



ORC SOLUTIONS FOR INDUSTRY

Enertime's ORC modules improve the energy performance of factories by valorizing waste heat of industrial processes into electricity from following resources:

- Waste gas and hot air at temperatures above 250°C
- Liquids and steam above 130°C

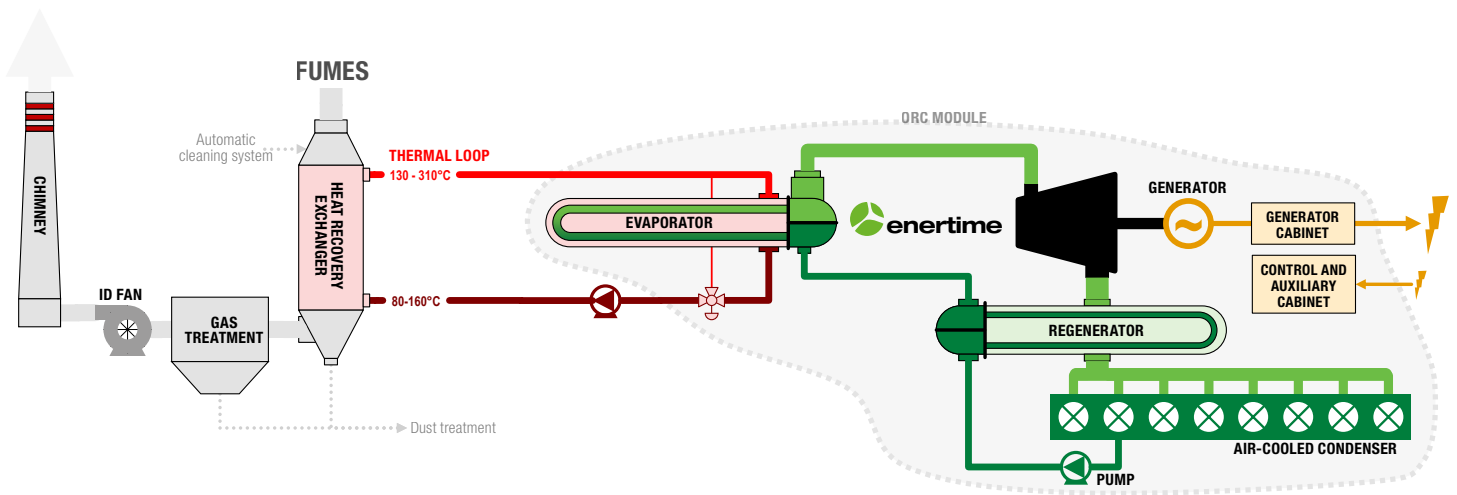
It replaces conventional cooling systems (gas and liquid) with a heat recovery system.

Industrial customers improve their energy efficiency and decrease electricity bills by consuming or selling to the grid the generated power, without greenhouse gas emissions.

Our ORC systems are best suited for raw material processing plants and heavy industry, where technological processes generate large quantity of waste heat (several MWth): Cement, Glass, Foundries, Steel mills, etc.

The ORC technology is ideally suited for industrial waste heat recovery including fluctuating sources with excellent partial load efficiency.

Robust and efficient, our machines are fully automated without the need for a dedicated operator or skilled technician for regular maintenance.



3500 kWe ORC – BaoSteel plant, Shanghai, China

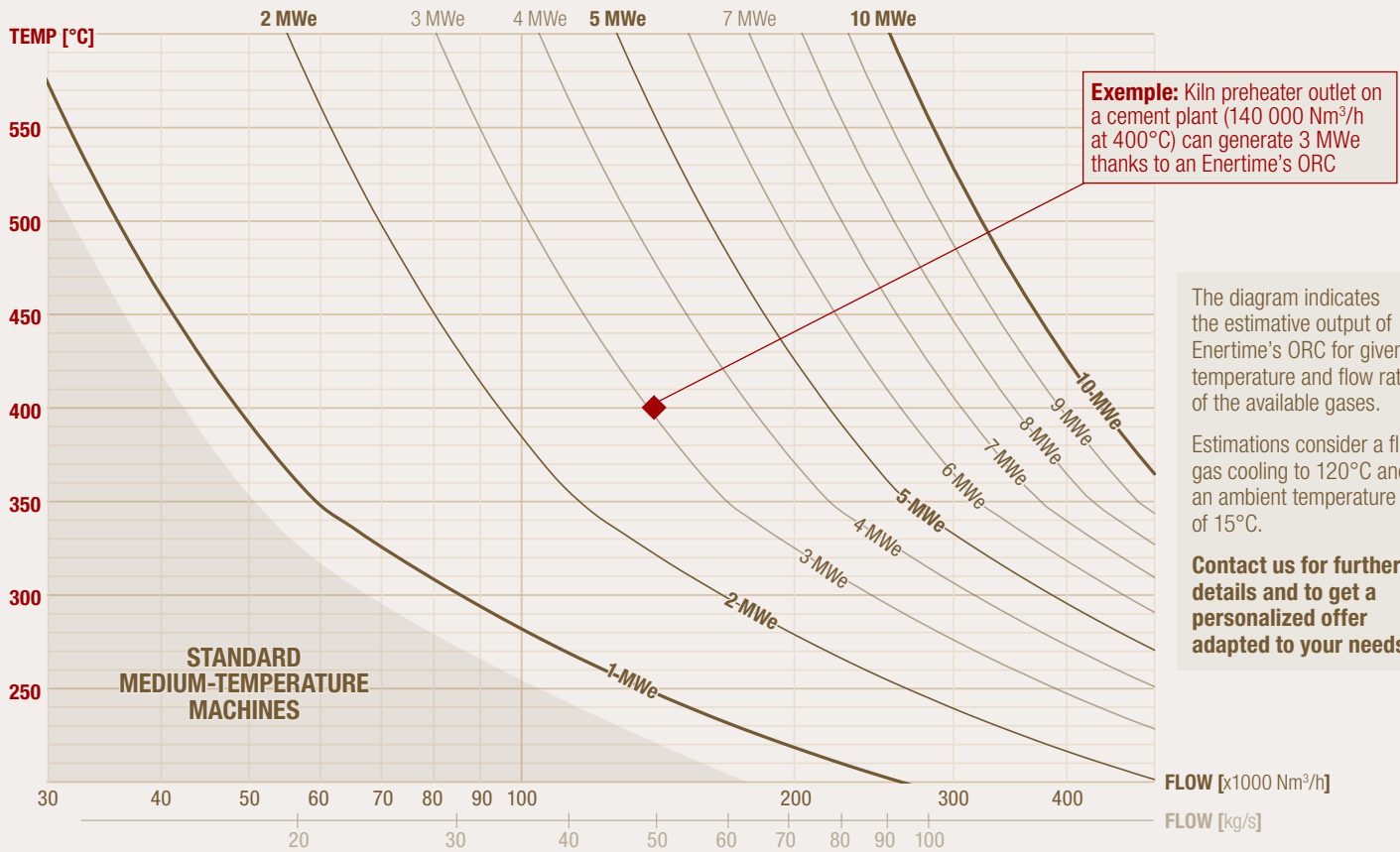
Enertime produces customized ORC modules adapted to the needs and requirements of its customers; adjustment to the available thermal power, use of different primary fluids (steam, thermal oil, hot water), integration into a limited space or with constrained accessibility requirements.

Compact and modular, our solutions are easy to implement on-site without impacting the production process and require little civil works and connection.

The use of dense organic fluids also avoids the traditional steam auxiliary installation (feed water tank, water treatment, ...).

Enertime also offers a full range of services for the maintenance and operation monitoring of its ORC machines.

WASTE HEAT RECOVERY POTENTIAL



Enertime's ORC machines are designed to maximize power output and profitability of projects based on available resources and customer requirements; multiple heat sources, integration in a limited space, steam cogeneration, seawater cooling ...

Our scope is adjusted to the industrial capabilities of our customers and industrial partners, ranging from turbine supply and cycle engineering to complete ORC modules or turnkey projects.

Enertime can also propose a third-party financing offer.

Enertime also provides industries with:

- Standard medium temperature modules for smaller applications
- Industrial high temperature Heat Pumps to valorise low temperature resources
- Natural gas expansion turbines

PRODUCT RANGE	MEDIUM TEMPERATURE		HIGH TEMPERATURE
THERMAL CARRIER	Superheated water / steam / thermal oil		Thermal oil
TEMPERATURE	130 to 210°C (inlet) / 80 to 130°C (outlet)		310°C (inlet) / 90 to 180°C (outlet)
THERMAL POWER	2 000 to 4 000 kWth	4 000 kWth and above	3 000 kWth and above
RATED CAPACITY	200 to 500 kWe	500 to 7000 kWe	600 to 7000 kWe
GROSS EFFICIENCY	10% to 13%	13 to 16%	22% to 24%
COLD SOURCE	ACC*	ACC ou WCC*	ACC ou WCC
FLUID	R1233zdE / R245fa	R1233zdE / R245fa / Alkanes	Cyclopentane

* ACC (Air-cooled condenser) | WCC (Water-cooled condenser)

Enertime's machines up to 1.5 MWe are delivered in a container or on a skid. Larger machines are installed directly on the customer's final site.

