



Seit 1877

**Kiefer**

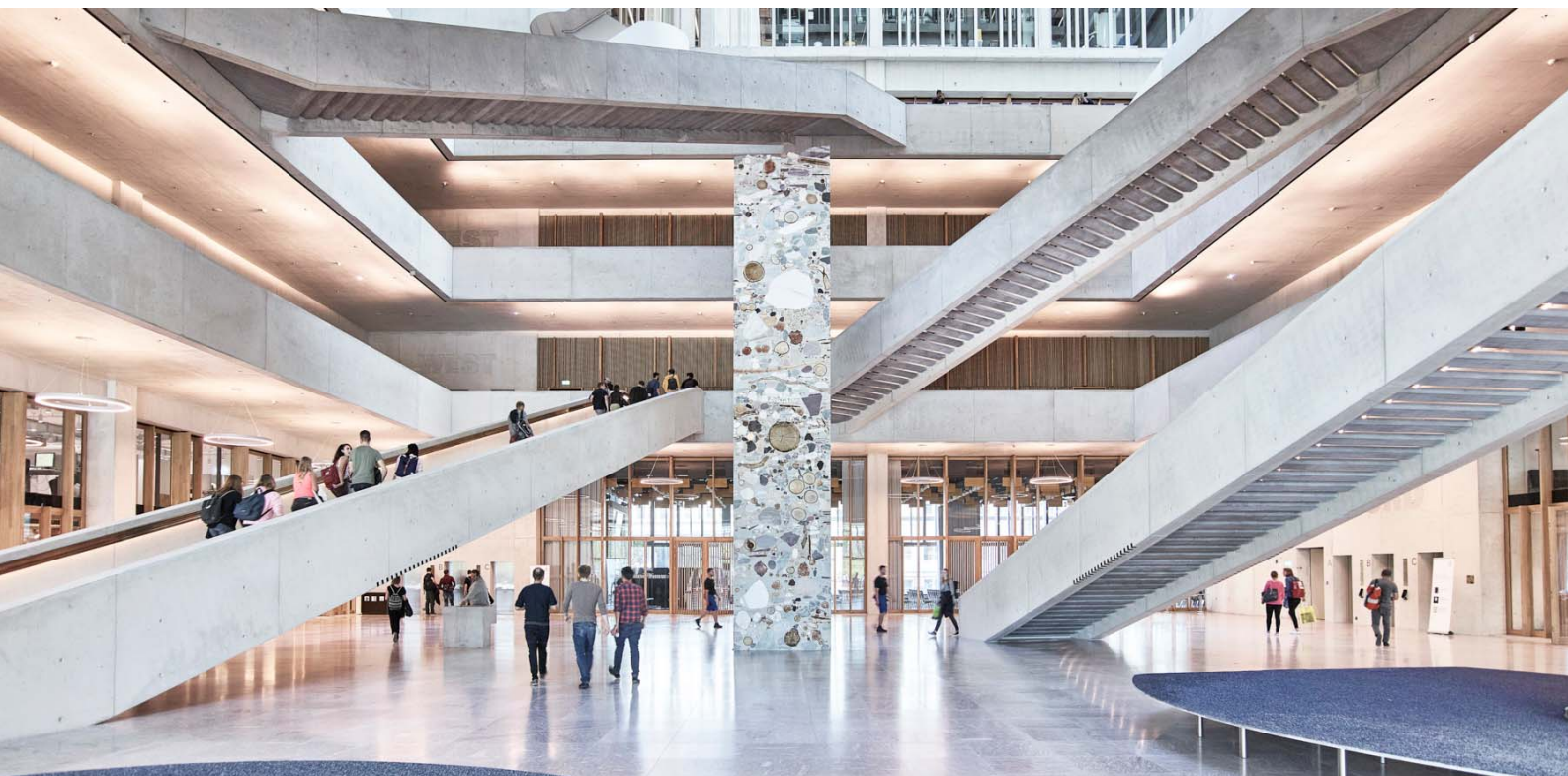
Luft- und Klimatechnik

Neue Wege mit Luft

# Transfer grille INDUSILENT

## FHNW-Campus, Muttenz

Kiefer transfer grilles for high quality interior design



Nowadays, in modern buildings with tight building envelopes, sound-absorbing transfer grilles are an intelligent solution for extract air routing.

Images Gataric-Fotografie: FHNW Campus Muttenz, photo Zeljko Gataric

October 2018 saw the opening of Northwest Switzerland's new University of Applied Sciences and Arts in Muttenz near Basel. It was designed by pool Architekten from Zurich. Five schools operate alongside each other on an interdisciplinary basis in a vertically structured high-rise campus building. The dimensions of the virtually square tower are impressive: at 72 m wide and 64.5 m long, it rises 64.5 m into the sky.

Fresh air inside the imposing cube is provided by a ventilation concept in which the sound-absorbing INDUSILENT transfer grille plays a key role. This meant the consistently high quality architecture could be implemented according to the architect's exact specifications, in every last technical detail.

Around 4000 students of Architecture, Life Sciences, Education, Social Work and Engineering plus 840 staff have a state of the art space to work and study in the new FHNW Muttenz Campus. Despite the vast construction volume of 32,000 m<sup>3</sup>, pool Architekten from Zurich were able to design an extremely attractive environment, creating a vertical campus rather than the usual horizontal style.





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### Five schools under one roof – the spatial concept

The entrance level consists of an atrium modelled on a market square, surrounded by the reception, auditorium, canteen, cafeteria and a large lecture theatre with a mobile stage. On the first and second floors there are 16 lecture halls and the numerous classrooms of all five schools. The third floor was designed as a piano nobile,



housing not only the openly designed library, but also flexible spaces for seminars, presentations, etc. The rooms on the eight floors above this are not open to the public and include offices for the five schools as well as study areas for the students. The twelfth and final floor has further seminar rooms, a lounge and a hidden roof garden that is only open to the sky.

### A pinnacle of elegance

The interior of the vertical campus receives daylight from the atrium and two lightwells. The atrium extends from the ground floor to the third floor. From the fourth floor upwards, an additional central section divides the atrium into two lightwells reaching up to the roof. The large open space of the atrium is an architectural highlight with six intersecting flights of stairs, whilst each lightwell features a special sculptural staircase. A further eye-catcher is the concrete Dreamer column on the ground floor: at eleven metres high and weighing a thousand tonnes, it was designed by artist Katja Schenker from Zurich.

### Transfer concept as the basis for ventilation

On the upper floors, all supply air lines are visible in the ribs of the concrete ribbed ceilings and supply the rooms with the necessary amounts of outdoor air. On the public floors used by all the schools, where the lecture halls are situated, the building services were concealed due to the complex interior acoustics requirements.

If the air pressure rises due to the supply air in the rooms, air escapes into the corridors via the transfer openings in the drywalls, and from there into the atrium. Speaking about the ventilation concept, the project manager at pool Architekten explained: "The courtyard-type building design with the two lightwells serves to remove the extract air." This means that the extract air rises via the atrium and the two lightwells to the roof, where heat is recovered and the air then escapes. Extract air ducts are only necessary in the laboratories and catering areas. This allowed installation costs to be reduced and the energy costs of operating power to be minimised. In the event of a fire, turbines below the roof would extract the smoke from the atrium. Thus, architecture and technology interact intelligently when it comes to fire safety too.

The lightweight walls of the 16 lecture halls are clad with acoustic panels that incorporate vertical strips. The specially designed INDUSILENT transfer grilles ensure the free transfer of air from inside the lecture halls to the corridor.

Images Gataric-Fotografie: FHNW Campus MuttENZ, photo Zeljko Gataric







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## FHNW-Campus, Muttenz

Transfer grille INDUSILENT – as a standard feature and a special design

Two versions of the transfer grille are used in the FHNW campus building: firstly, the INDUSILENT type TS as a standard version for narrow system partition walls, and secondly, the INDUSILENT type TG as a special design for installation in double planked stud walls.

The standard grille, type TS, has a 1200 x 230 mm plenum box and is suitable for flush installation in narrow partition walls. It has a low pressure drop and a high sound attenuation value  $R_w$ . A total of 500 such grilles are distributed throughout all floors of the FHNW Campus Muttenz and ensure the free transfer of air from the smaller rooms to the atrium. The slit of the transfer grilles, which is visible from the room, was designed at the architects' request as a 2 cm high, open shadow gap, which in situ looks like a continuous black band running across three grilles at a time. Around 500 specially designed INDUSILENT type TG transfer grilles were required.



They are located in the 20.5 cm thick lightweight walls of the seminar rooms on the first and second floors, which have been designed to a particularly high standard. These partition walls feature vertical wooden slats of solid oak on the outside, into which the transfer slits are inconspicuously integrated. To achieve this, Kiefer manufactured transfer grilles with an extra-long "neck", to bridge the width of the wall to the corridor side.



The corridor walls of the lecture halls on the first and second floors are made of fine oak slats. The openings of the INDUSILENT transfer grilles are also integrated into the vertical structure.

Images above: Gataric-Fotografie: FHNW Campus Muttenz, photo Zeljko Gataric

### Technical Data

Building	Newly built University of Applied Sciences and Arts, Northwest Switzerland, Muttenz
End client	Hochbauamt Basel-Landschaft, Fachhochschule Nordwestschweiz
Building services	Kalt + Halbeisen Ingenieurbüro AG
Architects/ interior designers	pool Architekten, Zurich
Transfer grilles	500 INDUSILENT type TS, standard version 100 INDUSILENT type TG, special version
Completion	2018

E3013-87\_11/19