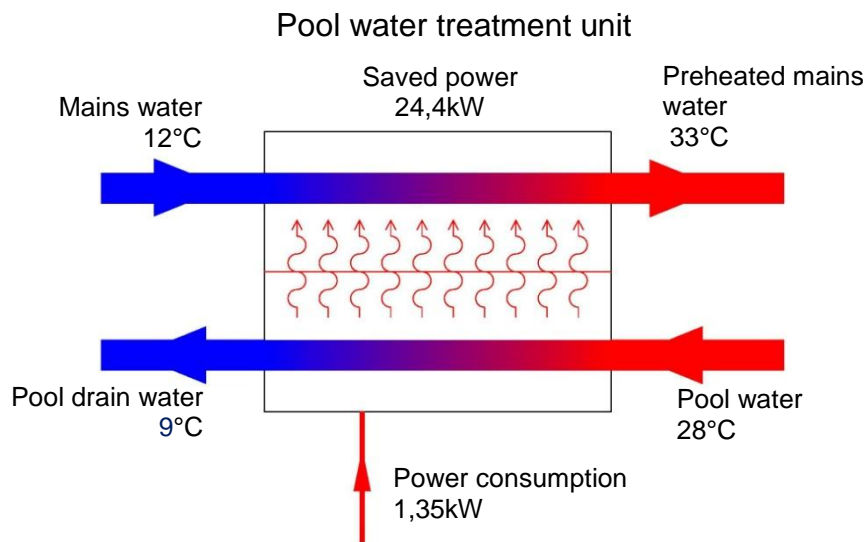


EnerWaterPool

HIGH EFFICIENCY POOL DRAIN WATER HEAT RECOVERY UNIT

Calculation of savings (for illustrative purposes)



	12°C → 28°C	28°C → 33°C
Saved thermal energy 24,4kW	18,6kW	5,8kW
Electric power consumption 1,35kW	Zero power consumption	1,35kW
C.O.P. 18,1W/W		
Thermal energy savings € 9,100	€6,900	€2,200
Electric consumption costs € 1,100	Zero electricity costs	€1,100
Total savings €8,000	€6,900	€1,100

Operating scheme

Note: power rates refer to 1m³/h of water and can vary according to the project. Costs and savings are calculated on an annual basis according to a daily water renewal of 10 m³.

The diagram shows that the economic savings cover 100% of mains water heating costs to reach the pool water temperature and saved thermal energy covers also an important part of the requirements for water evaporation.

General description

EnerWaterPool is a custom-made heat recovery unit from pool drain water

EnerWaterPool is equipped with

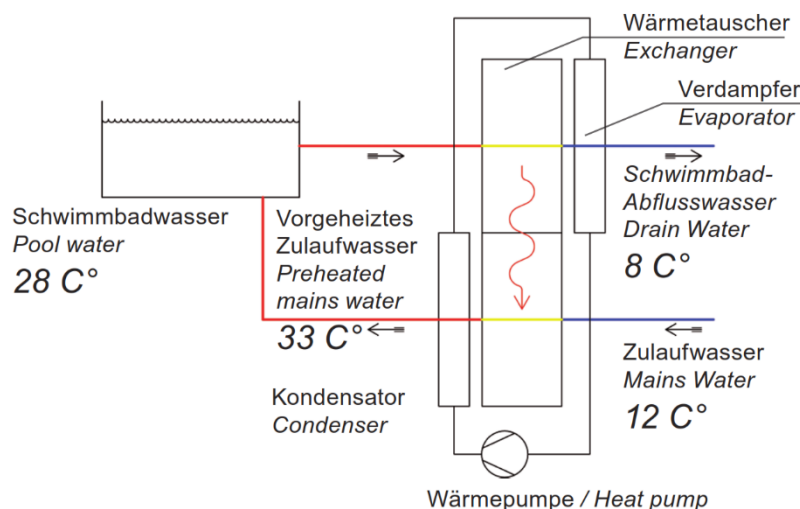
- a static heat recovery section using latest generation high efficiency 2-phase plate heat exchanger. The project foresees a delta of temperature between the flows equal to 2 °C with very high energy savings
- heat pump section sized to obtain the highest compressors efficiency (C.O.P.>6)
- water circulation system with pump for slope compensation
- inlet and outlet flow control system
- compensation tank level control system (upon request).
- pumps shut off system when the pool water temperature is too high (upon request)
- control panel of inlet and outlet water temperatures;
- electrical panel for the protection and operation of the entire unit

EnerwaterPool can ensure efficiency by working autonomously and respecting the desired levels of pool water renewal

with zero heating and electricity costs.

Enerplus Italia guarantees that **water renewal heating costs will be reduced to zero**

Functional description



Technical description

Bearing framework

The self-supporting external framework is made of painted galvanized steel. For ground installation or wall fixing, lifting devices or a basement are available upon request.

The front door with lock prevents unauthorized access to the components.

Static heat recovery section

It is made of a high efficiency 2-phase plate heat exchanger of the last generation. The 2-phase mode decreases the delta of temperature between the flows ensuring the highest energy savings.

The device is realized with the latest stainless steel alloys which produce a high energy exchange thus eliminating any routine maintenance.

Heat pump energy recovery circuit

It is equipped with high efficiency scroll compressors realized using the latest technologies on the market (C.O.P.>6) with an integrated protection system with automatic reset. It is mounted on vibration dampers that eliminate vibration and noise .

The refrigerant is made of a modern high quality blend, totally ecological and ideal for the temperatures of the system.

The refrigerating circuit is equipped with control and protection devices: pressure switches for high and low pressure, antifreeze thermostats, throttling device, refrigerant discharge system and reserve. It is also equipped with devices that ensure a total protection of the system and a longer life.

Pressure compensation pump for pool water circuit

On the pool water circuit is mounted a compensation pump to balance pressure differences caused by the normal functioning of the pool. The pump is made of stainless materials, equipped with a self-ventilated motor and sized according to the specifications of the project and water flows.

Water flows control system

Constant flow control valves in the inlet and outlet circuit with solenoid valves ensure that water flow rates indicated in the project are respected. The daily water renewal of the pool can vary from 0 to 130% of the nominal flow rate indicated in the table of the offer.

A pressure-control valve is placed downstream of mains water emission point to ensure the best operating conditions.

Compensation tank level control system (upon request)

The electronic control system of the unit is able to detect the compensation tank level and regulates water inlet and outlet flow rates to prevent water circulation pumps from blocking due to the low water level of the tank.

Control panel

The control panel of the unit is equipped with all the measuring and control devices. It has four temperature indicators, two for the inlet flow and two for the outlet flow, ON/OFF switch, protection systems and alarm and functioning indicators as well as a built-in clock with daily programs.

EnerWaterP (Pool) selection table

Total volume of pool water (m ³)							
	100	200	300	600	800	960	1.100
Product code	0.005	0.010	0.015	0.030	01.040	00.048	00.055

Total volume of pool water (m ³)							
	1.200	1.400	1.600	1.900	2.000	2.500	2.900
Product code	00.060	00.070	00.080	00.095	00.100	00.125	00.145

EnerWaterP 1.040 technical data

Unit performance

- | | | |
|---------------------------------------------------------|-------------|----------------|
| • Thermal power to mains water | 38,6 | kW |
| • Medium electric power consumption | 2,6 | kW |
| • Coefficient of performance | 14,8 | kW/kW |
| • Saved power for every m ³ of renewed water | 24,4 | kWh/kWh |

Special technical features

- | | | |
|---------------------------------------------------------------------------------|------------|-----------|
| • water-water heat exchanger with stainless steel plates of the last generation | 1 | n. |
| • scroll heat pump R407C | 1 | n. |
| • compressors power consumption | 2,5 | kW |

Mains water circuits

- | | | |
|----------------------------------------|--------------------|------------------------|
| • daily renewal (% renewal regulation) | 40 (0/130%) | m³/g |
|----------------------------------------|--------------------|------------------------|

Drain water circuits

- | | | |
|----------------------------------------|--------------------|------------------------|
| • daily renewal (% renewal regulation) | 40 (0-130%) | m³/g |
|----------------------------------------|--------------------|------------------------|

Approximate sizes and weight

Weight: 150 kg

Length 800 mm – Width 600 mm – Height 1600 mm

Efficiency parameters refer to the above-mentioned volumes and with a pool /mains water temperature of 28.8/14°C