



## ESTIA air-water heat pumps from TOSHIBA

The **ESTIA** air-water heat pumps from **TOSHIBA** are the ideal solution for heating, cooling and DHW, offering maximum possible energy savings. They feature the highest efficiency rate (**COP up to 4.88**) in their class, due to **DC TWIN ROTARY INVERTER** advanced technology and the **energy class A** circulator embedded to the hydraulic unit.

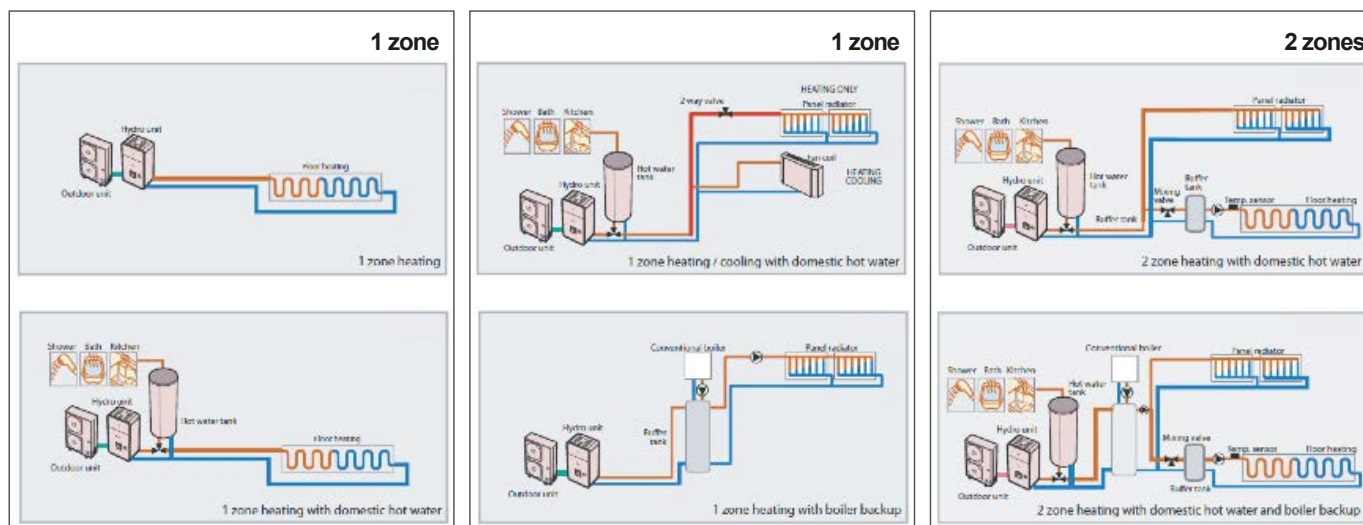
ESTIA heat pumps can be used in applications of existing or new installations with low temperature radiators, underfloor, fan coils and domestic hot water production.

### Their main features are as follows:

- Ability to control two different thermal zones.
- Produced water temperature at heating: 20 - 55°C.
- Produced water temperature at cooling: 7 - 25°C.
- DHW production up to 75°C (from 55 - 75°C with electric resistors control).
- Ability to operate at ambient temperature: -20 to +43°C.
- Advanced programming operations (compensation of incoming heating water temperature at both thermal zones, additional optimization of compensation curve from the machine based on parameters constantly measured by the unit sensors, DHW compensation, night mode with reduced temperature of incoming water, priority between heating and DHW).



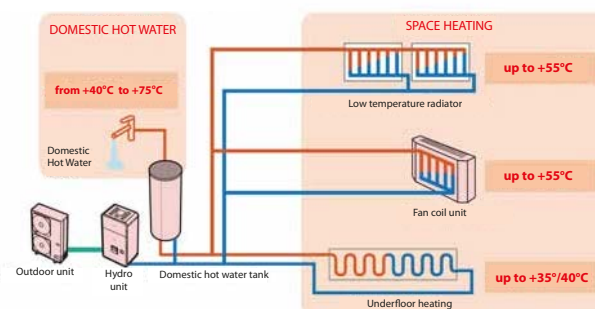
## From one system...many systems



### Ability to control:

- 1 thermal zone.
- 1 thermal zone and DHW production.
- 1 thermal zone with DHW production and receptors cut-off during summer time (e.g. radiators), when the installation operates for cooling, by blocking cool water supply via the 2-way electrovalve control.
- 1 thermal zone with DHW production, boiler assisted.
- 2 thermal zones with DHW production.
- 2 thermal zones with DHW production, boiler assisted.

### Hot water temperature range



## Control of the peripherals:

Through very simple settings (microswitches) within the hydraulic unit, many operations of the heat pump can be controlled, as well as the peripherals of the installation.

- Ability to control the unit by external thermostats or by the unit's controller.
- DHW production control either by an immersive hydrostat or a temperature sensor.
- Primary and secondary circulator control.
- Option to activate or not the electric resistors within the hydraulic unit.
- Option to activate or not the electric resistor within the DHW heat tank.
- Control of the 2nd thermal zone.
- Control of external power source.

# Programming through the controller



The controller provides programming capability of the system, based on the individual characteristics of each installation and the user requirements. The remote controller is easy to use and it is connected by wire to the hydraulic unit. Use of a wide and detailed screen, it displays and sets all the basic operational parameters of the unit, as well as the weekly schedule.

## Minimum and maximum water temperature setting

The minimum and maximum production limits of hot/cold water by the H/P are set. It is not a compensation but it aims towards the protection of the system and the receptors from misuse, e.g. maximum input temperature in underfloor and minimum at cooling. In this way, even in the case of error by the end user, the machine does not change it is programming.

## DHW production programming

- Setting the minimum and maximum DHW storage temperature.
- Setting the priority between DHW and area heating (in case of extreme weather conditions, the H/P remains in area heating and DHW is effected by the electric resistor, which is controlled by the H/P).
- Maximum DHW production duration by the H/P.
- HOT WATER BOOST mode, which increases DHW storage temperature by a simple press of a button by the end user.

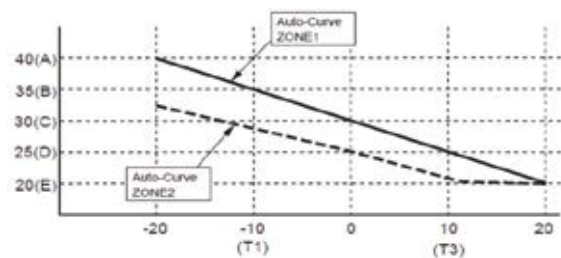
- Weekly programming for anti-bacterial shock of the DHW heat tank
- DHW compensation. Ability to increase DHW storage temperature, in case of extreme external conditions.

## External power source control programming

Setting the activation point and control of the external power source.

## Heating/Cooling modes

- Compensation curve creation for thermal zone 1 and thermal zone 2. The temperature of the produced DHW is constantly regulated by the advanced compensation system, depending on the external temperature. When the external environment is milder, the unit adapts the incoming water temperature to lower levels, in order to cope with the reduced need of area heating. The same control logic also predicts the increased heating needs, when the weather conditions become extreme.



- Additional increase/decrease of the compensation curve by +/-5 °C from H/P software, as long as the desired area temperature is achieved.
- Way of activating the electric resistors of the hydraulic unit as a means of assisting heating.
- Frost Protection. Capability of maintaining minimum temperature in the area, during extended periods of absence.
- NIGHT SET BACK mode for additional temperature reduction of the incoming water to the heating circuits during night time.
- LOW NOISE mode, for noise reduction of the external unit.





