

Nussbaum live



Laboratory workplaces for 3,800 persons

The number of students at colleges and universities is increasing worldwide and the space problem is acute in many places. About thirty years ago, ETH Zurich moved several subject areas to the Höggerberg campus (northwest of Zurich) and in 1993 the Federal Assembly approved another extension. This third stage consisted of a large, impressive building complex for the chemistry and materials science disciplines. The comb-like structure with five wings offers the most modern workplaces for 3,800 students, student trainees, doctoral candidates and ETH employees. The first three wings (Phase 1) were put into use in 2001, and the remaining two wings (Phase 2) were opened in 2004.

Construction of new laboratories at ETH Zurich Höggerberg

34 kilometres of sanitation installations in stainless steel and copper

Visionary laboratory concept

The third building stage included so many laboratories that the «Laboratory vision ETHZ» was developed during the planning phase. Using a scale of 1:1, a completely installed laboratory with experiment room for testing purposes and two offices were built. A thorough evaluation by specialists allowed a concept for a future-oriented, ergonomically optimised laboratory to be developed that ensured a customised supply of services (energy, gas, water, air), an especially economical use of resources and extensive flexibility in the layout. The stringent requirements for the sanitation installations in the buildings were also derived from this laboratory concept.

For the second phase of the construction of the new laboratories at ETH Zurich Höggerberg, Nussbaum supplied all the water and gas installations as well as all the building taps and fixtures. The Optipress pipes and all Optipress fittings were all made of stainless steel.



Vertical service shaft

well in

Optipress stainless steel pipes and fittings

Project management decided to use products from Nussbaum AG for this challenging contract because:

- the Optipress installation system met the highest quality requirements in every respect
- the entire Optipress program and all the fittings in the required gauges were available in stainless steel
- all the installation systems for water and gas as well as all the building taps and fixtures could be procured from the same supplier, which meant both the ordering and the accounting processes could be greatly simplified.

A total of 32,000 metres of Optipress stainless steel piping with stainless steel fittings for the water pipes and 2,000 metres of Cu-press copper piping with copper fittings for the gas pipes were laid during Phase 2 of the third building stage.



Detail of a rising zone

Impressive pipe network In each wing there are 17 vertical laboratory shafts, which supply the laboratories and experiment rooms with water and gas. There are a total of six independent pipe systems ranging from gauge DN 12 to DN 100:



One of the central distribution areas

- Cold water «mains pressure» (10 bar)
- Hot water (circulating)
- Cold water (reduced pressure)
- Cold water «osmosis» (completely desalinated, e.g., for use in the final rinsing phase of washing machines; circulating)
- Laboratory cooling water (12°C; circulating)
- Cold water for sprinkler system (Optipress XL)

To keep variations in the system to a minimum, all the toilet installations also used the Optipress installation system and fittings in stainless steel.

Time-saving press technology and convincing tapware

Thanks to the very efficient press technology and the wide range available, the Optipress system from Nussbaum is very convincing. «Without the press technology, we would never have been able to achieve the high aims of the schedule,» says Ernst Honegger, Head Fitter of ARGE Sanitär Benz-Heusser. «Only if we work very efficiently, can we meet the scheduled deadlines.»

Besides the omnipresent Optipress installations in the building complex, taps and fix-

tures from Nussbaum are also prominently represented. In the first underground floor of each wing is a central distribution area with cut-off, pressure-reducing, non-return and drain valves, fine filters and flanged membrane valves. As a total-solution provider, Nussbaum was able to fulfil all the relevant needs. Nussbaum also supplied prefabricated chromium steel pipes and chromium steel distributors that were welded at the factory.



Sturdy installation down to the taps

stalled



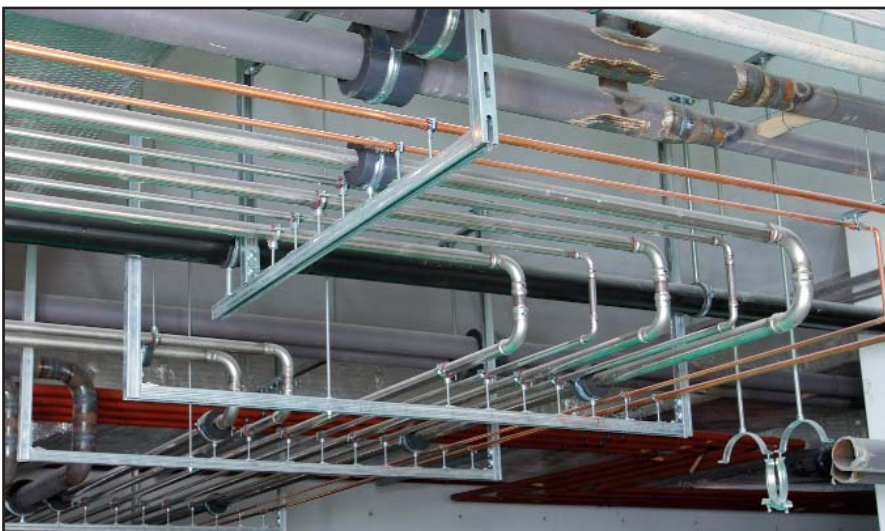
... to the last detail

Special emergency installations with Nussbaum fixtures

In laboratories where substances that are not well-known are being handled and researched, being prepared for emergencies is all-important. Therefore, ETH Zurich installed emergency showers on every floor at the entrances to the stairwells. In emergencies, one can shower off immediately with a huge amount of water. Moreover, every floor also

has three so-called ETH emergency islands. In addition to the emergency showers, these are equipped with an eye bath, fire hose, fire blanket, sand, hand fire extinguishers and an emergency telephone.

The emergency showers and the fixtures of the emergency islands are also from Nussbaum. They are a component of Nussbaum's Labora range.



Service pipe distribution in the cellar



Responsible for the construction were Thomas Willmann and Ernst Honegger (both ARGE Sanitär Benz-Heusser), Roland Emmenegger (Nussbaum Zurich branch) and René Vernay (Ingenieurbüro Abicht AG)

Involved in Phase 2 of the third building stage at ETH Höggerberg:

Building owner:

Swiss Federal Department of Finance, 3003 Bern, represented by ETH Zurich, Construction Dept., 8092 Zurich

General contractor:

HRS Hauser Rutishauser Suter AG, 8501 Frauenfeld

Sanitary engineer:

Hans Abicht AG, 6300 Zug

Plumbing contractor:

ARGE Sanitär Benz-Heusser representatives of Benz & Cie. AG, 8031 Zurich and F. Heusser AG, 8031 Zurich

Construction start (excavation):

Autumn 2001

Completion: Summer 2004

With Nussbaum everything runs smoothly

«We work according to the Just-in-Time method and cannot provide any intermediate storage on the construction site,» explains Thomas Willmann, Project Leader of ARGE Sanitär Benz-Heusser. «Therefore, we have to have an absolutely reliable supplier.» All installation materials are ordered by fax and the next morning they are delivered by Nussbaum.

Head Fitter Ernst Honegger, who supervises more than 25 fitters on the construction site,



An ETH emergency island with shower

is a full supporter of the partnership. «With Nussbaum everything runs smoothly,» he says and confirms that the work with the Nussbaum specialists, their competent advice and their coordination help in planning and implementation was highly valued.

Incidentally, the well-known Zurich sanitary installation companies Benz & Cie. AG and F. Heusser AG, which merged into ARGE Sanitär Benz-Heusser, have worked with Nussbaum installation systems for decades, and at Benz & Cie. AG, the partnership has lasted longer than 75 years!

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A successful team