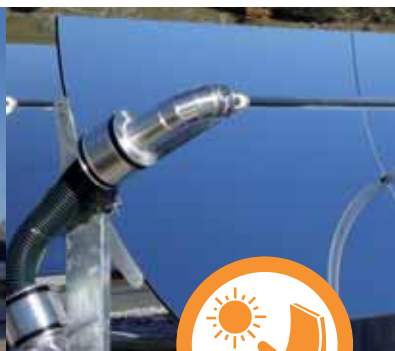




**enertime**



## ORGANIC RANKINE CYCLE TECHNOLOGY FOR ENERGY EFFICIENCY AND GREEN POWER



**Enertime** offers solutions for power production using heat sources at low or medium temperature.

Enertime offers MW-size turn-key solutions in various applications including :

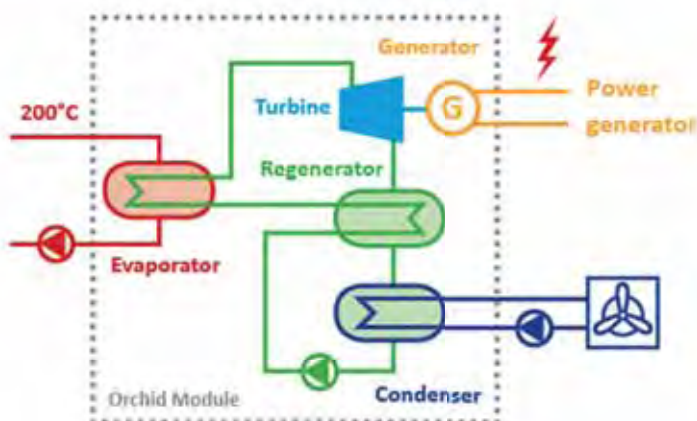
- Energy efficiency with waste heat recovery on industrial processes.
- Geothermal energy.
- Renewable and distributed energy.

The ORCHID© range brings innovative Organic Rankine Cycle (ORC) technology to industrial customers and utilities. ORCHID© is entirely designed by Enertime teams. We customize our solutions according to each client's needs.



## ORCHID© 200°C

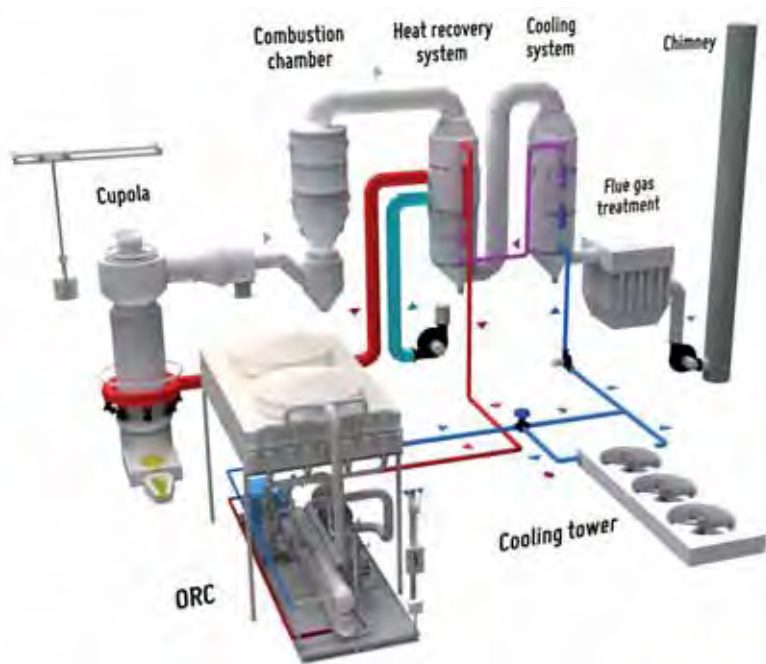
ORCHID© is a 1 to 3 MW air-cooled or water-cooled ORC working with a heat source of 200°C or above, using a non-toxic and non-flammable fluid in a close loop. The 1 MW module is built on two 40 feet container size skids, modular and easy to transport and install on site. Enertime offers turn-key installation of the module in all applications including waste heat recovery, geothermal, biomass and Concentrated Solar Power.



## How it works

Organic Rankine Cycle (ORC) power plants work on the same principle as steam turbines but use an organic fluid instead of water. Thanks to different physical properties, the use of an organic fluid leads to more reliable and higher efficiency plants for low to medium temperature heat sources and small-to-medium-size plants.





## Free energy from waste heat

ORCHID© 200°C is installed in a foundry in Western France and recovers heat from a cupola blast furnace. The electricity produced by the module will cover 30% of the electricity consumption of the foundry and can also be exported to the grid. For Waste Heat Recovery application, the payback of ORCHID© varies from 3 to 8 years, depending on the cost of electricity paid by the customer. ORCHID© 200°C is designed to generate power .during 20 years.

## Biomass for eco-cities

ORCHID© Cogen is used in CHP applications and delivers 550 kW of electricity together with up to 5 MW of heat at 80°C for district heating. The module is fueled by a biomass boiler using saturated steam or superheated water. The complete plant will easily fit in an urban environment and has limited constraints in terms of environmental impact.



## Concentrated solar power plant

ORC technology associated with parabolic trough or linear Fresnel concentrator allows the deployment of distributed thermodynamic solar power plants, for isolated or island grids alone, or in combination with a biomass boiler. Enertime together with manufacturers of solar concentrators develops an offer for turn-key CSP plants able to operate in isolated grid.





## Geothermal Energy

ORC modules are mostly used for geothermal application whenever temperature or financial cost of development prohibit the deployment of large Rankine steam cycles. Other applications include producing electricity with brines in steam geothermal power plants where geothermal steam needs to be flashed and separated from brines.

## The ORCHID<sup>©</sup> range

Please consult us for tailor-made systems.

	ORCHID <sup>©</sup> 1000	ORCHID <sup>©</sup> v160°C	ORCHID <sup>©</sup> cogen
Temperature Inlet	200°C	160°C	220°C
Thermal Power Input	5600 kWth	5400 kWth	5500 kWth
Model	Electrogenic	Electrogenic	Cogeneration
Cold Source	Air ambient 15°C	Ambiant Air 10°C	Heat Network
Gross Electric Power	960 kWe	776 kWe	560 kWe
Auxiliaries (including air condensor)	90 kWe	76 kWe	75 kWe
Net Electric Power	870 kWe	700 kWe	485 kWe
Thermal Power (cogeneration)	N/A	N/A	4950 kWth
Temperature (cogeneration)	N/A	N/A	90°C / 60°C

## About ENERTIME

An innovative start-up company in energy efficiency technologies and renewable energy production based on thermodynamics, Enertime designs and manufactures its own ORC machines in France for the world market. We offer a range of solutions to improve energy efficiency in industry and geothermal, waste treatment, biomass or solar units.

Enertime offers ORC modules or turnkey systems, alone or in consortium with manufacturers of industrial heat exchangers, biomass boilers or solar collectors.

Enertime has been awarded during the sixth AMI ADEME Total industry award on energy efficiency with its module ORCHID<sup>©</sup> 1 MW installed in a foundry in the Loire Valley.

## Contact

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