

Estia Air-to-Water Heat Pumps

Estia - Toshiba's advanced air-to-water heat pump solution - uses patented innovative technologies that take advantage of renewable energy of its surroundings to heat water for usage as residential space heating and as a hot water supply. Estia is suited for both new homes as well as renovations. Estia replaces or complements traditional boilers used for heated floors, space heating radiators as well as hot water supply for domestic use. An advanced heating and cooling system of the future, Estia reduces running costs while contributing to reduction of CO₂ emissions by using renewable energy.

FEATURES

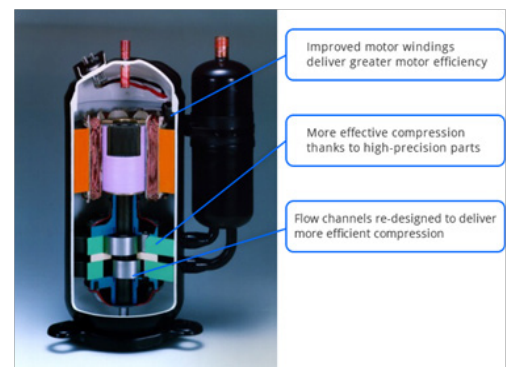
World-leading energy efficiency - COP of 4.88 (for 11 kW model)

With its best-in-class COP performance, the Estia air-to-water heat pump system delivers more heating power with less energy consumption. Estia uses high-quality components and material which contribute to the overall saving in energy consumption.

With the Toshiba advanced inverter, Estia air-to-water heat pump system only delivers the heating capacity required, thus consuming only the necessary electricity.

Toshiba advanced technology

Toshiba inverter uses the new, vector-controlled, Intelligent Power Drive Unit, which enables a wider range of frequencies and voltages. The Toshiba DC twin-rotary compressor has a large capacity range operation, with an effective system of power limitation, which reduces the power consumption. Performance is further improved by the high-speed converter circuit which calculates and optimises the power supply to the compressor.

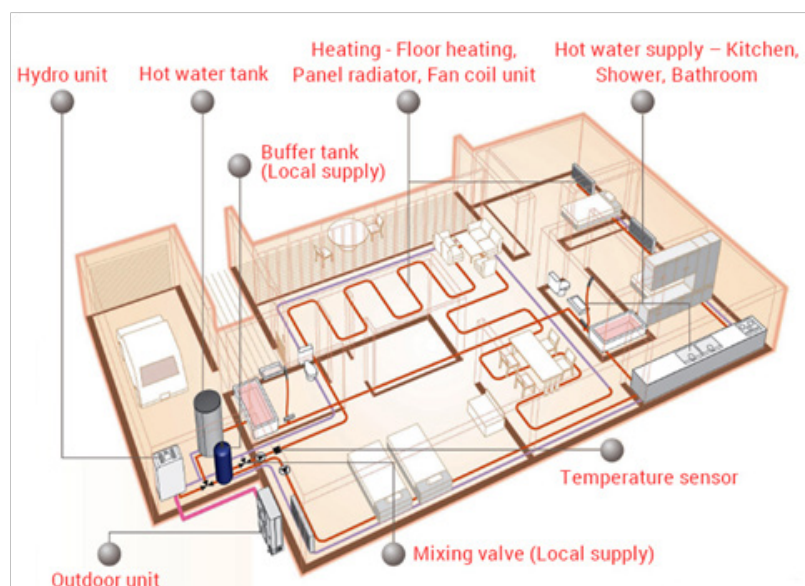


Environmentally conscious

The use of Toshiba's Estia heat pump contributes to the reduction of global CO₂ emissions in the atmosphere and limits the use of fossil fuels or other non-renewable energy primary sources. Whenever required for maintenance purposes, the entire R410A refrigerant (non-ozone depleting) can be completely sucked back to the outdoor unit through the powerful embedded Toshiba "pump down" operation.

One system, multiple solutions

Estia heat pump system can be used in combination with different types of emitters: existing heating low temperature radiators, floor heating or fan coil units.





Standard Type

Outdoor unit

Toshiba has long-term experience of successes in air-to-air heat pump production. The same reliable and award-winning technology is at the core of the new air-to-water heat pumps, above all the advanced inverter technology and the DC twin-rotary compressor. Estia heat pumps operate with the reliable and safe R410A refrigerant.



Hydro unit

The high-efficiency plate heat exchanger receives the optimum quantity of refrigerant to produce hot water at low or medium temperature (20-55°C) or cold water (10-20°C). A back-up heater (3, 6 or 9 kW options) further supports the operation for extreme conditions. The hydro unit integrates the advanced control of water temperature to allow an optimised distribution to emitters and to the domestic hot water tank.



Hot water tank

The Estia tank is a compact stainless steel insulated tank producing domestic hot water for sanitary use. The performance of the overall system is also maximised thanks to the integrated coaxial heat exchanger which uses hot water produced by the heat pump (whenever energy-efficient and possible). With the optimised control logic, whenever additional hot water is needed, an internal electric heater is activated. This solution reduces running cost and guarantees a constant level hot water temperature.



Three storage capacities (150, 210 or 300 litres) meet any household requirements.

Controller with weekly timer

This controls the distribution of hot water for up to 2 zones and to the hot water tank. The built-in software logic collects the signals from the sensors, regulates the water temperature and optimises the system's energy consumption. In addition, the anti-bacteria control routinely increases the temperature in the hot water tank. The easy-to-use remote control is conveniently attached to the hydro unit. With its large and detailed display it is possible to visualise and set all the major operating parameters and also program the weekly timer.



Powerful Type (8 kW-11 kW)

For cold climate areas and higher water temperature needs

- Leaving water temperature 60°C is achievable down to -5°C*
- Expanded operation outdoor temperature down to -25°C**
- Maintain the rated capacity down to -15°C

* The water temperature might not reach to 60°C depending on the contribution such as the low water flow.

** As it is possible that the system does not start at -25°C ambient, the main power supply should be turned on prior to start of operation.



Estia Air-to-Water Heat Pump Split System Overview

Nominal Cooling Capacity	kW	4.5	7.0	10.0	12.5	14.0	18.0
Nominal Heating Capacity	kW	4.5	8.0	11.2	14.0	16.0	21.0
	hp	2	3	4	5	6	8

Estia Standard Air-to-Water Heat Pump	Outdoor Unit		1 phase	HWS-455H-E	HWS-805H-E	HWS-1105H-E	HWS-1405H-E		
			3 phase			HWS-1105H8-E	HWS-1405H8-E	HWS-1605H8-E	
	Indoor Hydro Unit		1 phase	HWS-455XWHM3-E	HWS-805XWHM3-E	HWS-1405XWHM3-E	HWS-1405XWHM3-E	HWS-1405XWHM3-E	
			3 phase		HWS-805XWHT6-E	HWS-1405XWHT6-E	HWS-1405XWHT6-E	HWS-1405XWHT6-E	
			3 phase			HWS-1405XWHT9-E	HWS-1405XWHT9-E	HWS-1405XWHT9-E	
	Domestic Hot Water Tank		1 phase	HWS-1501CSHM3-UK	HWS-1501CSHM3-UK	HWS-1501CSHM3-UK	HWS-1501CSHM3-UK	HWS-1501CSHM3-UK	
				HWS-2101CSHM3-UK	HWS-2101CSHM3-UK	HWS-2101CSHM3-UK	HWS-2101CSHM3-UK	HWS-2101CSHM3-UK	
				HWS-3001CSHM3-UK	HWS-3001CSHM3-UK	HWS-3001CSHM3-UK	HWS-3001CSHM3-UK	HWS-3001CSHM3-UK	
	Estia Powerful Air-to-Water Heat Pump	Outdoor Unit		1 phase		HWS-P805HR-E	HWS-P1105HR-E		
Indoor Hydro Unit			1 phase		HWS-P805XWHM3-E	HWS-P1105XWHM3-E			
				3 phase		HWS-P805XWHT6-E	HWS-P1105XWHT6-E		
						HWS-P805XWHT9-E	HWS-P1105XWHT9-E		
Domestic Hot Water Tank			1 phase		HWS-1501CSHM3-UK	HWS-1501CSHM3-UK			
				HWS-2101CSHM3-UK	HWS-2101CSHM3-UK				
				HWS-3001CSHM3-UK	HWS-3001CSHM3-UK				
Estia Monobloc Air-to-Water Heat Pump	Outdoor Unit		3 phase					RUA-CP1701H8-E	RUA-CP2101H8-E
			3 phase					RUA-CP1701H8Z-E	RUA-CP2101H8Z-E



Estia Air-to-Water Heat Pump

CODE		45	80	110	140	110	140	160	
Outdoor Unit		HWS-	455H-E	805H-E	1105H-E	1405H-E	1105H8-E	1405H8-E	1605H8-E
Nominal ¹	Heating Capacity	kW	4.5	8.0	11.2	14.0	11.2	14.0	16.0
	Seasonal Space Heating Energy Efficiency (ηs)	WT° 35°C	167%	161%	163%	161%	159%	157%	159%
	Seasonal Space Heating Energy Efficiency (SCOP)	WT° 35°C	4.3	4.1	4.2	4.1	4.1	4.0	4.1
Operating Range ⁵	Temperature Hydro/Outdoor	°C	5 to 32/-20 to 43	5 to 32/-20 to 43	5 to 32/-20 to 43	5 to 32/-20 to 43	5 to 32/-20 to 43	5 to 32/-20 to 43	5 to 32/-20 to 43
	Humidity Hydro/Outdoor	%	15 to 85/15 to 100	15 to 85/15 to 100	15 to 85/15 to 100	15 to 85/15 to 100	15 to 85/15 to 100	15 to 85/15 to 100	15 to 85/15 to 100
Heating Condition ¹¹	LWT=35°C DT=5°C Input Power/COP	kW	0.92/4.90	1.79/4.46	2.30/4.88	3.11/4.50	2.34/4.80	3.16/4.44	3.72/4.30
	LWT=35°C DT=5°C Rated Water Flow	l/m	12.9	22.9	32.1	40.1	32.1	40.1	45.8
Sound ²	Sound Pressure Hydro/Outdoor	dB(A)	27/50	27/49	27/51	29/53	27/51	29/53	29/54
	Sound Power Hydro/Outdoor	dB(A)	41/65	41/64	43/66	43/68	43/66	43/68	43/69
Unit	Height x Width x Depth	mm	630 x 800 x 300	890 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320
	Weight	kg	42	63	92	92	92	92	92
	Refrigerant Charge Amount/Chargeless to	kg/m	1.15/15	1.8/30	2.7/30	2.7/30	2.7/30	2.7/30	2.7/30
Air Flow	Standard	l/s	667	833	1,717	1,717	1,717	1,717	1,717
	Standard	m³/h	2400	3000	6180	6180	6180	6180	6180
Pipe Connection	Flare Connections (gas - liquid)	inch	1/4 - 1/2	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8
	Drain Port Connection	mm	16	16	16	16	16	16	16
	Min.-Max. Length	m	May-15	5-30	5-30	5-30	5-30	5-30	5-30
	Maximum Height Difference	m	±10	±30	±30	±30	±30	±30	±30
Electrical ¹¹	Hydro Unit Run Current Heating	A	0.44	0.44	0.66	0.66	0.66	0.66	0.66
	Hydro Unit Power Input Heating	kW	0.06	0.06	0.09	0.09	0.09	0.09	0.09
	Outdoor Unit Run Current Heating	A	4.56	7.97	10.08	13.74	3.73	5.01	5.94
	Outdoor Unit Power Input Heating	kW	0.86	1.73	2.21	3.02	2.25	3.07	3.63
	Total Run Current Heating	A	5.00	8.41	10.74	14.40	4.39	5.67	6.60
	Power Supply	V/ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	380-415/3/50	380-415/3/50	380-415/3/50
	Wiring Connection Power To Outdoor Unit		2 core + earth	2 core + earth	2 core + earth	2 core + earth	2 core + earth	2 core + earth	2 core + earth
	Power Cable From Outdoor To Hydro Unit		3 core + earth	3 core + earth	3 core + earth	3 core + earth	3 core + earth	3 core + earth	3 core + earth
Suggested Fused Supply	A	10	20	20	25	10	16	16	

DOMESTIC HOT WATER TANK		HWS-	1501CSHM3-UK	2101CSHM3-UK	3001CSHM3-UK
Water	Volume	litres	150	210	300
	Maximum Temperature	°C	75	75	75
Operating Range	Standing Heat Loss	kWh/day	1.45	1.91	2.52
	Maximum Water Supply Pressure To PRV	mPa - bar	1.6 - 16.0	1.6 - 16.0	1.6 - 16.0
	Operating Pressure Of Unit	mPa - bar	0.35 - 3.5	0.35 - 3.5	0.35 - 3.5
	Expansion Vessel Charge Pressure	mPa - bar	0.35 - 3.5	0.35 - 3.5	0.35 - 3.5
	Expansion Valve Setting	mPa - bar	0.6 - 6.0	0.6 - 6.0	0.6 - 6.0
	Max. Primary Working Pressure	mPa - bar	0.3 - 3.0	0.3 - 3.0	0.3 - 3.0
	Opening Temperature of T&P Relief Valve	°C	90	90	90
	Opening Pressure of T&P Relief Valve	mPa - bar	1.0 - 10	1.0 - 10	1.0 - 10
Unit	Material		Stainless steel	Stainless steel	Stainless steel
	Nominal Storage Capacity Of Units	litres - kg	150 - 181	210 - 251	300 - 360
	Insulation		Polyurethane foam	Polyurethane foam	Polyurethane foam
	Height - Diameter	mm	1090 - 550	1474 - 550	2040 - 550
Electrical	Weight Net	kg	31	41	60
	Heater	kW	2.75	2.75	2.75
	Power Supply	V/ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50
	Suggested Fused Supply	A	16	16	16



Estia Air-to-Water Heat Pump (continued)

HYDRO UNIT		HWS-	455XWHM3-E	805XWHM3-E	805XWHT6-E	805XWHT9-E	1405XWHM3-E	1405XWHT6-E	1405XWHT9-E
Heat Exchanger	Type		Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate
Water	Operation Temperature Range Heating	°C	20~55	20~55	20~55	20~55	20~55	20~55	20~55
	Piping Maximum Length/Minimum Flow Rate	m/l/m	None/13+	None/13+	None/13+	None/13+	None/17.5+	None/17.5+	None/17.5+
	Piping Maximum Height Difference	m	±7	±7	±7	±7	±7	±7	±7
	Piping Maximum Working Pressure ⁴	kPa	300	300	300	300	300	300	300
	Heat Exchanger Volume	litres	0.67	0.67	0.67	0.67	1.18	1.18	1.18
	Heat Exchanger Minimum Flow Rate	l/m	13.0	13.0	13.0	13.0	17.5	17.5	17.5
Circulating Pump	Type		Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
	Maximum Motor Output	W	125	125	125	125	190	190	190
	Flow Rate	l/m	12.9	22.9	22.9	22.9	32.1/40.1/45.8	32.1/40.1/45.8	32.1/40.1/45.8
	Power Input	W	48	48	48	48	87	87	87
	Delivery Head	m	6.3	6.3	6.3	6.3	8.8	8.8	8.8
	Expansion Vessel Volume	litres	12	12	12	12	12	12	12
	Expansion Vessel Initial Pressure	mPa - Bar	0.1 - 1	0.1 - 1	0.1 - 1	0.1 - 1	0.1 - 1	0.1 - 1	0.1 - 1
	Pressure Relief Valve Operating Pressure	mPa - Bar	0.3 - 3	0.3 - 3	0.3 - 3	0.3 - 3	0.3 - 3	0.3 - 3	0.3 - 3
Sound ²	Pressure Level	dB(A)	27	27	27	27	29	29	29
	Water Pipe Outlet/Inlet	mm	R1-1/4	R1-1/4	R1-1/4	R1-1/4	R1-1/4	R1-1/4	R1-1/4
Pipe Connection	Refrigerant Piping (gas - liquid)	inch	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8
	Drain Port Hose Inner Diameter	mm	16	16	16	16	16	16	16
Unit	Height x Width x Depth	mm	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355
	Weight	kg	49	49	49	49	54	54	54
	Back Up Heater Power Supply	V/ph/Hz	220-240/1/50	220-240/1/50	380-415/3/50	380-415/3/50	220-240/1/50	380-415/3/50	380-415/3/50
	Back Up Heater Power/Maximum Current	A	3/13	3/13	6/13 (13A x 2P)	9/13 (13A x 3P)	3/13	6/13 (13A x 2P)	9/13 (13A x 3P)
	Hot Water Cylinder Heater Power Supply	V/ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
	Hot Water Cylinder Heater Maximum Current	A	12.0	12.0	12.0	12.0	12.0	12.0	12.0
	Remote Controller Standard Model ³		HWS-AMS54E	HWS-AMS54E	HWS-AMS54E	HWS-AMS54E	HWS-AMS54E	HWS-AMS54E	HWS-AMS54E

Note: System retail price excludes domestic hot water tank.

Accessories

HWS-AMS54E	Remote Controller Built-In Timer	Full control including service functions with fully-programmable 7-day timer
TCB-PCMO3E	Input Signal PC Board	Estia room thermostat, emergency stop input signal
TCB-PCIN3E	Output PCB	Interface provides an output for fault and run

Note: The electric heater, incorporated in the hot water cylinder, requires separate supply to hydro unit.

¹ Heating performance measurement conditions: outside air temperature 7°C, water supply temperature 30°C, outlet temperature 35°C, refrigerant piping length 7.5 m (no height difference).

² The outdoor unit operating noise is measured at the point of 1 m away from the unit back surface centre and 1 m high from the ground. The hydro unit operating noise is measured at the point of 1 m away from the unit front surface centre. The value of the operating noise varies depending on room structure where the unit is installed.

³ The remote controller is shipped with the hydro unit. Use two 1.5 m wires to connect the hydro unit with the remote controller.

⁴ Check the water piping for leakage under the maximum operating pressure.

⁵ Do not leave the hydro unit at 5°C or below.



Estia Air-to-Water Heat Pump Powerful

CODE		80	110	
Outdoor Unit		HWS-	P805HR-E	P1105HR-E
Nominal ¹	Heating Capacity	kW	8.0	11.2
	Seasonal space heating energy efficiency (η _s)	WT° 35°C	157%	175%
	Seasonal space heating energy efficiency (SCOP)	WT° 35°C	4.0	4.5
Operating Range ⁵	Temperature Hydro/Outdoor	°C	5 to 32/-25 to 43	5 to 32/-25 to 43
	Humidity Hydro/Outdoor	%	15 to 85/15 to 100	15 to 85/15 to 100
Heating Condition ¹¹	LWT=35°C DT=5°C Input Power/COP	kW	1.68/4.76	2.30/4.88
	LWT=35°C DT=5°C Rated Water Flow	l/m	22.9	32.1
Sound ²	Sound Pressure Hydro/Outdoor	dB(A)	27/51	29/51
	Sound Power Hydro/Outdoor	dB(A)	41/66	43/66
Unit	Height x Width x Depth	mm	1340 x 900 x 320	1340 x 900 x 320
	Weight	kg	92	92
	Refrigerant Charge Amount/Chargeless to	kg/m	2.7/30	2.7/30
Air Flow	Standard	l/s	1,717	1,717
	Standard	m ³ /h	6180	6180
Pipe Connection	Flare Connections (gas - liquid)	inch	5/8 - 3/8	5/8 - 3/8
	Drain Port Connection	mm	16	16
	Min.-Max. Length	m	5-30	5-30
	Maximum Height Difference	m	±30	±30
Electrical ¹¹	Hydro Unit Run Current Heating	A	0.44	0.66
	Hydro Unit Power Input Heating	kW	0.06	0.09
	Outdoor Unit Run Current Heating	A	7.57	10.33
	Outdoor Unit Power Input Heating	kW	1.62	2.21
	Total Run Current Heating	A	8.01	10.99
	Power Supply	V/ph/Hz	220-240/1/50	220-240/1/50
	Wiring Connection Power To Outdoor Unit		2 core + earth	2 core + earth
	Power Cable From Outdoor To Hydro Unit		3 core + earth	3 core + earth
	Suggested Fused Supply	A	20	20

DOMESTIC HOT WATER TANK		HWS-	1501CSHM3-UK	2101CSHM3-UK	3001CSHM3-UK
Water	Volume	litres	150	210	300
	Maximum Temperature	°C	75	75	75
Operating Range	Standing Heat Loss	kWh/day	1.45	1.91	2.52
	Maximum Water Supply Pressure To PRV	mPa - bar	1.6 - 16.0	1.6 - 16.0	1.6 - 16.0
	Operating Pressure Of Unit	mPa - bar	0.35 - 3.5	0.35 - 3.5	0.35 - 3.5
	Expansion Vessel Charge Pressure	mPa - bar	0.35 - 3.5	0.35 - 3.5	0.35 - 3.5
	Expansion Valve Setting	mPa - bar	0.6 - 6.0	0.6 - 6.0	0.6 - 6.0
	Max. Primary Working Pressure	mPa - bar	0.3 - 3.0	0.3 - 3.0	0.3 - 3.0
	Opening Temperature Of T&P Relief Valve	°C	90	90	90
	Opening Pressure Of T&P Relief Valve	mPa - bar	1.0 - 10	1.0 - 10	1.0 - 10
Unit	Material		Stainless steel	Stainless steel	Stainless steel
	Nominal Storage Capacity Of Units	litres - kg	150 - 181	210 - 251	300 - 360
	Insulation		Polyurethane foam	Polyurethane foam	Polyurethane foam
	Height - Diameter	mm	1090 - 550	1474 - 550	2040 - 550
Electrical	Weight Net	kg	31	41	60
	Heater	kW	2.75	2.75	2.75
	Power Supply	V/ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50
	Suggested Fused Supply	A	16	16	16



Estia Air-to-Water Heat Pump Powerful (continued)

HYDRO UNIT		HWS-	P805XWHM3-E	P805XWHT6-E	P805XWHT9-E	P1105XWHM3-E	P1105XWHT6-E	P1105XWHT9-E	
Heat Exchanger	Type		Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	Brazed plate	
Water	Operation Temperature Range Heating	°C	20 ~ 60	20 ~ 60	20 ~ 60	20 ~ 60	20 ~ 60	20 ~ 60	
	Piping Maximum Length/Minimum Flow Rate	m/l/m	None/13+	None/13+	None/13+	None/13+	None/13+	None/13+	
	Piping Maximum Height Difference	m	±7	±7	±7	±7	±7	±7	
	Piping Maximum Working Pressure ⁴	kPa	300	300	300	300	300	300	
	Heat Exchanger Volume	litres	0.67	0.67	0.67	1.18	1.18	1.18	
	Heat Exchanger Minimum Flow Rate	l/m	13	13	13	17.5	17.5	17.5	
	Circulating Pump	Type		Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Maximum Motor Output		W	125	125	125	190	190	190	
Flow Rate		l/m	22.9	22.9	22.9	32.1	32.1	32.1	
Power Input		W	48	48	48	87	87	87	
Delivery Head		m	6.3	6.3	6.3	8.8	8.8	8.8	
Expansion Vessel Volume		litres	12	12	12	12	12	12	
Expansion Vessel Initial Pressure		mPa - Bar	0.1 - 1	0.1 - 1	0.1 - 1	0.1 - 1	0.1 - 1	0.1 - 1	
Pressure Relief Valve Operating Pressure		mPa - Bar	0.3 - 3	0.3 - 3	0.3 - 3	0.3 - 3	0.3 - 3	0.3 - 3	
Sound ²		Pressure Level	dB(A)	27	27	27	29	29	29
Pipe Connection		Water Pipe Outlet/Inlet	mm	R1-1/4	R1-1/4	R1-1/4	R1-1/4	R1-1/4	R1-1/4
	Refrigerant Piping (gas - liquid)	inch	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8	5/8 - 3/8	
	Drain Port Hose Inner Diameter	mm	16	16	16	16	16	16	
Unit	Height x Width x Depth	mm	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	925 x 525 x 355	
	Weight	kg	49	49	49	52	52	52	
	Back Up Heater Power Supply	V/ph/Hz	220-240/1/50	380-415/3/50	380-415/3/50	220-240/1/50	380-415/3/50	380-415/3/50	
	Back Up Heater Power/Maximum Current	A	3/13	6/13 (13A x 2P)	9/13 (13A x 3P)	3/13	6/13 (13A x 2P)	9/13 (13A x 3P)	
	Hot Water Cylinder Heater Power Supply	V/ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	
	Hot Water Cylinder Heater Maximum Current	A	12.0	12.0	12.0	12.0	12.0	12.0	
	Remote Controller Standard Model ³		HWS-AMS54E	HWS-AMS54E	HWS-AMS54E	HWS-AMS54E	HWS-AMS54E	HWS-AMS54E	

Note: System retail price excludes domestic hot water tank.

Accessories

HWS-AMS54E	Remote Controller Built-In Timer	Full control including service functions with fully-programmable 7-day timer
TCB-PCMO3E	Input Signal PC Board	Estia room thermostat, emergency stop input signal
TCB-PCIN3E	Output PCB	Interface provides an output for fault and run

Note: The electric heater, incorporated in the hot water cylinder, requires separate supply to hydro unit.

¹ Heating performance measurement conditions: outside air temperature 7°C, water supply temperature 30°C, outlet temperature 35°C, refrigerant piping length 7.5 m (no height difference).

² The outdoor unit operating noise is measured at the point of 1 m away from the unit back surface centre and 1 m high from the ground. The hydro unit operating noise is measured at the point of 1 m away from the unit front surface centre. The value of the operating noise varies depending on room structure where the unit is installed.

³ The remote controller is shipped with the hydro unit. Use two 1.5 m wires to connect the hydro unit with the remote controller.

⁴ Check the water piping for leakage under the maximum operating pressure.

⁵ Do not leave the hydro unit at 5°C or below.



Estia Air-to-Water Heat Pump Monobloc

CODE			170	210
Outdoor Unit		RUA-	CP1701H8-E	CP2101H8-E
Nominal	Cooling Capacity	kW	14.9	18.6
	Heating Capacity	kW	17.1	21.1
	Seasonal space heating energy efficiency (ηs)	WT° 35°C	144%	140%
	Seasonal space heating energy efficiency (SCOP)	WT° 35°C	3.68	3.56
Operating Range	Temperature Outdoor Cooling/Heating	°C	0~46/-20~30	0~46/-20~30
	Temperature Storage	°C	-20~48	-20~48
Cooling Condition	LWT=7°C DT=5°C Input Power/EER	kW	5.0/3.0	6.0/3.1
	LWT=7°C DT=5°C Rated Water Flow	l/m	0.83	1.01
Heating Condition	LWT=35°C DT=5°C Input Power/COP	kW	4.2/4.1	5.2/4.1
	LWT=35°C DT=5°C Rated Water Flow	l/m	0.71	0.89
Sound	Sound Pressure Hydro/Outdoor	dB(A)	40	43
	Sound Power Hydro/Outdoor	dB(A)	71	74
Unit	Height x Width x Depth	mm	1579 x 1141 x 584	1579 x 1141 x 584
	Weight	kg	191	199
	Refrigerant Charge Amount	kg/m	8.0	8.0
Air Flow	Standard	l/s	2000	2400
	Standard	m³/h	7200	8640
Heat Exchanger	Type		Brazed plate	Brazed plate
Water	Operation Temp. Range Cooling Min. - Max.	°C	5 - 18	5 - 18
	Limits at Start-up Cooling Min. - Max.	°C	6 - 30	6 - 30
	Operation Temp. Range Heating Min. - Max.	°C	20 - 60	20 - 57
	Limits at Start-up Heating Min. - Max.	°C	10 - 45	10 - 45
	Heat Exchanger Volume	litres	1.52	1.90
	Expansion Vessel Volume	litres	8	8
	Expansion Vessel Initial Pressure	mPa - Bar	0.1 - 1	0.1 - 1
	Pressure Relief Valve Operating Pressure	mPa - Bar	0.3 - 3	0.3 - 3
Circulating Pump	Type		Centrifugal	Centrifugal
	Maximum Motor Input	W	310	310
	Min./Max. Flow Rate	l/s	0.45/1.2	0.57/1.2
	Min.Max. Pump Suction Pressure	kPa	40/300	40/300
Sound	Sound Pressure Level at 10 m	dB(A)	40	43
	Sound Power Level	dB(A)	71	74
Pipe Connection	Water Pipe Outlet/Inlet	inch	1/1-1/4	1/1-1/4
Electrical	Total Running Current	A	16.7	19.1
	Power Supply	V/ph/Hz	360-440/3/50	360-440/3/50
	Wiring Connection Power To Outdoor Unit		3 core + earth	3 core + earth
	Suggested Fused Supply	A	25	25
Remote Controller	Height x Width x Depth		88 x 90 x 16	88 x 90 x 16
	(option accessory)		RBP-AMT11E	RBP-AMT11E

Accessories

RBP-AMT11E	Wired remote controller	Additional wired remote controller
RBP-RTMS1MNR-E	Header/Follower (up to 2 units) sensor	Enables header/follower operation for two units connected in parallel
RBP-RTDH1MNR-E	Domestic hot water sensor	Required for DHW production
RBP-RTAM1MNR-E	Additional outdoor ambient temperature sensor	Increases measurement accuracy of the outdoor air temperature
BacNet	Communications Interface	Network communications
Lontalk	Communications Interface	Network communications

DOMESTIC HOT WATER TANK		HWS-	1501CSHM3-UK	2101CSHM3-UK	3001CSHM3-UK
Water	Volume	litres	150	210	300
	Maximum Temperature	°C	75	75	75
Operating Range	Standing Heat Loss	kWh/day	1.45	1.91	2.52
	Maximum Water Supply Pressure To PRV	mPa - bar	1.6 - 16.0	1.6 - 16.0	1.6 - 16.0
	Operating Pressure Of Unit	mPa - bar	0.35 - 3.5	0.35 - 3.5	0.35 - 3.5
	Expansion Vessel Charge Pressure	mPa - bar	0.35 - 3.5	0.35 - 3.5	0.35 - 3.5
	Expansion Valve Setting	mPa - bar	0.6 - 6.0	0.6 - 6.0	0.6 - 6.0
	Max. Primary Working Pressure	mPa - bar	0.3 - 3.0	0.3 - 3.0	0.3 - 3.0
	Opening Temperature Of T&P Relief Valve	°C	90	90	90
	Opening Pressure Of T&P Relief Valve	mPa - bar	1.0 - 10	1.0 - 10	1.0 - 10
Unit	Material		Stainless steel	Stainless steel	Stainless steel
	Nominal Storage Capacity Of Units	litres - kg	150 - 181	210 - 251	300 - 360
	Insulation		Polyurethane foam	Polyurethane foam	Polyurethane foam
	Height - Diameter	mm	1090 - 550	1474 - 550	2040 - 550
Electrical	Weight Net	kg	31	41	60
	Heater	kW	2.75	2.75	2.75
	Power Supply	V/ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50
	Suggested Fused Supply	A	16	16	16

