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Thinking solutions.

Holcim cement works
Untervaz, Switzerland

Project

- Cement works
- Operator: Holcim

Performance parameter

- Output: 1 MW
- Temperature: 215 °C
- System pressure: 23 bar
- Safety pressure: 40 bar

Task

- Special pressure maintenance (PN 40 design)
- The remit is to create an intermediate circuit so that waste gas heat at 420 °C can be used. The ORC system is operated with a temperature of 14/215 °C in the intermediate circuit (heating water). To prevent the water from evaporating, the system must be kept at a constant pressure of approx. 29 bar (pressure maintenance).

Product solution

- 1 x **Reflex special pressure maintenance station** as per regulation TRD 604 sheet 2
- 2 x **Reflex collection vessels** (3,000 l) with bladder and BOB pipe, control centre with **Reflex control unit**, cpl. **hydraulic module** with pumps and 2 overflow valves
- 1 x **Reflex control vessel** (1,000 l, 29 bar) and one **Reflex intermediate vessel** (5,000 l, 29 bar, 215 °C)
- The complete Reflex pressure maintenance station is installed outdoors; the hydraulic module and control centre are delivered by Reflex complete in a container for outdoor installation

Achieved goals

- The additional intermediate circuit enables the waste gas heat to be reduced to 220 °C and a steam turbine is able to convert the waste gas heat into power via a generator. This produces an additional nominal output of approx. 1.92 MW.
- This corresponds to an annual output of approx. 14 GWh, which is enough to supply approx. 3,500 households with power.
- Power consumption in the cement works can be reduced by 20% as a result.

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