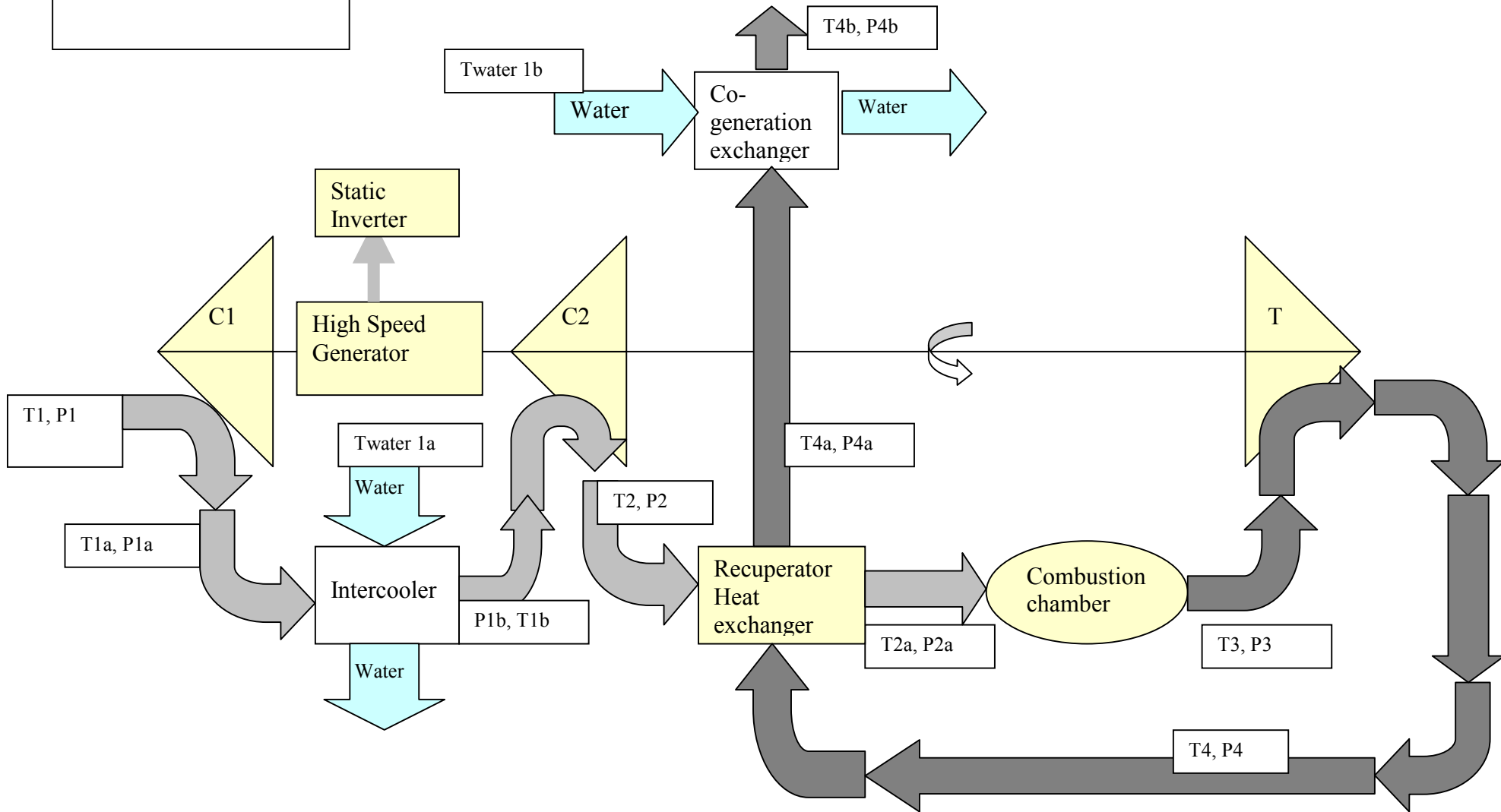


CHEP Project Schematic view



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CHEP Project Performance

OBJECTIVE: 350 kW electrical power , energy saving (CO2 gain) more than 10%, low NO_x
CONDITIONS

- Sea level ; 15°C - Air inlet and gas exhaust pressure drop : 1%
- Recuperator efficiency : 90% - Intercooler and co-gen. heat exchanger efficiency : 85%
- Cycle pressure ratio : 6/1 - Turbine inlet temperature : 950°C
- Co-gen water return temperature : 40°C

PERFORMANCE

- Engine air flow : 2 kg/s - Water flow : two times 1,5 kg/s (intercooler and co-gen. heater)
- Electrical power : 350 kW - Electrical efficiency : 35%
- Thermal power (total) : 425 kW - Thermal efficiency: 45%
- Energy saving (CO2 gain) : 18 %

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CHEP Project Component design

LOW EMISSION COMBUSTION

- **Catalytic Partial Oxidation (CPO) of natural gas and poor low NO_x combustion assisted by hydrogen**

HIGH SPEED GENERATOR

- **Nominal speed: 40 000 rpm - Size : length = 0.5 m ; outer diameter = 0,22 m- weight = 53 kg**
- **Electronic package :starter and main inverter 350 kW, 50 HZ,230/400V
Size : width = 0,9m ; depth = 0,45 m ; height =1,2 m**

RECUPERATOR

- **Spiral type - Size: length = 300mm ; outer diameter = 1250 mm- weight = 426 kg**

THERMODYNAMIC COMPONENTS

- **Compressor 1 and 2 : centrifugal compressor- pressure ratio repartition : half and half**
- **Turbine : one radial "mixt " or two stages of axial turbine**

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