

AIR-TO-WATER HEAT PUMP SPLIT SYSTEM

HWS-



● MADE IN JAPAN



55 °C



Do you want a versatile solution to make significant savings?

NEW COMPACT & HIGH QUALITY OF 4.5KW IN ESTIA SERIES 5 (VERY SUIT FOR RECENT WELL-SEALED OR SMALL RESIDENCE)

Toshiba ESTIA & ESTIA Powerful series 5 air-to-water heat pumps are the ideal compact solution for delivering the right temperature. An advanced heating and cooling system of the future, all whilst respecting the environment and ensuring significant energy savings.

ENERGY SAVINGS AND PROTECTION OF THE ENVIRONMENT

The European Union commitment to a 20% reduction in CO₂ emissions by 2020 has highlighted heating and domestic hot water production as a way of meeting this target.

Air-to-water heat pumps are considered renewable energy technology, the ideal solutions for space heating, hot water production, and cooling in warmer months — all whilst respecting the environment and ensuring significant energy savings for the end user.

BEST-IN CLASS PERFORMANCES EVEN AT VERY LOW AMBIENT TEMPERATURE

Both versions of the ESTIA offer outstanding levels of performance, even when outdoor temperatures are very low. This new technology allows the ESTIA to offer greater energy savings, with one of the best part load energy efficiency levels offered on the heat pump market.

ESTIA FOR INNOVATION, CONTROL AND EXCELLENCE

The ESTIA can be connected to either a traditional room thermostat, or the latest generation of connected home thermostat in the market, enabling it to be controlled remotely by smartphone, tablet or PC.

HIGHLY ADAPTABLE AND FLEXIBLE

The ESTIA is able to either replace or complement a traditional boiler and is perfect both for new-builds (standard version) and for renovation projects (powerful version).

FEATURES

- Inverter and Compressor Control
 - » Smooth Compressor Operation
- High Efficiency Propeller Fan
 - » Improve the efficiency of air flow due to reduce the electrical power for air flow
- Twin-rotary compressor
 - » Improved the efficiency via developed new motor and compression unit
 - » Improved system efficiency through less discharged oil in refrigeration circuit

TOSHIBA

PERFORMANCE DATA



Outdoor unit

Hydro unit combination

HWS-	455H-E	805H-E	1105H-E	1105H8(R)-E	1405H-E	1405H8(R)-E	1605H8(R)-E
HWS-	455XWHM3-E	805XWH**E	1405XWH**E	1405XWH**E	1405XWH**E	1405XWH**E	1405XWH**E

Air T° Water T°

UNDER FLOOR HEATING

Max heating capacity	+7°C	35°C	kW	H	6,83	8,52	14,63	16,74	14,73	15,77	16,76
Nominal heating capacity	+7°C	35°C	kW	H	4,5	7,51	10,52	10,52	13,15	13,15	14,91
Seasonal space heating energy efficiency (ηs) - average climate		35°C	%	H	167	161	163	161	159	157	159
Seasonal space heating energy efficiency (SCOP) - average climate		35°C	kWh/kWh	H	4,28	4,12	4,174	4,19	4,078	4,021	4,07
Energy Efficiency Class - Low Temp (Ecodesign LOTI-2015), average climate		35°C		H	A++	A++	A++	A++	A++	A++	A++
Energy Efficiency Class - Low Temp (Ecodesign LOTI-Sept2019), average climate		35°C		H	A+++	A+++	A+++	A+++	A+++	A+++	A+++
Seasonal Space Heating Energy Efficiency (ηs) - medium temp., average climate		55°C	%	H	125	127	130	130	129	129	130
Seasonal Space Heating Energy Efficiency (SCOP) - medium temp., average climate		55°C	kWh/kWh	H	3,22	3,27	3,35	3,34	3,31	3,31	3,33
Energy Efficiency Class Space Heating medium temp., average climate (Ecodesign LOTI-Sept2015)		55°C		H	A++	A++	A++	A++	A++	A++	A++
Energy Efficiency Class Space Heating medium temp., average climate (Ecodesign LOTI-Sept2019)		55°C		H	A++	A++	A++	A++	A++	A++	A++
Seasonal Space Heating Energy Efficiency (ηs) - low temp., warmer climate		35°C	%		221	196	202	207	201	199	183
Seasonal Space Heating Energy Efficiency (SCOP) - low temp., warmer climate		35°C	kWh/kWh		5,6	4,98	5,13	5,25	5,1	5,05	4,65
Seasonal Space Heating Energy Efficiency (ηs) - medium temp., warmer climate		55°C	%		162	171	158	155	160	160	160
Seasonal Space Heating Energy Efficiency (SCOP) - medium temp., warmer climate		55°C	kWh/kWh		4,13	4,35	4,03	3,95	4,08	4,08	4,08
Max heating capacity	-7°C	35°C	kW	H	4,48	5,74	9,67	9,50	10,79	10,64	11,25
Heating capacity (l)	-7°C	35°C	kW	H	4,18	5,00	8,04	8,04	8,63	8,64	9,05
Max heating capacity	-15°C	35°C	kW	H	3,61	4,47	7,52	7,29	8,34	8,16	8,63
Heating capacity (l)	-15°C	35°C	kW	H	3,14	4,02	6,17	6,38	6,86	6,85	7,18

RADIATORS HEATING & DHW

Max heating capacity	+7°C	45°C	kW	H	6,42	8,13	13,62	14,26	13,93	15,07	15,77
Max heating capacity	-7°C	45°C	kW	H	4,37	5,55	9,16	9,59	9,17	10,12	10,64
Max heating capacity	-15°C	45°C	kW	H	2,84	4,31	7,12	7,03	7,37	7,75	8,15
Max heating capacity	+7°C	55°C	kW	H	6,25	7,93	10,98	11,67	12,56	13,64	14,12
Max heating capacity	-7°C	55°C	kW	H	4,29	5,29	8,83	8,93	8,92	9,76	10,22

COOLING

Nominal cooling capacity	35°C	7°C	kW	C	4,5	6	10	10	11	11	13
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Max heating capacities are shown at peak value during operation, at max compressor operating range in accordance with EN14511

Nominal heating capacity are given at water delta T° 5°C and rated compressor operating frequency in accordance with EN14511

(l) Heating capacity at -7°C are shown at max compressor operating frequency in accordance with EN14511

Energy Efficiencies Class & Seasonal space heating energy efficiency (ηs) are provided for Average Climate conditions in accordance with EN14825

PHYSICAL DATA



Outdoor unit

	HWS-	455H-E	805H-E	1105H-E	1105H8-E	1405H-E	1405H8-E	1605H8-E
Dimensions (HxWxD)	mm	630x800x300	890x900x320	1340x900x320	1340x900x320	1340x900x320	1340x900x320	1340x900x320
Weight	kg	42	63	92	93	92	93	93
Sound pressure Level (max)	dB(A)	49	50	51	51	52	52	53
Sound power level (max)	dB(A)	65	66	66	66	68	68	69
Compressor type					DC Twin rotary			
Refrigerant type		R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	1,15	1,80	2,70	2,70	2,70	2,70	2,70
Flare connections (gas-liquid)		4/8" - 2/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"
Minimum pipe length	m	5	5	5	5	5	5	5
Maximum pipe length	m	15	30	30	30	30	30	30
Maximum height difference	m	10	30	30	30	30	30	30
Chargeless pipe length	m	15	30	30	30	30	30	30
Operating range in space heating*	°C	-20-25	-20-25	-20-25	-20-25	-20-25	-20-25	-20-25
Operating range Domestic hot water	°C	-20-43	-20-43	-20-43	-20-43	-20-43	-20-43	-20-43
Operating range in cooling	°C	10-43	10-43	10-43	10-43	10-43	10-43	10-43
Bottom tape heater power	W	-	-	-	75	-	75	75
Power supply	V-ph-Hz	220/230-1-50	220/230-1-50	220/230-1-50	380/400-3N-50	220-230-1-50	380/400-3N-50	380/400-3N-50

Hydro unit

	HWS-	455XWHM3-E	805XWHM3-E	805XWHT6-E	805XWHT9-E	1405XWHM3-E	1405XWHT6-E	1405XWHT9-E
To be used with size		45	80	80	80	110-140-160	110-140-160	110-140-160
Leaving water temperature	°C	20 - 55°C	20 - 55°C	20 - 55°C	20 - 55°C	20 - 55°C	20 - 55°C	20 - 55°C
Leaving water temperature	°C	7 - 25°C	7 - 25°C	7 - 25°C	7 - 25°C	7 - 25°C	7 - 25°C	7 - 25°C
Dimensions (HxWxD)	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	52	52	52
Sound pressure level	dB(A)	29	29	29	29	32	32	32
Electric back up heater capacity	kW	3	3	6	9	3	6	9
Electric back up heater supply	V-ph-Hz	220-230-1-50	220-230-1-50	380-400-3N-50	380-400-3N-50	220-230-1-50	380-400-3N-50	380-400-3N-50
Maximum current	A	13	13	13 x 2	13 x 3	13	13 x 2	13 x 3

Sanitary Hot Water tank

	HWS-	1501CSHM3-E	2101CSHM3-E	3001CSHM3-E
Water volume	litres	150	210	300
Max water temperature	°C	75	75	75
Electric heater	kW	2,7	2,7	2,7
Power supply	V-ph-Hz	220/230-1-50	220/230-1-50	220/230-1-50
Height	mm	1,090	1,474	2,040
Diameter	mm	550	550	550
Weight	Kg	31	41	60
Material			Stainless steel	

Accessories

Model Name	Description	Functions
TCB-PCIN3E	Output signal PCB	Boiler operation output signal. Alarm output signal. Defrost output signal. Compressor operation output signal
TCB-PCMO3E	Input signal PCB	Room thermostat input. Emergency stop input
HWS-AMSS4E	Wired RC	Wired Remote controller(sub)

Notes:

Max heating capacities are shown at peak value during operation, at max compressor operating range in accordance with EN14511

Nominal heating capacity are given at water delta T° 5°C and rated compressor operating frequency in accordance with EN14511

(l) Heating capacity at -7°C are shown at max compressor operating frequency in accordance with EN14511

Energy Efficiencies Class & Seasonal space heating energy efficiency (ηs) are provided for Average Climate conditions in accordance with EN14825

* Depending on the conditions only back-up heater operates.

** Heater Operation in more than 35°C

C = cooling mode

H = heating mode



AIR-TO-WATER HEAT PUMP SPLIT SYSTEM

HWS-



● MADE IN JAPAN



60 °C



FOR LOW AMBIENT AREA AND / OR FOR AREAS WHERE REQUIRE HIGH WATER TEMPERATURE!

The development of new powerful type of ESTIA series 4 to operate it in cold region, especially North Europe, East Europe and etc.

OUTDOOR UNIT

Inverter technology and the DC twin rotary compressor. Estia heat pumps operate with the reliable and safe R-410A refrigerant.

HYDRO UNIT

The high efficiency plate heat exchanger receives the optimum quantity of refrigerant to produce hot water at low or medium temperature (20-60°C), or cold water (7°C - 25°C). A back-up heater (3, 6 or 9 kW options) further supports the operation for extreme conditions.

DOMESTIC 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 maximized thanks to the integrated coaxial heat exchanger which uses hot water produced by the heat pump (whenever energy efficient and possible).

FEATURES

- Operation range down to -25°C
- Maintain the rated capacity down to -15°C
- Leaving water temperature up to 60°C

TOSHIBA

PERFORMANCE DATA



Outdoor unit

Hydro unit combination

HWS-	P805HR-E	P1105HR-E	P805H8R-E	P1105H8R-E	P1405H8R-E
HWS-	P805XWH**E	P1105XWH**E	P805XWH**E	P1105XWH**E	P1105XWH**E

Air T° Water T°

UNDER FLOOR HEATING

Max heating capacity	+7°C	35°C	kW	H	16,92	18,05	14,67	14,95	15,1
Nominal heating capacity	+7°C	35°C	kW	H	8,00	11,20	8,00	11,20	14,00
Seasonal Space Heating Energy Efficiency (ηs) - low temp., average climate		35°C	%		157	175	169	173	173
Seasonal Space Heating Energy Efficiency (SCOP) - low temp., average climate		35°C	kWh/kWh		4,01	4,48	4,31	4,43	4,43
Energy Efficiency Class Space Heating low temp., average climate (Ecodesign LOT1-Sep2015)		35°C			A++	A++	A++	A++	A++
Energy Efficiency Class Space Heating low temp., average climate (Ecodesign LOT1-Sep2019)		35°C			A+++	A+++	A+++	A+++	A+++
Seasonal Space Heating Energy Efficiency (ηs) - medium temp., average climate		55°C	%		125	131	123	130	130
Seasonal Space Heating Energy Efficiency (SCOP) - medium temp., average climate		55°C	kWh/kWh		3,22	3,38	3,16	3,35	3,34
Energy Efficiency Class Space Heating medium temp., average climate (Ecodesign LOT1-Sep2015)		55°C			A++	A++	A+	A++	A++
Energy Efficiency Class Space Heating medium temp., average climate (Ecodesign LOT1-Sep2019)		55°C			A++	A++	A+	A++	A++
Seasonal Space Heating Energy Efficiency (ηs) - low temp., warmer climate		35°C	%		185	187	224	218	222
Seasonal Space Heating Energy Efficiency (SCOP) - low temp., warmer climate		35°C	kWh/kWh		4,70	4,75	5,68	5,53	5,63
Seasonal Space Heating Energy Efficiency (ηs) - medium temp., warmer climate		55°C	%		158	150	125	165	165
Seasonal Space Heating Energy Efficiency (SCOP) - medium temp., warmer climate		55°C	kWh/kWh		4,03	3,83	3,20	4,20	4,20
Max heating capacity	-7°C	35°C	kW	H	11,92	12,79	10,82	11,62	13,44
Heating capacity (1)	-7°C	35°C	kW	H	9,38	9,74	9,45	10,3	12,21
Max heating capacity	-15°C	35°C	kW	H	9,37	11,23	8,18	9,26	10,7
Heating capacity (1)	-15°C	35°C	kW	H	7,26	8,06	7,77	8,75	8,91

RADIATORS HEATING & DHW

Max heating capacity	+7°C	45°C	kW	H	14,00	14,74	16,32	15,32	16,05
Max heating capacity	-7°C	45°C	kW	H	10,16	10,61	9,08	10,01	11,43
Max heating capacity	-15°C	45°C	kW	H	8,04	8,13	6,82	7,71	7,96
Max heating capacity	-20°C	45°C	kW	H	6,72	7,64	5,98	7,80	8,05
Max heating capacity	+7°C	55°C	kW	H	11,08	11,43	15,04	15,69	16,97
Max heating capacity	-7°C	55°C	kW	H	8,40	8,42	9,41	10,93	12,37

COOLING

Nominal cooling capacity	35°C	7°C	kW	C	6,0	10,0	6,00	10,0	11,0
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Max heating capacities are shown at peak value during operation, at max compressor operating range in accordance with EN14511

Nominal heating capacity are given at water delta T° 5°C and rated compressor operating frequency in accordance with EN14511

(1) Heating capacity at -7°C are shown at max compressor operating frequency in accordance with EN14511

Energy Efficiencies Class & Seasonal space heating energy efficiency (ηs) are provided for Average Climate conditions in accordance with EN14825

PHYSICAL DATA



Outdoor unit

	HWS-	P805HR-E	P1105HR-E	P805H8R-E	P1105H8R-E	P1405H8R-E
Dimensions (HxWxD)	mm	1340x900x320	1340x900x320	1340x900x320	1340x900x320	1340x900x320
Weight	kg	92	92	94	94	94
Sound pressure Level (max) (2)	dB(A)	51	51	52	52	53
Sound power level (max)	dB(A)	66	66	66	67	68
Compressor type				DC Twin rotary		
Refrigerant		R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	2,70	2,70	2,70	2,70	2,70
Flare connections (gas-liquid)		5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"	5/8" - 3/8"
Minimum pipe length	m	5	5	5	5	5
Maximum pipe length	m	30	30	30	30	30
Maximum height difference	m	30	30	30	30	30
Chargeless pipe length	m	30	30	30	30	30
Operating range in space heating*	°C	-25-25	-25-25	-25-25	-25-25	-25-25
Operating range Domestic hot water	°C	-25-43 **	-25-43 **	-25-43 **	-25-43 **	-25-43 **
Operating range in cooling	°C	10-43	10-43	10-43	10-43	10-43
Bottom tape heater power	W	75	75	75	75	75
Power supply	V-ph-Hz	220/230-1-50	220/230-1-50	380/400-3-50	380/400-3-50	380/400-3-50

* Depending on the conditions only back-up heater operates.

** Heater Operation in more than 35°C

(2) Measurement position : Front = 1m, Height = 1.5m

Hydro unit

	HWS-	P805XWHM3-E	P805XWHT6-E	P1105XWHM3-E	P1105XWHT6-E	P1105XWHT9-E
To be used with size	°C	80	80	110	110	110
Leaving water temperature	°C	20 - 60°C	20 - 60°C	20 - 60°C	20 - 60°C	20 - 60°C
	mm	7 - 25°C	7 - 25°C	7 - 25°C	7 - 25°C	7 - 25°C
Dimensions (HxWxD)	Kg	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	dB(A)	49**	49**	52**	52**	52**
Sound pressure level	dB(A)	29	29	32	32	32
Sound power level	kW	41	41	43	43	43
Electric back up heater capacity	V-ph-Hz	3	6	3	6	9
Electric back up heater supply	A	220-230-1-50	380-400-3N-50	220-230-1-50	380-400-3N-50	380-400-3N-50
Maximum current	m	13	13 x 2	13	13 x 2	13 x 3

Domestic Hot Water tank

	HWS-	1501CSHM3-E	2101CSHM3-E
Water volume	litres	150	210
Max water temperature	°C	75	75
Electric heater	kW	2,7	2,7
Power supply	V-ph-Hz	220/230-1-50	220/230-1-50
Height	mm	1,090	1,474
Diameter	mm	550	550
Weight	Kg	31	41
Material		Stainless steel	Stainless steel

Accessories

Model Name	Description	Functions
TCB-PCIN3E	Output signal PCB	Boiler operation output signal. Alarm output signal. Defrost output signal. Compressor operation output signal
TCB-PCMO3E	Input signal PCB	Room thermostat input. Emergency stop input
HWS-AMS54E	Wired RC	Wired Remote controller(sub)

C = cooling mode

H = heating mode



DOMESTIC HOT WATER HEAT PUMP

DHW-HP



60 °C



The new Toshiba Phase 2 Domestic Hot Water Heat Pumps (DHW-HP) have been designed to provide increased flexibility for installers, added control functionality and the option of solar thermal connectivity. The additional features have been added whilst maintaining best in class performance and energy savings for sanitary hot water production throughout the year.

FEATURES

- Best in class performances
 - » Energy class A+ (ErP Sept. 2017)
 - » High COP > 3.5 at A7°C W10°C to 52.9°C (EN16147)
 - » High COP > 3.5 at A7°C W10°C to 52.9°C (EN16147)
 - » Fan external static pressure available up to 200Pa
 - » Low noise operation: 49dB(A) sound power level – ducted configuration (32dB(A) sound pressure level)
- Wide operating temperature range
 - » Heat pump hot water production possible for -7°C to 40°C outside air temperature
 - » Hot water temperature to 60°C without the use of electric heaters (65°C with electric heaters)

TOSHIBA

PERFORMANCE DATA



Domestic Hot Water Heat Pump

Energy Class
 COP at Air7°C W10°C-52,9°C (EN16147)
 COP at Air20°C W10°C-52,9°C (EN16147)
 Heat pump operating range (min/max)
 Heat up time (A7°C W10°C-53,5°C)
 Heat up time (A20°C W10°C-53,5°C)
 Maximum Qty of water by electric heater
 V40 volume (W52,9°C)
 Cylinder volume
 Maximum water temperature
 Corrosion protection

Sound power level - Air7°C W10°C-52,9°C (EN16147)
 Sound power level - Air20°C W10°C-52,9°C (EN16147)

Airflow rate nominal (min - max)
 Maximum fan power
 Maximum external static pressure
 Air duct connections
 Minimum room volume (non-ducted unit)

Maximum Power input
 Electrical heater Power
 Auxiliary Power input (Paux)
 Standby Power input (Pes)

HWS-	G1901CNMR-E	G2601CNMR-E	G1901ENXR-E	G2601ENXR-E
	A+	A+	A+	A+
	3.57	3.69	3.57	3.69
	4.13	4.2	4.13	4.2
°C	-7/+40	-7/+40	-7/+40	-7/+40
hh:mm	06:27	09:12	06:27	09:12
hh:mm	05:15	07:09	05:15	07:09
l (%)	75 (40%)	130 (50%)	75 (40%)	130 (50%)
l	247	347	234	331
l	190	260	184	252
°C	60	60	60	60
	Magnesium anode	Magnesium anode	Magnesium anode	Magnesium anode
dB(A)	49	49	49	49
dB(A)	55.6	55.6	55.6	55.6
m3/h	450 (0 - 800)	450 (0 - 800)	450 (0 - 800)	450 (0 - 800)
W	85	85	85	85
Pa	200	200	200	200
mm	Ø160	Ø160	Ø160	Ø160
m3	60	60	60	60
W	2185	2185	2185	2185
W	1500	1500	1500	1500
W	1.61	1.61	1.61	1.61
W	17	20	17	20

PHYSICAL DATA



Domestic Hot Water Heat Pump

Dimensions (Height x Diameter)

Required height for installation
 Weight (dry / wet)

Refrigerant
 Refrigerant charge
Refrigerant charge CO2 equivalent

Water connections (cold & hot water)
 Standard water connection entry angle
 Condensates water connections
 Max water side operating pressure

Power supply

HWS-	G1901CNMR-E	G2601CNMR-E	G1901ENXR-E	G2601ENXR-E
	1600 x 620	1960 x 620	1600 x 620	1960 x 620
mm	1868	2223	1868	2223
kg	91 / 231	106 / 350	94 / 234	106 / 350
	R134A	R134A	R134A	R134A
kg	1.2	1.28	1.2	1.28
ton	1.72	1.83	1.72	1.83
	3/4"	3/4"	3/4"	3/4"
deg.	45	45	45	45
mm	Ø19	Ø19	Ø19	Ø19
Mpa	0.6	0.6	0.6	0.6
V-ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50