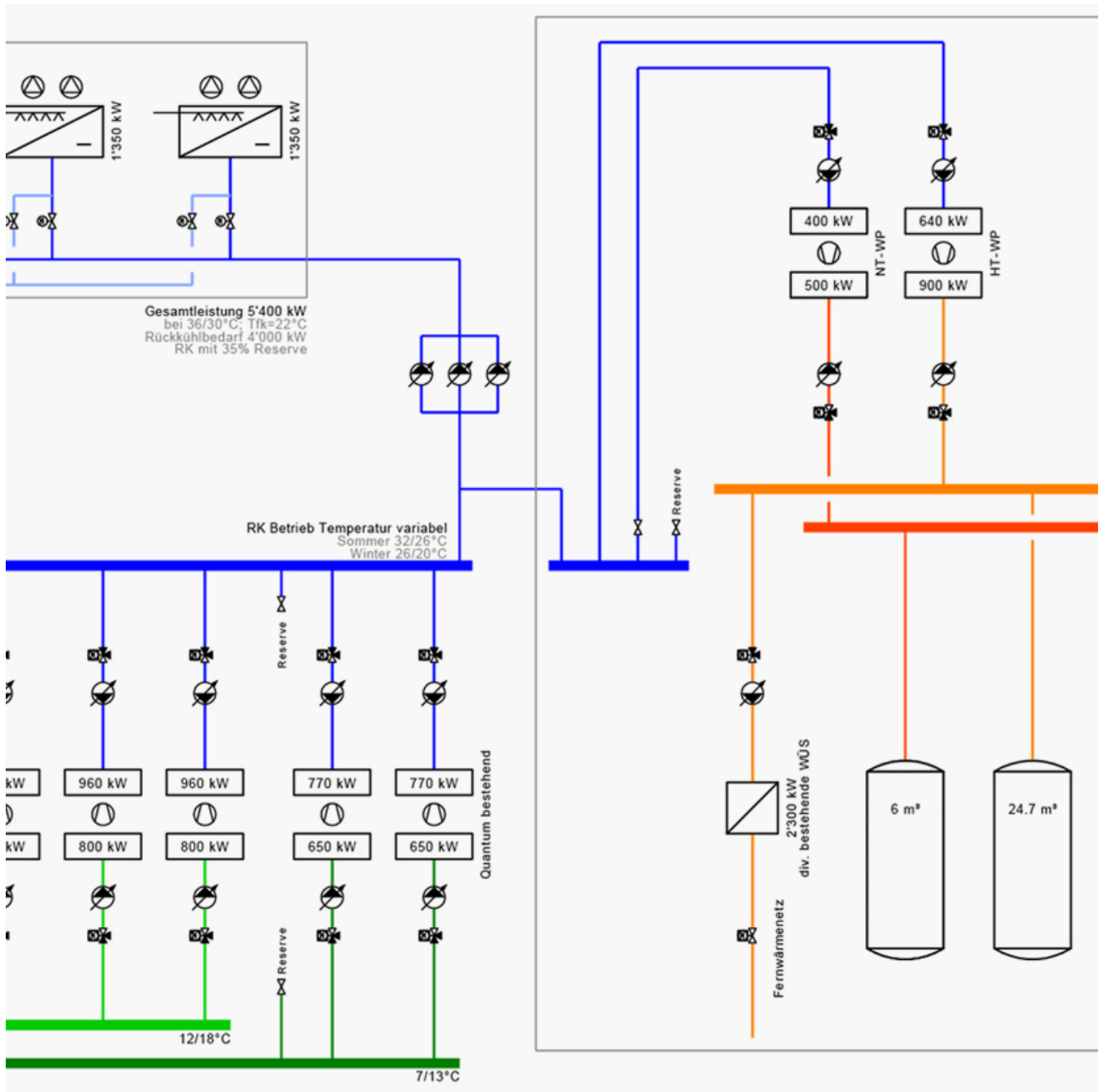


Refrigeration plan for the electrical engineering complex at ETH Zurich



Client

ETH Zurich

Facts

Period 2012 - 2016

Project Country Switzerland

Project investment approx. CHF 10 million

Participating trades 7

The new GLC Building at the ETH Zurich campus has tripled the need for cooling at the university's electrical engineering complex. Meeting this increased demand required the drafting of a reliable refrigeration plan. The scope of the planning assignment included the identification of appropriate installation locations and obtaining the necessary permit for additional chillers and re-coolers. In addition to completing these tasks, EBP carried out all the necessary feasibility studies.

The commissioning of the new building increased cooling demand at ETH's electrical engineering complex from around 1 MW to 2.7 MW. The original plan to install a refrigeration and re-cooling system on top of the new building failed to get the necessary approval. That is why we were assigned to determine whether the existing refrigeration system in the ETF Building could be expanded to produce the necessary additional cooling.

In addition to refrigeration, the scope of the project included examining the viability of a chiller-heat-pump system to make use of waste heat. It was also necessary to increase the capacity of the re-cooling system to discharge unusable waste heat during the summer months. We therefore made provision for the installation of efficient, hybrid re-coolers.

One special challenge in the context of the project was to gain approval for a larger re-cooler on the roof of the ETF building. To do this, we had experts carry out noise-development studies. We also defined the spatial requirements, consulted with the relevant agencies and amended our application accordingly until we had obtained the necessary approval.

Our services

- Working out a basis for the plan's realization
- Drafting a heating and cooling plan
- Checking the compatibility of related technical installations (e.g. electrical, plumbing and building-automation systems)
- Checking the structural feasibility of installing the expanded re-cooling system on the building's roof

- Obtaining the relevant approval for installing the new re-cooling system on the building's roof

Contact Persons



Philipp Deflorin
philipp.deflorin@ebp.ch