

INTERNAL COMBUSTION ENGINE APPLICATION

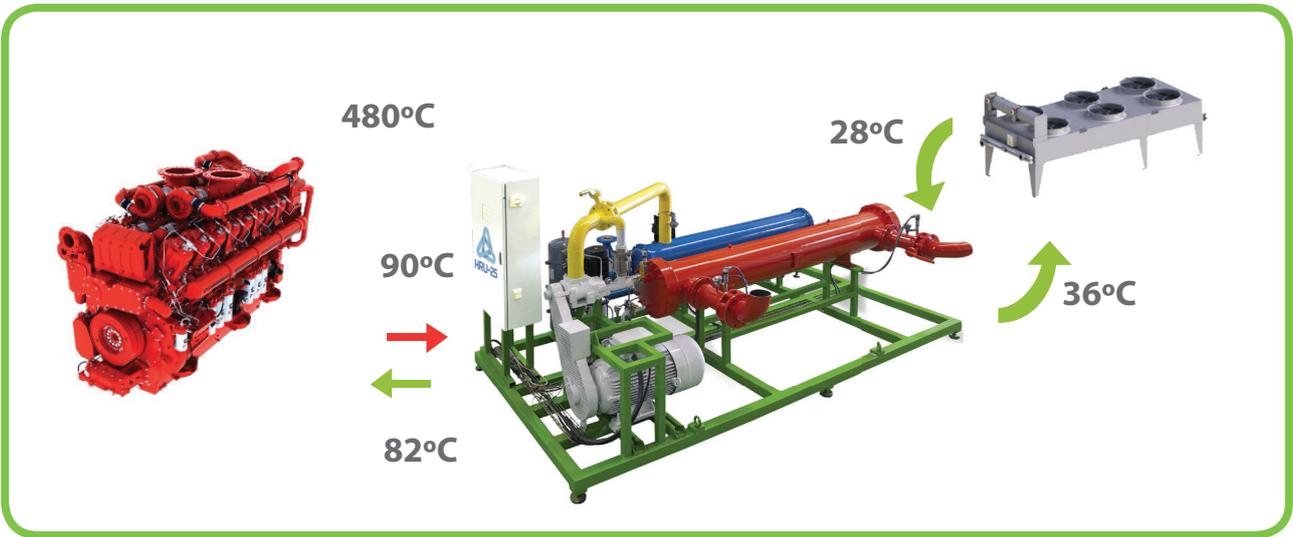
Approximately 40% of thermal power provided by fuel in an internal combustion engine is converted into mechanical work in the shaft. The rest is evacuated through exhaust gases, the jacket cooling circuit (cylinder liners and cylinder heads), the auxiliary cooling circuit (intercooler and oil cooler) and radiation.

Through ENERBASQUE HRU technology we are able to transform a lot of these heat into power, increasing the electric performance of the engine and, hence, saving fuel.

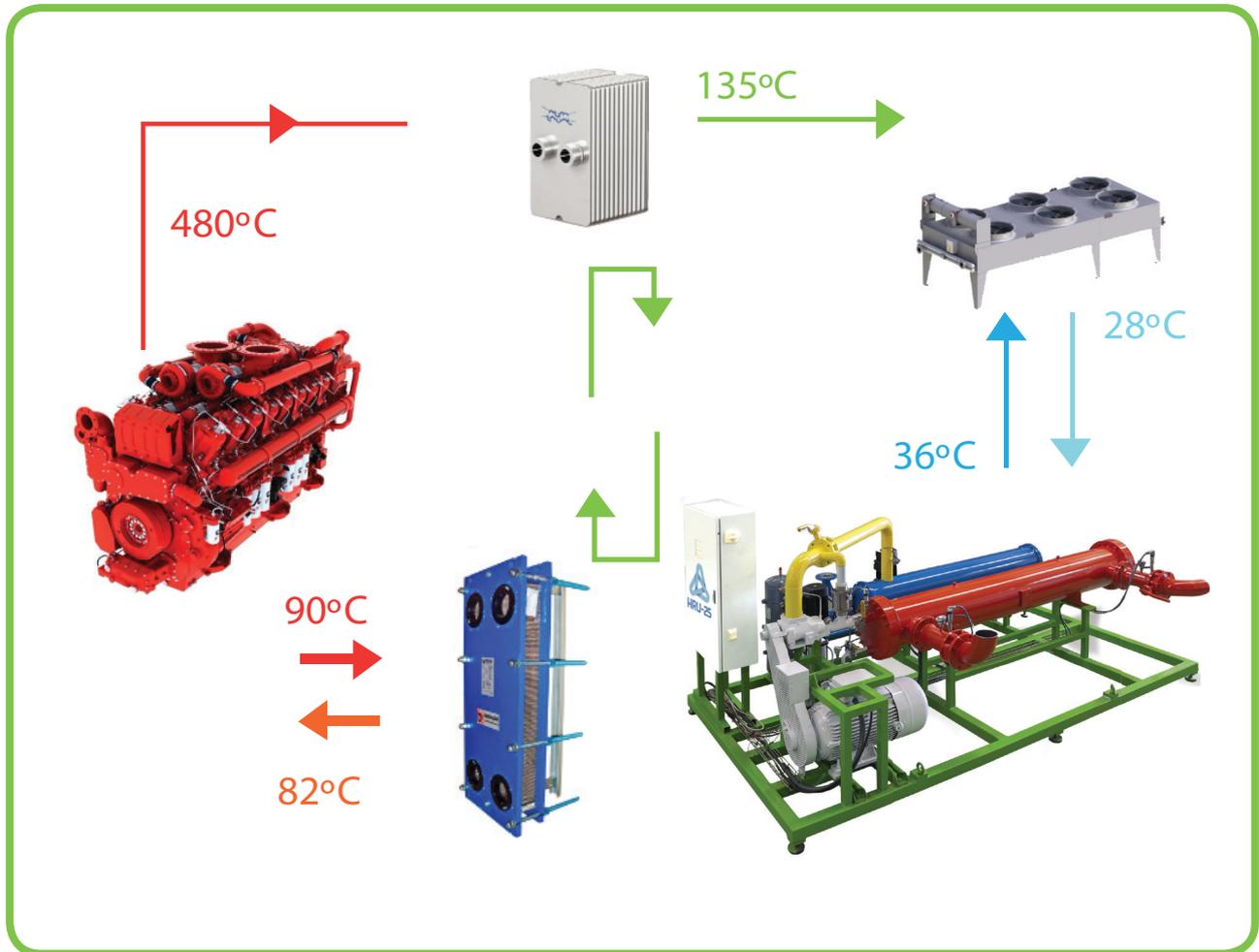
The HRU machine enables us to work with heat from the jacket circuit, with heat from the exhaust or with a combination of both, depending on the case.



In cogeneration systems in which only exhaust gases are used (steam production, drying, generation of hot air) and no heat from the jacket cooling circuit is used, the HRU machine is coupled to the system according to the following diagram:



In case of power generation in isolated areas, where normally exhaust gases and jacket circuit heat is not used, we are able to increase the heat power recovered with the following equipments configuration:



In this case, we are recovering thermal power from the jacket circuit and a lot of power from exhaust fumes and increasing, in turn, the electric performance of the machine in order to elevate, thanks to the exhaust gases, the temperature of the hot source.

The necessary cooling in the condenser may be that which already exists in the plant or may be supplied by ENERBASQUE, built into the HRU machine itself. There are different options: air, tower, evaporative condenser. It is necessary to assess in each concrete application whether the heat dissipated in the HRU machine condenser may be recovered in order to heat, for example, an DHW system.

Consult ENERBASQUE to assess your specific project. We will provide you with the system that best suits your facility to increase electrical and economic performance of the generation plant.