

Construction project: StrandHotel Seeblick

Regenerative, comfortable heating on the Kiel Estuary

The StrandHotel Seeblick lies on the eastern shore of the Kiel Estuary in the Baltic Sea spa of Heikendorf, right on one of the most beautiful sandy beaches of the Bay of Kiel.

The hotel has 12 single and double rooms, two of them suites, fitted out with every comfort. It was clear to the owner early on that renewable energies and maximum comfort should be central to the planning of the heating. The objective was to combat rising energy costs and be prepared for the future. Right from the start, for instance, the house was designed for the use of a brine heat pump with a cooling function. The under-floor heating thus provides energy-saving cosiness and a pleasant room atmosphere in both winter and summer. Further energy sources are a modern, modulating gas condenser boiler and an integrated solar plant - both from ELCO.



Customer
 StrandHotel Seeblick
 Uferweg 2
 D-24226 Heikendorf

Executing technical partner
 Rolf Petersen
 Am Weidenbruch 5
 D-18196 Kessin/Rostock

BENEFITS

Efficiency

- Reduction of operating costs for energy by 68 %*
- Calculable costs through Longlife maintenance contract
- Amortisation of investment through energy savings and reduced operating costs within 7 years, without depreciation

Convenience

- Hygienic warm-water treatment
- Flexible adjustment of power through wide range of modulation

- Free environmental energy
- Efficient room cooling via heat pump

Reliability

- One hundred percent operating reliability through cascaded system
- Bivalent operation
- Energy monitoring
- Hygienic fresh-water treatment
- 24-hour fault rectification

*Compared with standard EnEV calculation.

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Perfectly harmonised system solution with maximum operating reliability

The starting point

Hotels make high demands on warm water and comfortable heating. Heating and warm water make up as much as 20 % of the overall operating costs. In addition, a very high degree of operating reliability is necessary in heat generators in the hotel sector. In the case of the StrandHotel, the greater part of the energy requirement was to be covered from regenerative sources all year round, in order to make operation largely independent of energy costs.

The planning was based on the following facts:

- Hotel with 12 rooms. Area to be heated: 2,800 m².
- Central heat generator: two gas-brine heat pumps.
- For flexible coverage of peak demands (e.g. in the mornings and evenings): two gas condensing boilers with wide range of modulation.
- A supplementary solar installation to cover a large portion of the warm-water treatment with solar energy.
- Planned energy consumption: 307 MW per year.
- Energy standard: ENEC 2007.

The new system

ELCO succeeded in winning over the hotel's operator with their high degree of system competence and reference systems installed in other hotels.

The main feature of the system solution in StrandHotel Seeblick is the two cascaded AQUATOP T 35 H brine heat pumps for heating warm water and for cooling, and 2 cascaded modulating R30 gas condensing boilers with a wide power range.

The system is supplemented by a 40 m² SOLATRON R 2.5 flat collector for support of the warm-water and heating, and for the hygienic treatment of fresh water. The special hydraulics and control system ensure maximum energy utilisation in combination with the heat pumps, the gas condensing boilers and the solar plant. The harmonised, modular construction simplified assembly and saved costs.

This intelligent heating-system solution sustainably minimises the energy consumption of the StrandHotel. Monitoring of consumption is optimised via the Internet.

With the Longlife service package, ELCO ensures optimised operation of the system with clear, calculable costs.

Equipment	New system
Heat pump:	2 x AQUATOP T 35 H heat pumps, cascaded
Total power, heating	76 kW
Total power, cooling	42 kW
Solar plant:	40 m ² SOLATRON R 2.5 flat solar collector
Boilers:	2 x gas condensing boilers R30, cascaded
Rated power	2 x 85 kW
Total power, gas	170 kW
Standard efficiency factor	106 %/109.8 %



Guaranteed availability and calculable costs

The service to match the system

Longlife 5 Plus with guaranteed technical availability

The Longlife service package ensures reliable operation of the whole system at clear, calculable costs.

- **Cost transparency**

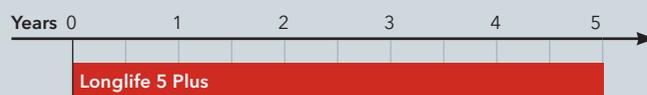
The 5-year system contract allows exact calculation of the maintenance and repair costs on the basis of annual lump sums with constant costs. All original ELCO replacement and wear parts are included.

- **Protection of investment**

With system commissioning and the annual maintenance, the entire system is in perfect condition at all times.

- **Reliability**

Reliable operation of the gas condensing boilers is guaranteed for 5 years. In addition, ELCO offers repair of faults within 24 hours, 365 days a year, including nights.



StrandHotel Seeblick

Situation:

Heikendorf, on the Eastern shore of the Kiel Estuary.

Rooms:

Ten single and double rooms and two suites, each with WLAN Internet access, cable TV, radio and telephone.

Furnishings:

The rooms are tastefully furnished in modern rustic style; the floors are laid with quality oak for the benefit of guests with allergies.

Relaxation/Gastronomy:

Sauna, fitness room, open fire, conservatory and a beach café and bistro with large beach terrace, open daily.

