacement technology
- Capacities from 10kW to 16kW
- Optional 190 or 255-litre DHW tank
- Easy to install, operate and service
- Hot water recovery time same as a DHW boiler
- Smart Cascade system for outstanding seasonal energy efficiency
- Solar integration
- Weather Compensation Control
- Generate water up to 80°C
- DHW Legionella Protection Program.



Yutaki-S80 (Preliminary Data)	Connectable Outdoor Unit	Outdoor 10	RWH 4FS(V)NFE	RWH 5FS(V)NFE	RWH 6FS(V)NFE
		Outdoor 30	RAS 4HRNME-AF	RAS 5HRNME-AF	RAS 6HRNME-AF
HEATING CAPACITY	Capacity <sup>1</sup> (kW)	Water 30/35°C Air 7/6°C	10.0 (4.4 – 12.0)	12.0 (5.6 – 15.0)	14.0 (6.4 – 17.0)
	COP <sup>2</sup>		4.31	4.27	4.05
	Capacity <sup>1</sup> (kW)	Water 40/45°C Air 7/6°C	10.0 (4.4 – 12.0)	12.0 (5.6 – 15.0)	14.0 (6.4 – 17.0)
	COP <sup>2</sup>		3.35	3.22	3.13
	Capacity <sup>1</sup> (kW)	Water +/35°C Air -7/-8°C	10.0 (tbc – 11.0)	12.0 (tbc – 14.0)	14.0 (tbc – 16.0)
	COP <sup>2</sup>		2.42	2.40	2.35
Capacity <sup>1</sup> (kW)	Water +/45°C Air -7/-8°C	10.0 (tbc – 11.0)	12.0 (tbc – 14.0)	14.0 (tbc – 16.0)	
COP <sup>2</sup>		2.30	2.30	2.25	

Water Flow Nominal (min-max)	(m <sup>3</sup> /hr)	1.7 (tbc – tbc)	2.1 (tbc – tbc)	2.4 (tbc – tbc)
Sound Pressure level	dB(A)	tbc	tbc	tbc
Dimensions H x W x D	(mm)	706 x 595 x 695		
Weight	(Kg)	157	162	162
Power Supply		1Ph 220-240V 50Hz or 3Ph 380-415V 50Hz		
Running Current (10/30)	(A)	tbc / tbc	tbc / tbc	tbc / tbc
Recommended Fuse Size (10/30)	(A)	tbc / tbc	tbc / tbc	tbc / tbc

Sound Pressure level (Set Back)	dB(A)	44 (40)	46 (42)	48 (45)
Dimensions H x W x D	(mm)	1380 x 950 x 370		
Weight	(Kg)	107	108	108
Operating Range	(°C)	(-20 – 35)°C wb		
Refrigerant Piping	Liquid (mm (in))	9.52(3/8)	9.52(3/8)	9.52(3/8)
	Gas (mm (in))	15.88(5/8)	15.88(5/8)	15.88(5/8)
Piping Lengths	Length (m)	30	30	30
	Lift (l/U/OU) (m)	30 / (20)	30 / (20)	30 / (20)
Power Supply		1Ph 220-240V 50Hz or 3Ph 380-415V 50Hz		
Starting Current	(A)	< 10	< 10	< 10
Running Current (10/30)	(A)	9.2 / 3.0	11.6 / 3.9	14.5 / 4.8
Recommended Fuse Size (10/30)	(A)	20 / 16	32 / 16	32 / 16

Yutaki-S80 preliminary data

Domestic Hot Water Tank		DHWS 190S-2.0H1E	DHWS 255S-2.0H1E
		Water Volume	(L)
Maximum Tank Temperature	(°C)	99°C	
Tank Heat Loss	(kW/dia)	tbc	tbc
Heat Exchanger	(m <sup>2</sup> )	1.4	
Boost Heater	(kW)	2.0	
Dimensions (HxWxD)	(mm)	1,272 x 595 x 600	1,602 x 595 x 600
Weight	(Kg)	72	87
Piping Connections - Domestic Water In		G 3/4" (male)	
Piping Connections - Domestic Water Out		G 3/4" (male)	
Piping Connections - Coil In		G 3/4" (male)	
Piping Connections - Coil Out		G 3/4" (male)	
Power Supply		1Ph 220-240V 50Hz	
Running Current	(A)	tbc	tbc
Recommended Fuse Size	(A)	tbc	tbc

Yutaki-S80 preliminary data