Geothermal Energy

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

Please consult us for tailor-made systems.

### ORCHID© Range

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

Enertime offers ORC modules or turnkey systems, alone or in consortium with manufacturers of industrial heat exchangers, biogas boilers or solar collectors. ORCHID© can be supplied both as turnkey solution and also as kits for CHP applications. ORCHID© is installed in a foundry in the Loire Valley. We customize our solutions according to each client’s needs.

### About Enertime

Enertime offers solutions for power production using heat sources of low or medium temperature. Enertime offers MiniCSP turnkey solutions in various applications including:
- Energy efficiency with waste heat recovery in industrial processes.
- Geothermal energy.
- Free-energy and distributed energy.

The ORCHID© range brings innovation 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.

### 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 lower to medium temperature heat sources and small to medium-size plants.

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 rotating steam systems. Other applications include producing electricity with brines in steam geothermal power plants where geothermal steam needs to be flashed and separated from brines. Please consult us for tailor-made systems.

**The ORCHID© range**

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Thermal Flow Input kWth</th>
<th>Cold Source</th>
<th>Gross Electric Power kW</th>
<th>Auxiliaries (including condenser kWth)</th>
<th>Net Electric Power kWth</th>
</tr>
</thead>
<tbody>
<tr>
<td>200°C</td>
<td>5600</td>
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</tr>
</tbody>
</table>

Enertime offers ORC modules or turnkey systems, alone or in consortium with manufacturers of industrial heat exchangers, biomass boilers or solar collectors. The ORCHID© range is designed to produce electricity and heat for CHP applications and has been awarded the 2016 and 2017 ADEME Total Industry award on energy efficiency with its module ORCHID© 1 MW installed in a foundry in the Loire Valley.

**About Enertime**

Enertime offers solutions for power production using heat sources at low or medium temperature. Enertime offers MH2 functioning in various applications including:
- Industrial efficiency with waste heat recovery for industrial processes
- Geothermal energy
- Renewable and distributed energy

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**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 efficient and higher efficiency plants for lower to medium temperature heat sources and small to medium size plants.

**Free energy from waste**

Enertime offers solutions for power production using heat sources at low or medium temperature. ORCHID© 200°C is installed in a foundry in Western France and recover 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 applications, 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.

**Concentrated Solar Power Plant**

ORCHID© 200°C is patented and allows for the deployment of distributed thermodynamic solar power plants, for isolated or island grids alone, or in combination with biomass boilers. Enertime together with manufacturers of solar concentrators develops an offer for turn-key CSP plants able to operate in isolated grid.
Organic Rankine Cycle (ORC) modules are mostly used for geothermal application whenever temperature or financial cost of development prohibit the deployment of large low temperature systems. Other applications include producing electricity with brines in steam geothermal power plants where geothermal steam needs to be flashed and separated from brines.

Examine the ORCHID© range

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.

Please consult us for tailor-made systems.

Enertime offers ORC modules or turnkey systems, alone or in consortium with industrial heat exchangers manufacturers. ADEME Total Industry award on energy efficiency with its module ORCHID© 1 MW installed in a foundry in the Loire Valley. ORCHID© 200°C is installed in a foundry in Western France and receives heat from a capture heat furnace. The electricity produced by the module will cover 60% of the electricity consumption of the foundry and can also be exported to the grid. For Waste Heat Recovery applications, the payload of ORCHID© series can be adapted thanks to the ORC technology, the electricity paid by the customer.

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

Enertime offers turn-key solutions in various applications including:
- Energy efficiency with waste heat recovery in industrial processes.
- Geothermal energy.
- Renewable and distributed energy.

Enertime offers 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.

ORCHID© 200°C 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 into two 40-feet container size skids, modular and easy to transport and installed on site. Enertime offers turn-key installation of complete plants.

The ORCHID© range is a range of solutions for power production using heat sources and small-to-medium-size plants. CSP plants able to operate in isolated grid.

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

ORC modules are mostly used for geothermal applications whenever temperature or financial cost of development prohibit the deployment of large traditional 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.

Please consult us for tailor-made systems.

The ORCHID© range

ORCHID© 1000
ORCHID© v160°C
ORCHID© 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 ambiant
Ambiant Air
Heat Network

Gross Electric Power

960 kWe
776 kWe
560 kWe

Auxiliaries (including air condensator)

90 kWe
76 kWe
75 kWe

Thermal Power (cogeneration)

N/A
N/A
4950 kWth

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

An innovative start-up company in energy efficiency technologies and renewable energy production based on thermodynamics, Enertime designs and manufactures its own ORC machines and develops tailor-made 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 traditional means of industrial heat exchangers, biomass boilers or solar collectors. We also offer tailor-made solutions to improve energy efficiency in industry and geothermal, waste treatment, biomass or solar units.

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

Enertime offers Mini-Twin turn key solutions in various applications including:

- Energy efficiency with waste heat recovery on industrial processes.
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