



Seit 1877

Kiefer

Luft- und Klimatechnik

Neue Wege mit Luft

Linear Diffuser INDUL

State Parliament of Lower Saxony



Renovation work at State Parliament of Lower Saxony. INDUL linear diffusers enhance a feel-good climate.

After around 50 years of intensive use since its inauguration in 1962, the plenary hall section of the State Parliament building was beginning to show signs of functional, structural and safety-related deficiencies. Some even gave rise to serious concern. Pragmatic solutions concerning spatial planning and layout were researched. After several years of intensive analysis, Blocher Partners from Stuttgart finally won the contract in 2013. A decision was ultimately made in favour of renovating the existing building.

The Blocher Partners' concept envisaged an intelligent combination of contemporary architecture and expert historic building preservation. The three-year refurbishment resulted in a new build constructed behind the renovated historic façade.

In the portico lobby, daylight and artificial lighting alternate to provide atmospheric illumination.

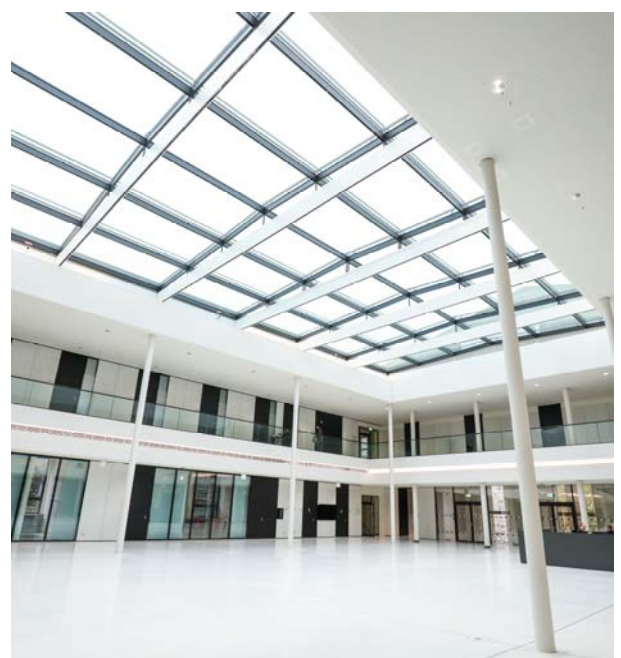


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Architectural approach and design

With its urban references and openness, the new plenary hall symbolises a transparent political system and the emergence of a futureproof building. Spacious public galleries and press areas reflect the goal of encouraging local residents to get involved and stay well informed. Myriad glass frontages offer views into the plenary hall. The daylight that floods in through the glazed roof and façade structures creates a pleasant sense of space.

Respectful modernisation results in preservation and improvement.

The aim was to maintain the character of the old State Parliament building and to combine the existing structure with new architecture. The striking façade with its granite panels was also extensively restored. All parts of the building – palace, portico and hall – have remained discernible in their historic form and are part of this prestigious new seat of democracy.

Energy efficiency

Energy efficient construction methods were employed to save on energy costs in the long term and to provide a pleasant and comfortable ambient climate throughout the year. Kofler Energies Ingenieurgesellschaft mbH developed an energy concept that offered a balanced integration of all ecological, economic and social requirements. The building is supplied with district heating from a highly advanced combined heat and power plant. An intelligent ventilation system with heat recovery was also installed, as was a cooling system that draws in

cool ambient air when outside temperatures are moderate. This minimises power consumption. This is further supported by effective protection from the sun in summer and thermal insulation in winter. The entire building envelope was overhauled to improve its thermal properties. An energy optimisation program evaluates energy consumption and peaks in electricity demand throughout the day, whilst the building management system and efficient LED lighting ensure a sustained reduction in energy costs. The energy performance of the building is 10 percent better than the requirements set by the EnEV 2009 energy standard. This has resulted in a highly responsive, user-oriented system with integrated cooling, ventilation and heating.

Throughout the entire renovation period, Kiefer Luft- und Klimatechnik supported the complex planning process for the building services by facilitating intensive technical dialogue between the architectural partners and the design engineers.

The outcome is a comfortable ambient climate that works in harmony with the surrounding architecture. The overall impression is functional and ideal for modern day working conditions.

In the portico hall, INDUL AV 45 linear diffusers provide ventilation on the ground floor and upper gallery floors. Around the circumference of the hall, the diffusers are discreetly positioned where the walls meet the ceiling. To achieve this, overlay brackets were fitted towards the wall and plaster brackets towards the ceiling.



Portico hall with INDUL AV 45 diffusers discreetly arranged around the circumference of the hall.

Photo © Niedersächsischer Landtag/Focke Strangmann



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Leibniz Hall



Prestigious events have historically always taken place in the Leibniz Hall. Steeped in tradition, the hall now benefits from an optimum ambient climate, thanks to the INDUL AV 45-160 NG linear diffusers. These were integrated into the ceiling using appropriate Kiefer accessories and double-sided plaster brackets.

Quiet Room



With natural materials and creative use of daylight, the Quiet Room was designed as a multi-confessional place of reflection. The main wall is rendered in clay, whilst the other walls are all painted in a warm shade of grey. In keeping with this design concept, the INDUL AP 18 linear diffusers are subtle and unobtrusive, using plaster brackets finished in RAL 9010.

Photos © Niedersächsischer Landtag/Focke Strangmann

Ideal working conditions with a comfortable ambient climate

The fully accessible, barrier-free press gallery is located within the hall, facing the steering committee's seats and is reached via the first floor.



Glass panelled lobby with ambulatory and view into the plenary hall.

Linked to the hall are office spaces for media representatives and editorial staff working on news articles. These spaces are equipped with round INDUDRALL KQ ceiling air diffusers and, in the NDR broadcasting area, with the INDUCOOL chilled ceiling panel. INDUL linear diffusers also provide an efficient fresh air supply without no discernible draughts in the regional press conference hall, as well as the press officer's and telephone booths, which have a reduced room height of just 2.5 m.

INDUL AP 24 diffusers integrated into the plasterboard ceiling.



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Special features

With a minimal slot width of as little as 15 mm, INDUL N linear diffusers can be integrated into any ceiling design. In many of the functional areas, such as the offices and delegate conference rooms, as well as in the lounge and bistro area, INDUL linear diffusers provide a comfortable ambient climate free of draughts.

Function Linear Diffuser INDUL

The supply air is divided into fine alternating free jets, intensifying the induction of the ambient air. The high induction permits a very high temperature difference between the ambient air and the supply air. This makes it possible to make use of free cooling, to a certain extent. The required cooling capacity is thus minimised.

System Advantages

- Completely draught-free air distribution
- Low diffuser widths, from 15 mm
- Unobtrusive installation in ceiling joints
- Temperature differences up to -14 K
- Light, clean ceilings due to fine-jet characteristics
- Simple, quick and clean installation in all ceiling systems
- Special installation kit for plaster ceilings

Technical Data

Building	State Parliament of Lower Saxony, Hannover
Proprietor	State of Lower Saxony
Planner	Kofler Ingenieurgesellschaft Braunschweig
Architekten	blocher partners Stuttgart
Products	Approx. 800 linear metres of INDUL Linear Diffusers in various designs combined with INDUDRALL Ceiling Air Diffusers and the INDUCOOL Chilled Ceiling Panel
Completion	2017

