



ENTENT
L'énergie durable à portée de main

Decarbonize your process with

Pulse

i-Lab

i-Nov
concours d'innovation



Launch of pre-series in 2026

Valorize your low-temperature
waste heat **from 60°C**
to produce electricity

www.entent.fr

2025

A unique technology

Thanks to its expertise in thermodynamics and mechanics, ENTENT has developed a new solution for electricity generation: **The PULSE**.

This technology enables the conversion of **low-temperature heat (between 60°C and 150°C)** into electricity.

The developed thermodynamic cycle offers significantly higher efficiencies compared to existing technologies. It is neither a Rankine cycle (or Hirn cycle involving superheating) nor an Organic Rankine Cycle (ORC), but rather a new thermodynamic cycle that introduces alternative thermodynamic transformations.



Cleantech

Reducing climate impact

The heat to be recovered is present in many processes



Industry

Organic chemistry

Agri-food industry

Plaster

Paper mill

Exhaust smoke, cooling systems,
drying kilns smoke and more...



**Power
producers**

Biomass

Geothermal power

Electrical regeneration
as a complement to
cogeneration.



Data centers

Chiller and direct contact
cooling.

Benefits of the offer



Lower energy bills

The Pulse generates electricity by reusing waste.



Regulations conformity

Green Industry Act, Energy and Climate Act, SNBC.



Decarbonation solution

By avoiding up to 350 tonnes of CO2 emissions per machine per year (see conditions below).



Autonomous power generation solution

The Pulse can be an advantage on precarious or isolated grids.



Visibility of electricity production costs

The operating cost of the machine is known for 20 years.



ISO 50001 standard

Energy management standard.

A pulse can produce up to 800 MWh/year based on 8,000 hours of operation at constant speed (constant heat supply).

A solution designed for easy on-site integration

We offer installation pre-studies and integration services through our partners.

The PULSE is designed to adapt to the nature of the vector, the heat output, the temperature and the various site parameters.

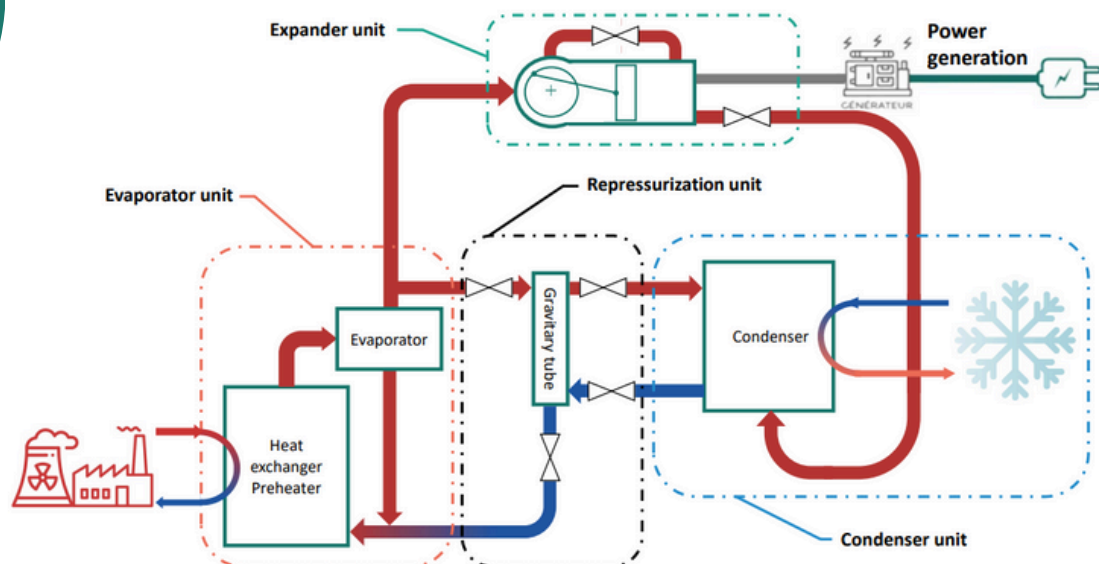
Supplied in container shape, several PULSES can be coupled together to increase production capacity.

The right chiller is installed on the machine





How does it work?



The cycle uses ammonia (R717). A natural, high-performance fluid that is not harmful to the environment but has toxicity constraints.

This is why we rely on the refrigeration industry, which has been working with this fluid for many years. No fluorocarbons, no VOCs (Volatile Organic Compounds).

The innovation lies in the use of a pulsed thermodynamic cycle, which is essential for creating the specific thermodynamic transformations within the cycle.

Specifications

PULSE	Very low temperatures (60-100°C)	Low temperatures (100-150°C)
Machine efficiency	5 to 10%	10 to 15%
Types of waste	Liquid / diphasic	Liquid / diphasic / gas
Recoverable thermal power	500 kWth and above	500 kWth and above

Like all dithermic thermodynamic machines, the Pluse is subject to a theoretical limit, the Carnot efficiency.

The pulse is delivered containerized, with a limited footprint (2.5 m x 2.5 m). Weight depends on installed power.

Installation financing

ENTENT can help you study financing solutions (purchase, rental, subsidy). It is possible to obtain aid for the installation of decarbonization solutions.

Contact us at
contact@entent.fr

