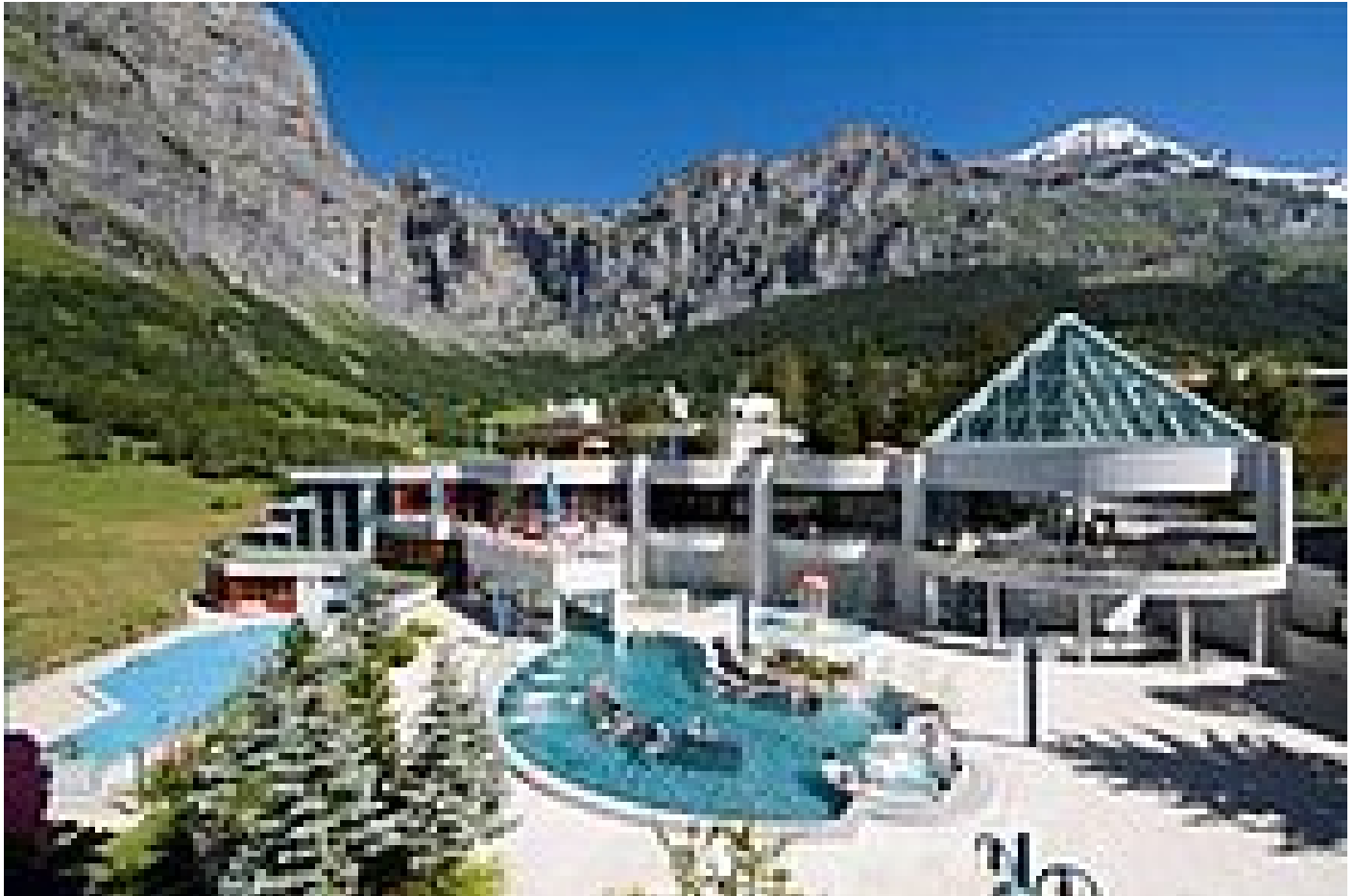


[Home](#) ■ [HUBER Report](#) ■ [Leukerbad in Switzerland uses HUBER Heat Exchanger for heat recovery from thermal spa wastewater](#)

Leukerbad in Switzerland uses HUBER Heat Exchanger for heat recovery from thermal spa wastewater



Burgerbad spa at Leukerbad

"Leukerbad is one of the largest spa & holiday resorts in the Alps with the most beautiful thermal baths in Switzerland. Whether for a recreational weekend or a longer stay, everyone will enjoy the rejuvenating thermal water, rich in minerals, from mountain springs. Leukerbad offers its visitors on 365 days a year a wide range of facilities to match every taste. With an impressive 3.9 million litres of 51 °C hot thermal water streaming into the pools every day Leukerbad has the most voluminous reserves of thermal water in the whole of Europe." (source: www.leukerbad.ch).

With this description and its breathtaking mountain scenery the idyllic village of Leukerbad in the Swiss canton Valais attracts thousands of guests every year, no matter whether they like winter sports or prefer hiking. But it was one sentence that attracted the attention of HUBER SE: "... an impressive 3.9 million litres of 51 °C hot thermal water ..."

Such enormous volumes of water with a very high temperature are ideal for the recovery of heat from wastewater. Even if it is not municipal wastewater with its typical pollutants, the spring water not only cools down but contains also grease and oil as well as skin particles from bathing activities. Due to these pollutants and the wash water of the filter plants conventional plate heat exchangers cannot be used. The risk of blocking and clogging of the narrow channels would be too high, not to talk of the sediments on the heat exchanger surfaces and consequential decrease in heat transfer.

HUBER SE has developed the RoWin Heat Exchanger particularly for such problems. Its efficiency and reliability has already been proven impressively in several projects. Nevertheless, we still had to convince the Burgerbad spa operators in Leukerbad. The spa uses about 20% of the thermal spring water to offer its guest superb relaxation in its wide choice of pools. Although the thermal water loses some of its energy in the pools, it leaves the spa with a temperature of about 30 °C. The fact that this temperature level is sufficient to ensure the supply for a modern heating system shows the high energy potential of these thermal springs.

What distinguishes the Burgerbad project from previous projects is the fact that it is the first project for which the tank version of the HUBER RoWin Heat Exchanger has been used. The heat exchanger modules are not mounted in a stainless steel tank as usual but directly in the concrete tank. It is therefore possible to install the modules underground. In this case they are installed in a tank below



HUBER RoWin Heat Exchanger (tank version) during installation

the parking area on the rear side of the spa. In order not to lose some of the parking area, the tank has load-bearing covers. So, it is out of sight but thanks to its excellent performance certainly never out of mind.

As the water flows from the building by gravity there is no need for a pump to feed the heat exchangers, this saves energy and significantly improves efficiency.

The optimised interconnection of both heat exchangers ensures an output of 450 kW from a wastewater flow of 8 – 9 l/s. As about 300 kW are added from an external energy source the heat pump receives 750 kW with a temperature of about 20 °C and generates a heat output in excess of 1 MW which is available to be used for heating purposes within the Burgerbad spa. It is therefore not only the spa guests who profit from the heat from the thermal springs but also the Burgerbad operators.

A natural energy source, all-year-round availability, heat exchangers installed in the outflow from the spa, an excellent coefficient of performance of the heat pump – this list of benefits could certainly be continued. The Burgerbad operators realised how profitable it is to use heat recovered from wastewater. Once this news has spread beyond the Valais, Burgerbad will certainly not remain the only spa that optimises its energy balance with a HUBER RoWin Heat Exchanger.

Facts and figures

- 2x RoWin Heat Exchanger size 8, tank version
- Wastewater flow: approx. 8 l/s with a temperature of approx. 30%
- Energy recovered: approx. 450 kW

Related Products:

- [HUBER Heat Exchanger RoWin](#)

Related Solutions:

- [HUBER Solution for Heat Recovery from Sewers \(ThermWin\)](#)
- [Wastewater Heat recovery: HUBER Solutions for Local and Short Loops](#)

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