TOSHIBA

“ Do you want a versatile solution to make significant savings? ”

AIR-TO-WATER HEAT PUMP

ESTIA ESTIA POWERFUL

whatever you need

Toshiba ESTIA 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 environmement and ensuring significant energy savings.

THE LATEST HEAT PUMP TECHNOLOGY FROM TOSHIBA

- **Energy savings and protection of the environnement**

The European Union commitment to a 20% reduction in CO_2 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 Split 4 - 16kW

Created by TOSHIBA - Inverter technology	
A++ COP 4.90 @ +7°C COP 3.01 @ -7°C	Heating operation down to -25°C
Domestic sanitary hot water + 40°C to + 75°C	Group control (up to 8 units)

made in Japan

- **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).

REDUCE CO_2 EMISSIONS, CONTROL YOUR COMFORT, AND ENHANCE YOUR SAVINGS

- **Full line up from 4 to 16kW**

Available as a Split from 4 to 16kW by offering best in class performance, the ESTIA meets all your needs. Toshiba Inverter technology maintains the indoor environment at precisely the temperature you choose, regulating the heating and cooling capacity at all times by adjusting the compressor speed to demand.

- **ESTIA Split hydro unit**

The very compact ESTIA hydro unit integrates advanced water temperature control to allow optimised distribution to any types of emitters. ESTIA provides space heating and cooling for one or two zones, and domestic hot water production. A back-up heater (3 or 6 or 9kW) provides further support for hot water production in extreme outdoor conditions.

- **ESTIA Split outdoor unit**

The ESTIA Split is a compact, high performance heating and cooling solution, available in Standard and Powerful versions from 4.5 to 16kW, with a brand new 4.5kW standard model, demonstrating outstanding performances in the most compact chassis on the market.

- **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 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 costs and guarantees a hot water at a constant temperature level.

SAVINGS IN ACTION

- **Incentives**

Every country to pursue European regulations encourages the heat pump. Grants of tax rebates are calculated using the nominal SCOP (Seasonable energy efficiency) as a reference, with annual efficiency gradually becoming part of the equation. The installation of an ESTIA air-to-water heat pump system, with its best in class nominal COP and with the inverter technology and the DC twin rotary compressor ensuring outstandingly high part load COP, is guaranteed to meet most local government requirements.

FULL FLEXIBILITY

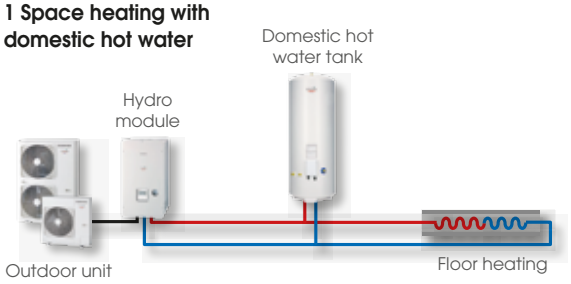
• One system, multiple solutions

The ESTIA Split air-to-water system can be used in new build projects as well as in domestic renovation projects. The ESTIA air-to-water heat pump system can be used with different types of heating/cooling emitters including existing low temperature radiators, under floor heating and fan coil units.

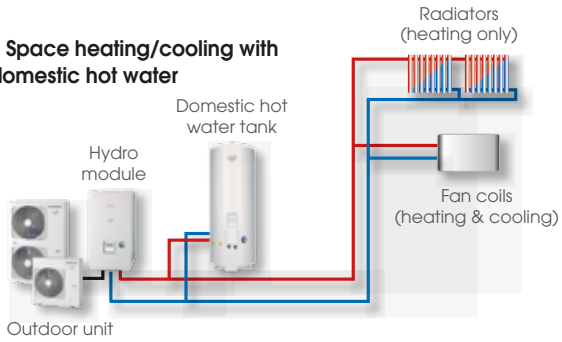
In existing dwellings already equipped with traditional gas or fuel boilers, Toshiba ESTIA air-to-water heat pump systems can be combined with these to cover all year-round heating needs. The boiler can then be used as a backup only, during the coldest of winter days. The Toshiba smart control balances the energy sources exclusively and efficiently leading to reduced energy consumption and heating costs to the end user.

For new houses or refurbishment projects ESTIA heat pumps offer a variety of combinations. Some examples are shown below:

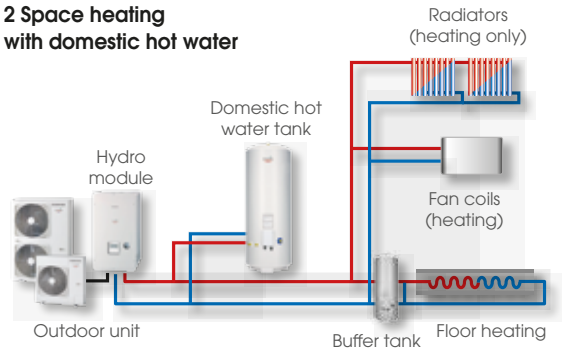
1 Space heating with domestic hot water



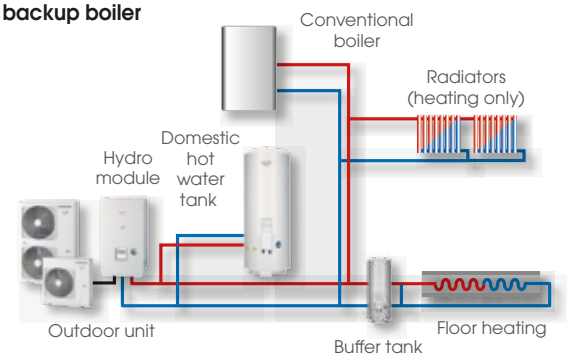
1 Space heating/cooling with domestic hot water



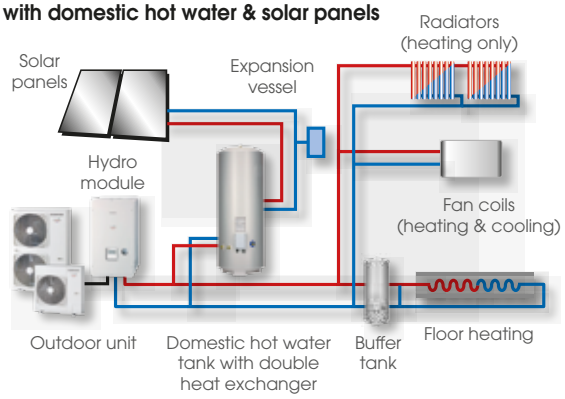
2 Space heating with domestic hot water



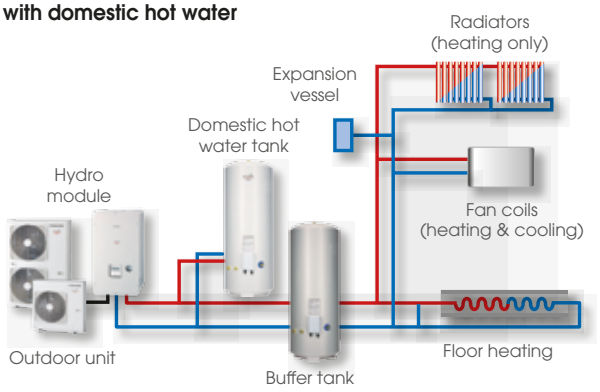
2 Space heating with domestic hot water & backup boiler



2 Space heating/cooling (multiple zones) with domestic hot water & solar panels



2 Space heating/cooling (multiple zones) with domestic hot water



- **Easy to install**

Quick and easy to install, the hydro module unit can be placed safely in the most suitable place within the house. There is no need for chimney or underground captors which requires additional works on site. The compact outdoor unit can be placed anywhere outside the house, or on a balcony, thanks to extensive piping options.

TREAT YOURSELF TO JAPANESE QUALITY

Innovation, efficiency, high reliability, energy savings, respect for the environment… These powerful values are at the heart of everything we do at Toshiba. For over 50 years, Toshiba has been providing its clients with the guaranteed precision and expertise of flawless Japanese quality. Toshiba products are designed to perform, and engineered to perfection. The Toshiba twin-rotary compressor uses Toshiba advanced technology to ensure best in class performance with low energy consumption. Compared to other multi split systems, this reduce significant cost savings.

PLUG & PLAY SOLUTION

• Maximise your control

The new large screen remote controller is simple, intuitive and easy to use. It boasts a stylish design, a backlight, new icons, and a choice of multiple languages. Simple to set up as a second remote, it makes the system a true plug & play solution. The built-in software regulates the water temperature, and optimises the system's energy consumption.
This weekly timer controls the distribution of hot water for up to two zones and to the domestic hot water tank. With up to 10 actions programmable per day for each day (and night) of the week, you really have total control.

In addition to managing operating parameters for two zones in heating mode, the following functions are also available:

Night mode,
automatically reducing the water temperature at night

Quiet mode,
preventing nuisance noise at night, by reducing the sound level of the outdoor unit down to -7 dB(A)

Boost function,
whenever you need domestic hot water quickly

Anti-bacteria control,
regularly increases the temperature in the domestic hot water tank to 75°C for 30 minutes

Frost protection,
ensuring a minimum temperature is maintained at all times to prevent freezing

• Direct production of domestic hot water

The installer can choose to set a constant hot water temperature setpoint or use the heating auto curve control allowing the target hot water temperature to be automatically set, based on the outdoor conditions, optimizing the system's energy consumption.

THE HEATING AND COOLING SYSTEMS OF THE FUTURE!

Toshiba Estia air-to-water heat pumps, are the ideal solution to increase energy efficiency, using air as a main source of energy. This is an all-in one system designed to deliver the right temperature for space heating, for domestic sanitary hot water and with the additional advantage of offering air-conditioning in the warmer seasons. Toshiba air-to-water heat pump systems can manage two independent zones. This solution enables the delivery of water to diverse emitters at different temperature levels up to 55°C.

ADDITIONAL KEY FEATURES

- **Easy to install.**
- **Environment conscious.**
- **One system, multiple solutions.**
- **The right temperature at the right time.**
- **A class pump included.**

- **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 (20-55°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.

Performance data

Outdoor unit					HWS-	455H-E	805H-E	1105H-E	1105H8(R)-E	1405H-E	1405H8(R)-E	1605H8(R)-E
Hydro unit combination		Air T°	Water T°		HWS-	455XWHM3-E	805XWH**-E	1405XWH**-E	1405XWH**-E	1405XWH**-E	1405XWH**-E	1405XWH**-E
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	8	11,2	11,2	14	14	16
	Energy Efficiency Class - Low Temp		35°C		H	A++	A++	A++	A++	A++	A++	A++
	Seasonal space heating energy efficiency (ηs)		35°C		H	167%	161%	163%	161%	159%	157%	159%
	Seasonal space heating energy efficiency (SCOP)		35°C		H	4,25	4,10	4,15	4,10	4,05	4,00	4,05
	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 (1)	**-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 (1)	-15°C	35°C	kW	H	3,14	4,28	6,57	6,79	7,31	7,3	7,65
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
	Energy Efficiency Class - Medium Temp		55°C		H	A++	A++	A++	A++	A++	A++	A++
	Seasonal space heating energy efficiency (ηs)		55°C		H	125%	127%	130%	130%	129%	129%	130%
	Seasonal space heating energy efficiency (SCOP)		55°C		H	3,20	3,25	3,33	3,33	3,30	3,30	3,33
Cooling	Nominal cooling capacity	35°C	7°C	kW	C	4.50	6,00	10,0	10,0	11,0	11,0	13
	EER			W/W	C	4.90	3,1	3,07	3,07	2,89	2,89	2,71
	Nominal cooling capacity	35°C	18°C	kW	C	6.49	9.19	13.82	13.15	15	15.44	16.39
	EER			W/W	C	3.49	3.55	3.96	3.94	3.69	3.52	3.29
	Energy Efficiency Class - Low temp - Warmer climate		35°C		H	A+++	A+++	A+++	A+++	A+++	A+++	A+++
	Seasonal space heating energy efficiency (ηs) - warmer climate		35°C		H	221%	196%	202%	207%	201%	199%	183%
	Seasonal space heating energy efficiency (SCOP) - warmer climate					5.60	4.98	5.13	5.25	5.10	5.05	4.65
	Energy Efficiency Class - Low temp - Warmer climate		55°C			A++	A++	A++	A++	A++	A++	A++
	Seasonal space heating energy efficiency (ηs) - warmer climate		55°C		H	162%	160%	158%	155	160%	160%	160%
	Seasonal space heating energy efficiency (SCOP) - warmer climate				H	4.13	4.08	4.03	3.95	4.08	4.08	4.08

Max heating capacities are 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

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)		48	49	49	49	51	51	52
Sound power level (max)	dB(A)		65	64	66	66	68	68	69
Compressor type			DC Twin rotary	DC Twin rotary	DC Twin rotary	DC Twin rotary	DC Twin rotary	DC Twin rotary	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

* Depending on the conditions only back-up heater operates. ** Heater Operation in more than 35°C

Physical data Hydro unit

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)		27	27	27	27	29	29	29
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

Physical data Sanitary Hot Water tank

Domestic 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	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 HWS-AMS54E

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

The development of new powerful type of ESTIA series 5 to operate it in cold region, especially North Europe, East Europe and etc.

ADDITIONAL KEY FEATURES

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

- **Outdoor unit**

Inverter technology and the DC twin rotary compressor. Estia Powerful 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°C - 60°C), or cold water (7°C - 25°C). A back-up heater (3, 6 or 9 kW options) furthersupports the operation for extreme conditions.

Performance data

Outdoor unit					HWS-	P805HR-E	P1105HR-E
Hydro unit combination		Air T°	Water T°		HWS-	P805XWH**-E	P1105XWH**-E
Under floor heating	Max heating capacity	+7°C	35°C	kW	H	16,92	18,05
	Nominal heating capacity	+7°C	35°C	kW	H	8,00	11,20
	Energy Efficiency Class - Low Temp		35°C		H	A++	A++
	Seasonal space heating energy efficiency (ηs)		35°C		H	157%	175%
	Seasonal space heating energy efficiency (SCOP)		35°C		H	4,00	4,45
	Max heating capacity	-7°C	**35°C**	**kW**	**H**	**11,92**	**12,79**
	Heating capacity (1)	-7°C	**35°C**	**kW**	**H**	**9.38**	**9.74**
	Max heating capacity	-15°C	35°C	kW	H	9.37	11.23
	Heating capacity (1)	-15°C	35°C	kW	H	7.26	8.06
Radiators heating & DHW	Max heating capacity	+7°C	45°C	kW	H	14,00	14,74
	Max heating capacity	-7°C	45°C	kW	H	10,16	10,61
	Max heating capacity	-15°C	**45°C**	**kW**	**H**	**8,04**	**8,13**
	Max heating capacity	-20°C	**45°C**	**kW**	**H**	**6,72**	**7,64**
	Max heating capacity	+7°C	55°C	kW	H	11,08	11,43
	Max heating capacity	-7°C	55°C	kW	H	8,40	8,42
	Energy Efficiency Class - Medium Temp		55°C		H	A++*	A++
Cooling	Seasonal space heating energy efficiency (ηs)		55°C		H	125%	131%
	Seasonal space heating energy efficiency (SCOP)		55°C		H	3,20	3,35
	Nominal cooling capacity	35°C	7°C	kW	C	6,0	10,0
	EER			W/W	C	3,66	3,00
	Nominal cooling capacity	35°C	18°C	kW	C	9.6	12.8
	EER			W/W	C	4.59	3.75
	Energy Efficiency Class - Low temp - Warmer climate		35°C		H	A+++	A+++
	Seasonal space heating energy efficiency (ηs) - warmer climate		35°C		H	185	187
	Seasonal space heating energy efficiency (SCOP) - warmer climate					4.7	4.75
	Energy Efficiency Class - Low temp - Warmer climate		55°C			A++	A++
	Seasonal space heating energy efficiency (ηs) - warmer climate		55°C		H	158	150
	Seasonal space heating energy efficiency (SCOP) - warmer climate				H	4.03	3.83

Max heating capacities are 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

Outdoor unit		HWS-	P805HR-E	P1105HR-E
Dimensions (HxWxD)	mm		1340x900x320	1340x900x320
Weight	kg		92	92
Sound pressure Level (max)	dB(A)		49	49
Sound power level (max)	dB(A)		66	66
Compressor type			DC Twin rotary	DC Twin rotary
Refrigerant			R410A	R410A
Refrigerant charge	kg		2.70	2.70
Flare connections (gas-liquid)			5/8" - 3/8"	5/8" - 3/8"
Minimum pipe length	m		5	5
Maximum pipe length	m		30	30
Maximum height difference	m		30	30
Chargeless pipe length	m		30	30
Operating range in space heating*	°C		-25~25	-25~25
Operating range Domestic hot water	°C		-25~43 **	-25~43 **
Operating range in cooling	°C		10~43	10~43
Bottom tape heater power	W		75	75
Power supply	V-ph-Hz		220/230-1-50	220/230-1-50

* Depending on the conditions only back-up heater operates. ** Heater Operation in more than 35°C

Physical data Hydro unit

Hydro unit		HWS-	P805XWHM3-E	P805XWHT6-E	P805XWHT9-E	P1105XWHM3-E	P1105XWHT6-E	P1105XWHT9-E
To be used with size			80	80	80	110	110	110
Leaving water temperature	°C	H	20 ~ 60°C	20 ~ 60°C	20 ~ 60°C	20 ~ 60°C	20 ~ 60°C	20 ~ 60°C
Leaving water temperature	°C	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
Weight	Kg		49**	49**	49**	52**	52**	52**
Sound pressure level	dB(A)		27	27	27	29	29	29
Electric back up heater capacity	kW		3	6	9	3	6	9
Electric back up heater supply	V-ph-Hz		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 x 2	13 x 3	13	13 x 2	13 x 3

Physical data Hot Water tank

Domestic 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	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

TOSHIBA

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