



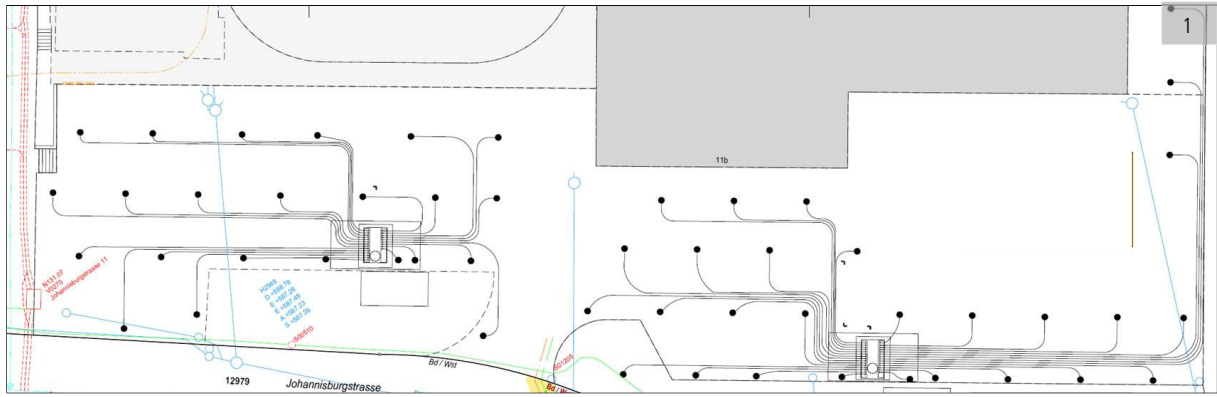
Image source: Anex Ingenieure AG

## Project report

### **GEROthem<sup>®</sup> FLUX geothermal probes**

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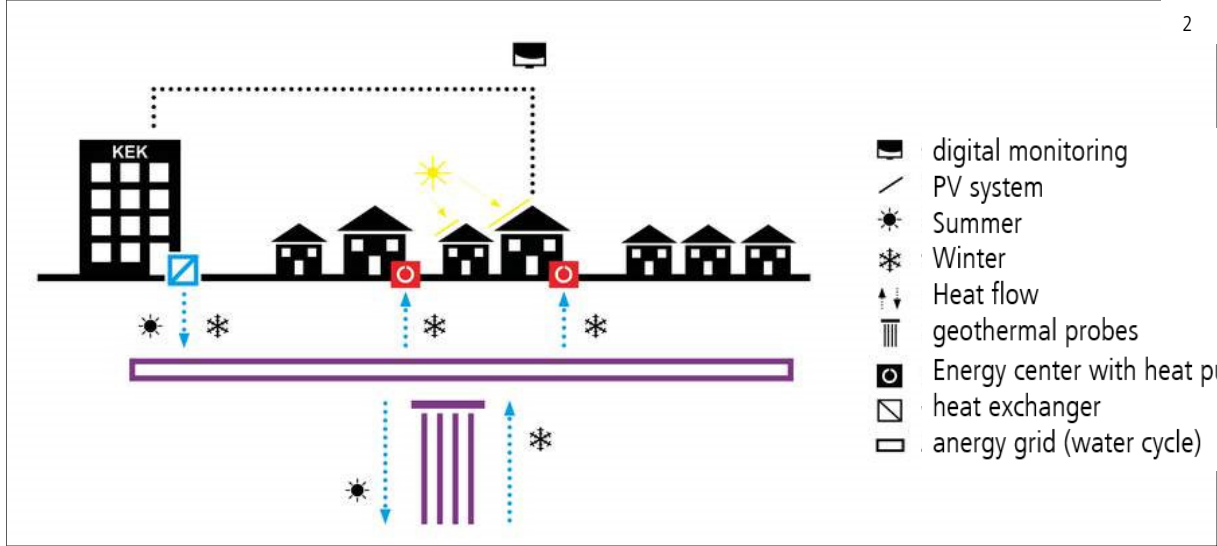
**Energy grid / seasonal underground storage  
Küsnacht Skating Rink – KEK  
8700 Küsnacht/ZH**



A new energy grid has been built in the Zurich lakeside municipality, which uses the surplus waste heat from the skating rink via a seasonal underground storage. With the conversion of the Küsnacht Skating Rink (KEK), the local energy supplier Werke am Zürichsee AG had an investigation conducted on how the ice rink could be operated sustainably. Synergies with surrounding buildings with a demand for heat were utilised.

The waste heat generated during ice production is fed into the geothermal probe field and temporarily stored in the ground. As soon as the properties in the vicinity require heat energy, the heat can be extracted from the ground and transported to the customers via a heat network. 50 GEROtherm® FLUX de 43 mm geothermal probes, each 310 metres long, were sunk into the ground. The innovative, 310-

metre-long GEROtherm® FLUX geothermal probes de 43 mm PN32 were expertly sunk by Gadola Bau AG. Each geothermal probe was tested and the results recorded using a measuring device for pressure and flow tests (in accordance with SIA 384/6). In addition, Gadola Bau AG expertly carried out all civil engineering work.





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1. Configuration of the seasonal underground storage  
(Image source: Werke am Zürichsee AG)
2. Principle diagram / process  
(Image source: Anex Ingenieure AG)
3. GEROtherm® FLUX geothermal probe and grouting tube, ready for sinking  
(Image source: HakaGerodur)
4. GEROtherm® manhole type 4, SAVE 250, 29 x 50 mm  
(Image source: HakaGerodur)
5. The interior of the manhole with an access ladder and light switch.  
(Image source: HakaGerodur)
6. The inside of the manhole with a ball shut-off valve (Image source: HakaGerodur)
7. GEROtherm® FLUX geothermal probe during sinking  
(Image source: Werke am Zürichsee AG)



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The probe field was divided into two shafts. The manhole type 4 with 23 connections and a manhole type 4 with 29 connections. The two probe fields are led with the connecting lines to two buried plastic shafts. Flow and return

manifolds made from PE100-RC are installed in the shafts. The SAVE 250 collectors/distributors with 23 and 29 de 50 mm connections are at the heart of the system. They are equipped with a plastic ball shut-off valve, a filling and an emptying

valve. This allows optimal integration of each geothermal probe into the probe network so they can achieve the best performance.

## Project data

### Construction site

Kunsteisenbahn Küsnacht – KEK  
Johannisburgstrasse 11  
8700 Küsnacht

### Client

**werke**  
am zürichsee

Werke am Zürichsee AG  
Freihofstrasse 30  
8700 Küsnacht ZH

### Planning / site supervision

**an**  
**ex**

Anex Ingenieure AG  
Valentin Müller  
Limmatstrasse 291  
8005 Zurich  
www.anex.ch

### Drilling company

**gadola**

Gadola Bau AG  
Geothermal probes  
Etienne Spruijt  
Riedikerstrasse 63  
8616 Riedikon  
www.gadola-bau.ch

### Products used

- 50x GEROtherm® FLUX geothermal probes, de 43 mm, length 310 metres
- 1x GEROtherm® manhole type 4, SAVE 250, 23 x 50 mm. Incl. built-in stainless-steel ladder
- 1x GEROtherm® manhole type 4, SAVE 250, 29 x 50 mm incl. built-in stainless-steel ladder



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