# Electa-PI

## THAITP 104-116

Cooling capacity 4÷14 kW
Heating capacity 4÷16 kW

Features

**Efficient and ecological range in R290**

**Class A+++**

**Water temperature up to 80°C**

**Domestic hot water production from –25°C to +45°C outdoor air**

**Full inverter unit with EC circulator and degasser**

**Integrated management of the plant and DHW production.**

**MASTER/SLAVE management of up to 6 units**

**New total-black design with touch control**

**APP for managing the unit via smartphone (iOS and Android)**

**Accessory inertial tank under the unit**


**Tax incentives***

## Packaged reversible air-to-water heat pumps with DC inverter compressors and R290 refrigerant gas.

### Construction features

• Compressor: hermetic, rotary DC Inverter, complete with thermal protection and casing heater.

• Expansion valve: electronic.

• Water side heat exchanger: adequately insulated stainless steel plates, complete with antifreeze heater.

• Air side heat exchanger: finned coil with copper pipes and aluminium-manganese fins with Golden Fin anti-corrosion treatment in epoxy resin and hydrophilic treatment.

• Fan: helical type impeller with EC brushless motor with electronic speed control, equipped with internal thermal protection and accident protection grilles.

• Structure: made of galvanized sheet steel black colour painted (Pantone black C), complete with condensate drain pan and unit base antifreeze heater.

• Control: microprocessor electronic control with remote touch-screen control panel, for integrated management of the heat pump and the heating system, according to the various requirements relating to the use of the energy sources.

– 3-way diverter valve management for production of domestic hot water (DHW).

– Solar thermal management.

– Rapid heating function for domestic hot water.

– Anti-legionella cycle function, with activation timer.

– Auxiliary or supplementary heat source management.

– Secondary circuit management, high and low-temperature with mixing valve.

– On/off valve management for shutting off a part of the system, in heating or cooling mode.

– Management of water or ambient air temperature, using a probe in the control panel or KSOA accessory.

– Management through a room thermostat.

– Master/Slave management of up to 6 units in parallel.

– Operation in silent mode with timer.

– Weekly and daily time slots.

– Holiday mode and antifreeze function.

– Power consumption limiting function.

– Energy consumption trends.

– Parental control and start-up menu password.

– Unit remote on/off and DHW mode activation, from external contact (digital inputs).

– Contacts for Smart Grid and photovoltaic system integration (digital inputs).

– Additional/Secondary/DHW recirculation pump and DHW diverter valve contacts (digital outputs).

– RS485 interface for serial communication with other devices (Modbus RTU protocol).

– iOS and Android APP for managing the unit via smartphone and tablet

• Unit complete with:

– Outdoor temperature probe for set-point compensation.

– Room air temperature probe on the remote control panel.

– Water temperature probe for domestic hot water storage tank (20 m).

– Water temperature probe for auxiliary or supplementary heat source (5,6 m).

– Connection cable for touch-screen (8 m).

## Models

• THAITP: heat pump unit.

## PUMP set-up

• Pump unit complete with: EC circulator, automatic air vent valve,dearetor with safety valve (2,5 bar), flow switch, expansion tank (5 l), water filter.

## Accessories supplied separately

KAI-100 – Inertial storage tank, with function of thermal flywheel or hydraulic separator, for outdoor installation below the Electa-PI unit; 33W leakage losses, energy class A (class between F and A+).

KTAI-100 – Connection pipe between Electa-PI unit and KAI tank.

KSA – Rubber anti-vibration mounts.

KVDEV – 3-way diverter valve for the production of domestic hot water, managed by regulation.

KRIT – Supplementary electric resistance for heat pump, managed by the control system.

KPRU – Touch-screen connection cable (30 m) as an alternative to the cable supplied as standard.

KSOA – Remote air temperature sensor for managing the unit at the room set point (with KCSOA connection cable compulsory).

KCSOA – KSOA room sensor connection cable (10 m).

KWTSM – Mixed water secondary circuit probe (8 m).

KWTSS – Solar thermal probe (20 m).

KPRP – Cabling for RS485 serial connection to the touch screen panel.

KSMS – Serial cable for slave unit connection (8 m), in case of master/slave management.

## Technical data

| MODELLO THAITP | | 104 M | 106 M | 108 M | 110 M | 112 M | 114 M | 116 M | 116 T |
|---|---|---|---|---|---|---|---|---|---|
| ❶ Heating capacity | kW | 4,5 | 6,1 | 8,2 | 10 | 12 | 14 | 15,5 | 15,5 |
| ❶ Absorbed power | kW | 1,1 | 1,56 | 2,1 | 2,7 | 3,16 | 3,78 | 4,13 | 4,13 |
| ❶ C.O.P. | | 4,1 | 3,9 | 3,9 | 3,7 | 3,8 | 3,7 | 3,75 | 3,75 |
| ❷ Heating capacity | kW | 4,5 | 6,2 | 8,4 | 10 | 12 | 14 | 15,5 | 15,5 |
| ❷ Absorbed power | kW | 0,87 | 1,22 | 1,68 | 2,11 | 2,42 | 2,98 | 3,3 | 3,3 |
| ❷ C.O.P. | | 5,2 | 5 | 5 | 4,75 | 4,95 | 4,7 | 4,7 | 4,7 |
| ❸ Heating capacity | kW | 4 | 6 | 7,2 | 8,5 | 12 | 14 | 15,5 | 15,5 |
| ❸ Absorbed power | kW | 1,05 | 1,62 | 2 | 2,58 | 3,87 | 4,67 | 5,17 | 5,17 |
| ❸ C.O.P. | | 3,8 | 3,7 | 3,6 | 3,3 | 3,1 | 3 | 3 | 3 |
| ❹ Heating capacity | kW | 4 | 5,5 | 7 | 8 | 10 | 11,5 | 12 | 12 |
| ❹ Absorbed power | kW | 1,26 | 1,79 | 2,34 | 2,86 | 3,57 | 4,25 | 4,25 | 4,25 |
| ❹ C.O.P. | | 3,19 | 3,07 | 3 | 2,8 | 2,8 | 2,71 | 2,82 | 2,82 |
| ❺ Cooling capacity | kW | 4,5 | 6,1 | 7,5 | 8,9 | 11,6 | 12,8 | 14 | 14 |
| ❺ Absorbed power | kW | 1,2 | 1,91 | 2,34 | 2,92 | 3,68 | 4,34 | 4,91 | 4,91 |
| ❺ E.E.R. | | 3,75 | 3,2 | 3,2 | 3,05 | 3,15 | 2,95 | 2,85 | 2,85 |
| ❻ Cooling capacity | kW | 4,5 | 6,2 | 8,3 | 10 | 12 | 14 | 15,5 | 15,5 |
| ❻ Absorbed power | kW | 0,8 | 1,19 | 1,6 | 2,08 | 2,61 | 3,26 | 3,52 | 3,52 |
| ❻ E.E.R. | | 5,65 | 5,2 | 5,2 | 4,9 | 4,6 | 4,3 | 4,4 | 4,4 |
| ❺ Available circulator head | kPa | 77 | 68 | 67 | 62 | 58 | 53 | 47 | 47 |
| KAI Buffer tank water content | l | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| ❼ Sound pressure | dB(A) | 39 | 39 | 42 | 42 | 44 | 44 | 41 | 41 |
| ❽ Sound power | dB(A) | 65 | 65 | 68 | 68 | 70 | 70 | 67 | 67 |
| ❾ Sound power EN12102 | dB(A) | 54 | 54 | 56 | 56 | 58 | 58 | 57 | 57 |
| Electrical supply | V-ph-Hz | 230-1-50 | 230-1-50 | 230-1-50 | 230-1-50 | 230-1-50 | 230-1-50 | 230-1-50 | 400-3+N-50 |
| **DIMENSIONS AND WEIGHTS** | | **104 M** | **106 M** | **108 M** | **110 M** | **112 M** | **114 M** | **116 M** | **116 T** |
| L – Width | mm | 1210 | 1210 | 1210 | 1210 | 1210 | 1210 | 940 | 940 |
| H – Height | mm | 880 | 880 | 880 | 880 | 880 | 880 | 1615 | 1615 |
| P – Depth | mm | 450 | 450 | 450 | 450 | 450 | 450 | 460 | 460 |
| ❿ THAITP Weight | kg | 128 | 128 | 135 | 135 | 155 | 155 | 197 | 197 |
| L – Width+KAI | mm | 1210 | 1210 | 1210 | 1210 | 1210 | 1210 | 2245 | 2245 |
| H – Height+KAI | mm | 1515 | 1515 | 1515 | 1515 | 1515 | 1515 | 1515 | 1515 |
| P – Depth+KAI | mm | 610 | 610 | 610 | 610 | 610 | 610 | 610 | 610 |
| ❿ THAITP Weight+KAI | kg | 198 | 198 | 206 | 206 | 226 | 226 | 267 | 267 |
| **SEASONAL ENERGY PERFORMANCE** | | **104 M** | **106 M** | **108 M** | **110 M** | **112 M** | **114 M** | **116 M** | **116 T** |
| **THAITP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Low temperature application 35°C (*)** | | | | | | | | | |
| ③ Pdesignh (EN 14825) | kW | 5 | 6 | 8 | 9 | 12 | 13 | 14 | 14 |
| ③ SCOP (EN 14825) | | 5,13 | 5,18 | 5,13 | 4,93 | 4,75 | 4,73 | 4,75 | 4,7 |
| ④ ηs | % | 202 | 204 | 202 | 194 | 187 | 186 | 187 | 185 |
| ④ Energy class | | A+++ | A+++ | A+++ | A+++ | A+++ | A+++ | A+++ | A+++ |
| **THAITP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Medium temperature application 55°C** | | | | | | | | | |
| ③ Pdesignh (EN 14825) | kW | 5 | 6 | 7 | 8 | 12 | 13 | 14 | 14 |
| ③ SCOP (EN 14825) | | 3,87 | 3,87 | 3,87 | 3,87 | 3,57 | 3,55 | 3,5 | 3,43 |
| ④ ηs | % | 152 | 152 | 152 | 152 | 140 | 139 | 137 | 134 |
| ④ Energy class | | A+++ | A+++ | A+++ | A+++ | A++ | A++ | A++ | A++ |

Data at the following conditions:

❶ Air: 7°C D.B. – 6°C W.B. – Water: 40/45°C.
❷ Air: 7°C D.B. – 6°C W.B. – Water: 30/35°C.
❸ Air: 7°C D.B. – 6°C W.B. – Water: 47/55°C.
❹ Air: -7°C D.B. – Water: 30/35°C (not Eurovent certified).
❺ Air: 35°C D.B. – Water: 12/7°C.
❻ Air: 35°C D.B. – Water: 23/18°C (not Eurovent certified).
❼ In open field (Q = 2) at 5 m from the unit.
❽ Data according UNI EN-ISO 9614.
❾ Data according UNI EN-ISO 9614, EN12102.
❿ Weight refers to the empty unit.
Performance according to EN 14511

③ In Average climatic conditions.
④ Seasonal energy efficiency: ambient heating in Average climate (EU Regulations No.811/2013 and No.813/2013- class between D and A+++).
(*) not Eurovent certified.

**RHOSS S.P.A.**
Via Oltre Ferrovia, 32
33033 Codroipo (UD) - ITALY
tel. +39 0432 911611
rhoss@rhoss.com

rhoss.com