

& STEAM GENERATING HEAT PUMPS

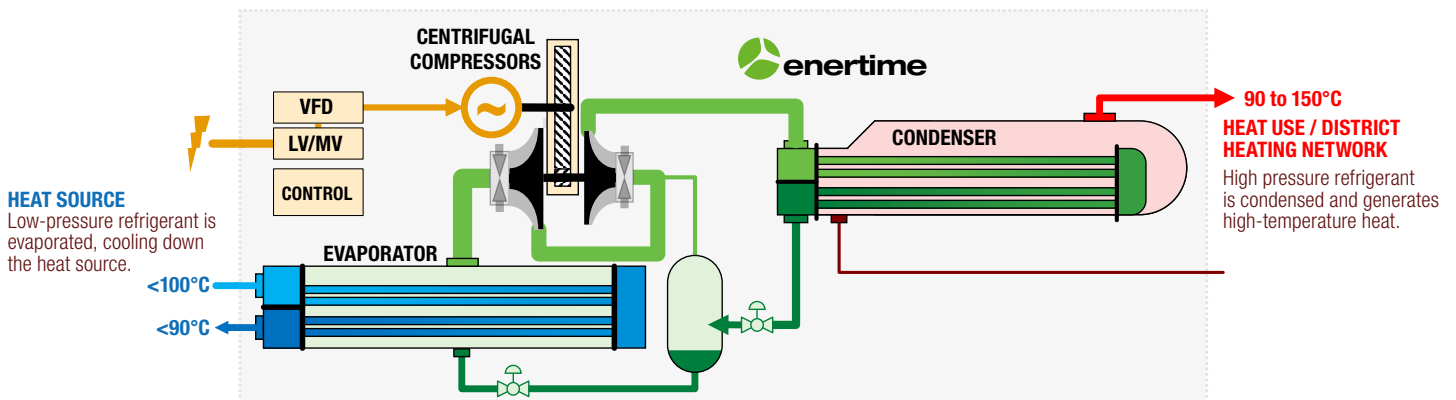
Enertime's High Temperature (HTHP) and Steam Generating (SGHP) Heat Pumps produce useful heat in industrial processes and district heating networks by valuing industrial waste heat or renewable resources:

- Industrial cooling loop
- Direct process cooling
- Grey and wastewater
- Humid air heat recovery
- Flue-gas condensation
- Geothermal resources

We help you to optimally integrate our heat pumps in your process in order to reach the following objectives:

- Significant reduction in fossil fuel consumption
- Reduction of the site's carbon footprint
- Process and energy efficiency improvement

Depending on the industry, the use of Heat Pumps brings other benefits, such as water recovery, reduction of auxiliaries consumptions, flue and humid air cleaning, rejects cooling, etc.



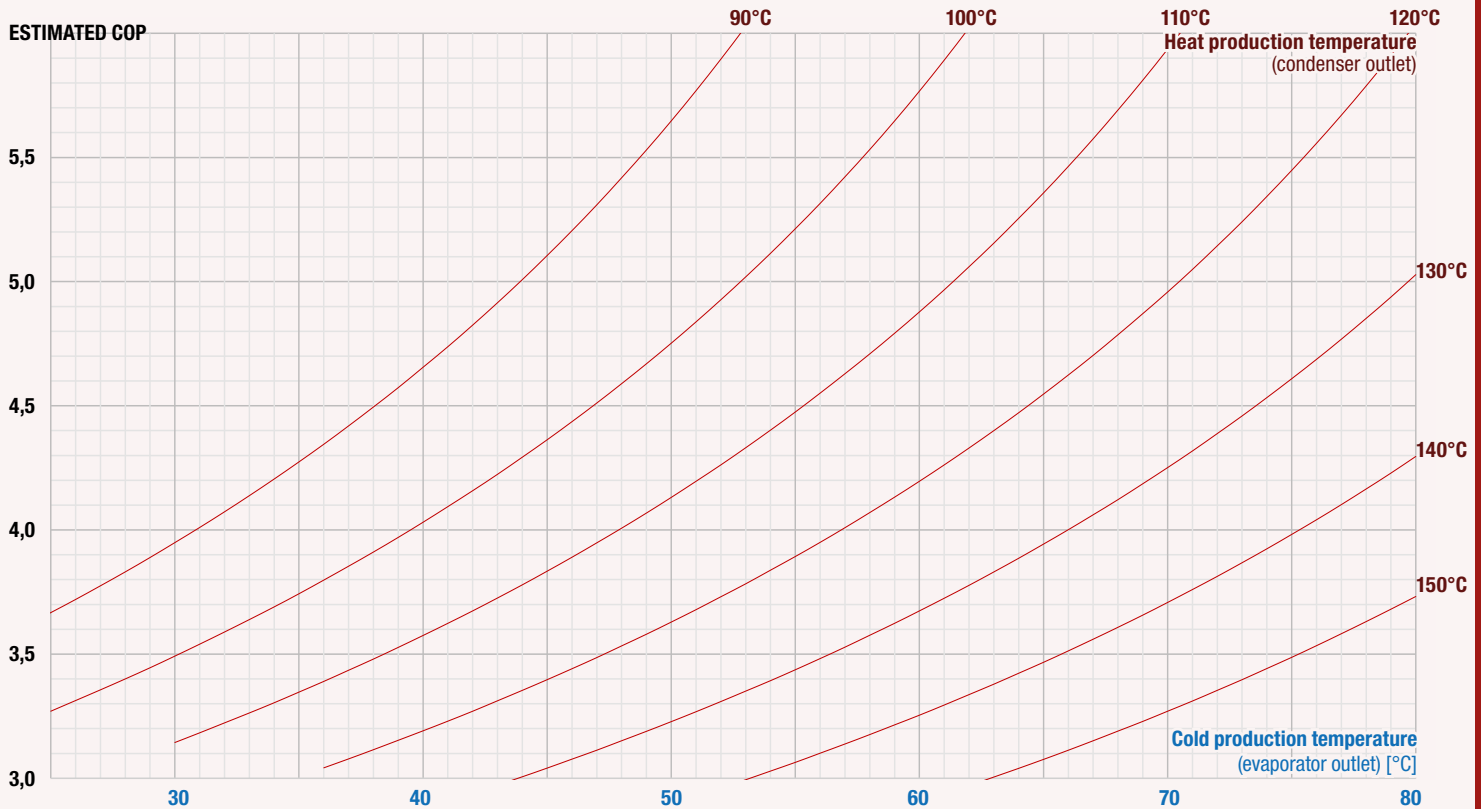
3700 kW Heat Pump on LP Steam, Le Mans, France

Our products are adapted to industrial heat applications requiring a high temperature and over 3 MW of heat.

With an optimized modular design to meet each project requirements, they are adapted to the specific needs and constraints, while maximizing their performances (COP) and profitability through the following strengths:

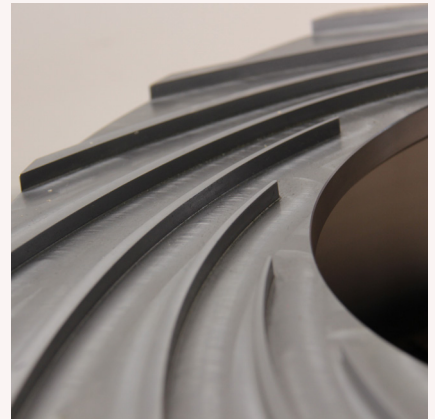
- Enertime centrifugal compressors are optimized for the Heat Pumps and project specificities
- Steam and pressurized water production up to 150°C
- Combined integration with steam compression and heat recovery systems
- Special sources (corrosives, fouling, ...)
- Location and accessibility constraints

ESTIMATIVE HEAT PUMP PERFORMANCES



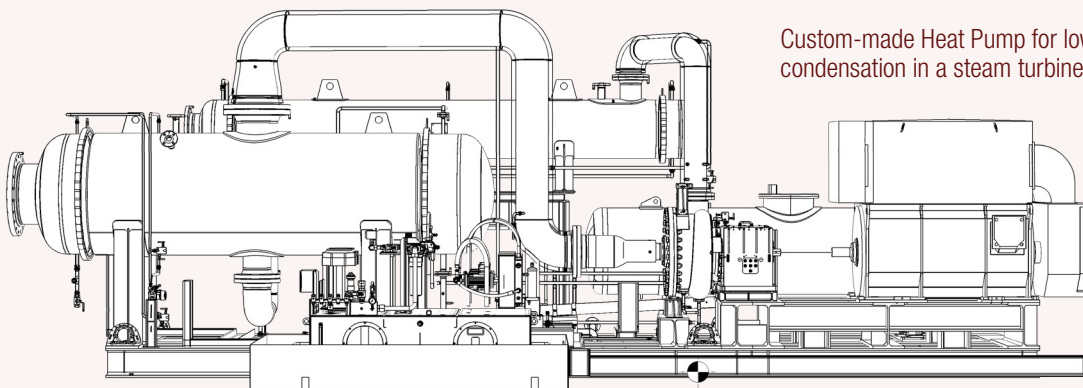
Robustly thought-out, Enertime's Heat Pumps minimize as much as possible operating and maintenance constraints. Fully automated, Enertime's products allow fast start-ups and stops and a remote supervision, with an high availability.

Enertime also offers a complete portfolio of tailored services for maintenance and 24/7 remote monitoring.



TYPE	HERMETIC	SEPARATE GROUPS
HEAT OUTPUT	2 à 5 MW	4 à 15 MW
REFRIGERANT	R1233zdE	
COLD SOURCE	Up to 100°C	
HEAT PRODUCTION	Steam from 100 to 150°C AND/OR hot and superheated water	
INSTALLED POWER	Up to 1.6 MWe	1 to 6 MWe
COP (SEE CHART ABOVE)	3,0 to 6,0	
COMPRESSORS	Mono or double stage centrifugal compressor (ENERTIME)	
GEARBOX	-	YES
CHARACTERISTICS AND ARRANGEMENT	High-speed hermetic compressor on magnetic bearings, installed above heat exchangers	4-pole motor. Separate compressor placed on the floor next to the heat exchangers

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



Custom-made Heat Pump for low-pressure vapor condensation in a steam turbine, 3.7 MW