

Geothermal Power Plant – Garching a.d. Alz (Bruck)

Facts

Client

SILENOS Energy Geothermie Garching
a.d. Alz GmbH & Co.KG

Location

Garching a.d. Alz (Germany)

Project realization period

04/2019 — 02/2021

Scope of services and delivery

Approval planning, engineering, construction, delivery, assembly and commissioning of a turnkey plant as general contractor

Technical Characteristics

- **Electrical gross production at design point:** 4.6 MW_{el}
- **Annual electricity production:** 36 GWh/a
- **Thermal water properties:** 125 l/s
122 °C
- **Process:** two-stage ORC-process with water cooling
- **District heating extraction:** up to 15 GWh/a
- **Cooling water extraction:** 4.000 m³/h

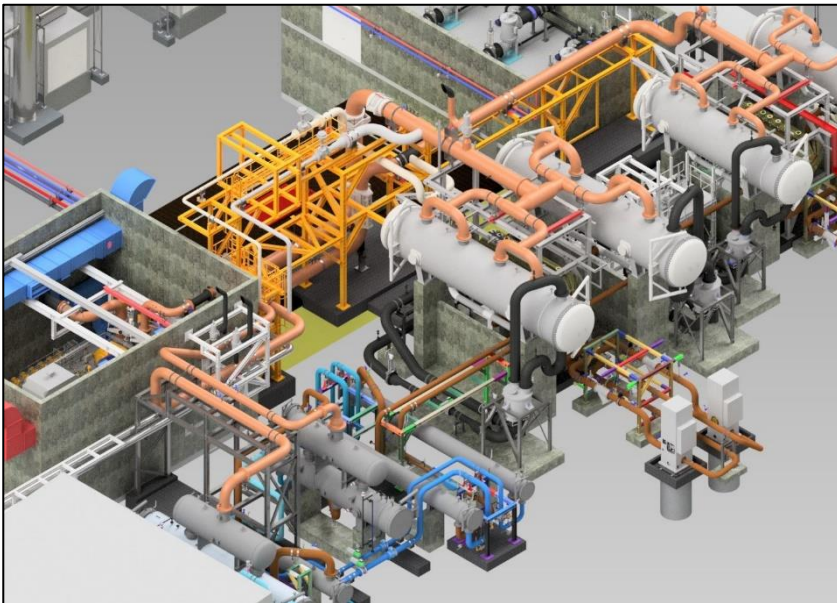


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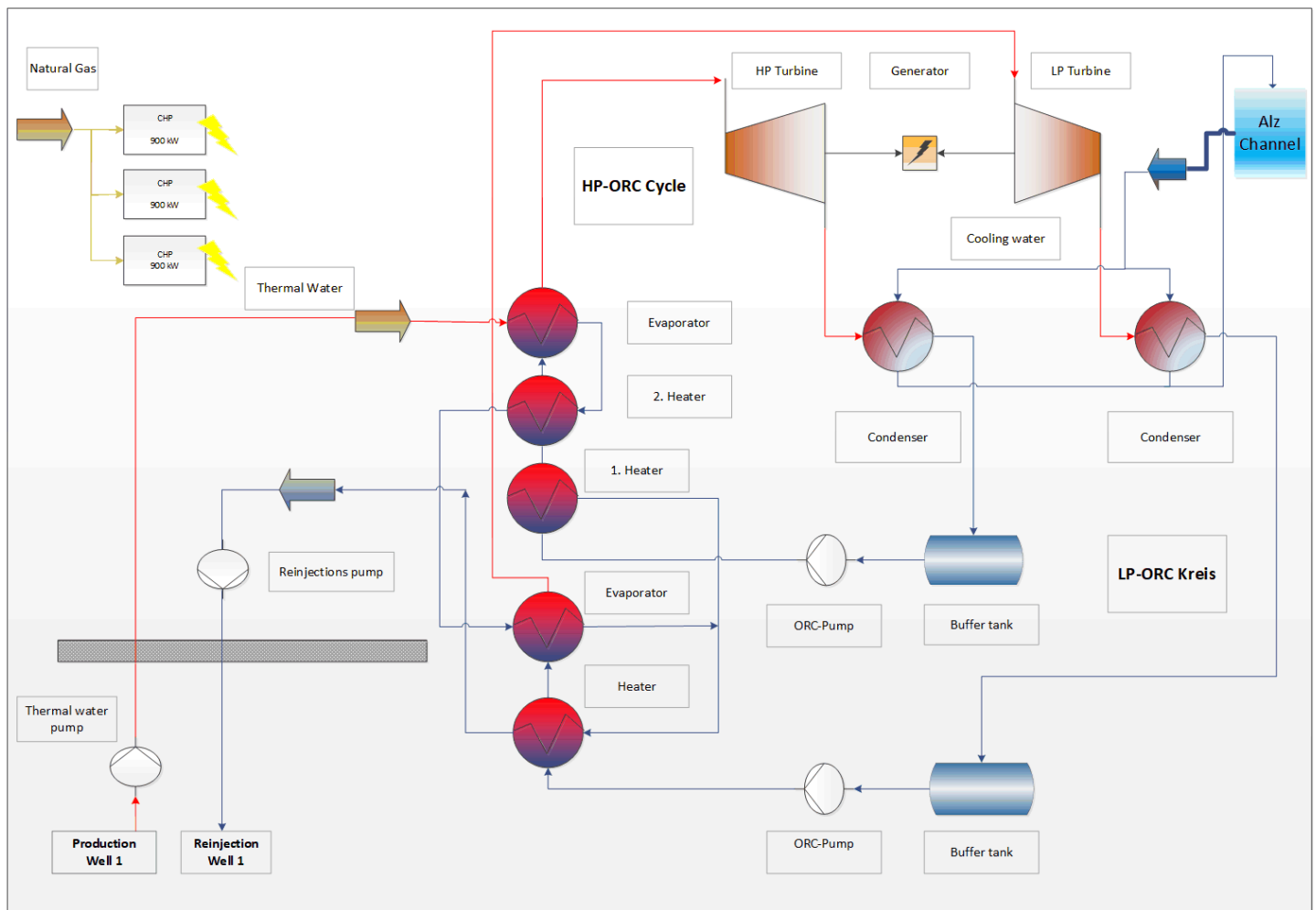
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Special features of the plant



- Innovative, two-stage ORC process with two preheaters connected in series
- Use of a robust, aerodynamically optimized and extremely low-maintenance radial turbine instead of an axial turbine
- Stable process with less need for regulation and adjustment due to the uniformity of the cooling medium water compared to air cooling
- Exceptionally high electrical efficiency [%] or high energy yield through a two-stage process in connection with the use of a radial turbine and water cooling
- High energy efficiency and low operating costs due to own electricity production using 3 CHPs (natural gas)
- Extremely low noise emissions due to the use of water cooling instead of air cooling
- Very high availability through consistent redundancy for important equipment (e.g. ORC pumps), multi-line water cooling (3 x 50%) and use of a radial turbine



Flow diagram