



Seit 1877

**Kiefer**

Luft- und Klimatechnik

Neue Wege mit Luft

# Chilled Ceiling Panel INDUCOOL-Compact

## Extension of the Development Center of STIHL, Waiblingen



Photo © Atelier Dirk Altenkirch

In the extension of STIHL's development centre clearly shows how ventilation system components can be deliberately used as design features, and how supposedly unappealing fixtures can work well as part of an interior design concept.

STIHL, a family-owned business based in Waiblingen, Swabia, has been developing, manufacturing and selling machine tools since 1926 and is the world's leading manufacturer of chainsaws. In 2016 the company extended the development centre at its main site, erected a new warehouse for production logistics and built a new staff canteen.

To mark the official inauguration, Chancellor Angela Merkel sent a video message offering her congratulations on the recent investments to this German site. Around 350 employees now work in the extension of the development centre, ensuring market demand is met more quickly than ever, thanks to more efficient production logistics. The new efficient production logistics guarantees a faster market supply.

The family-owned company, which celebrated its 90th anniversary last year, is very proud to be able to further strengthen development and production at its main site through this new centre.

In addition to providing jobs, it was important to the company to create a new canteen area for its employees.

All areas of the extension of the development centre required products that were not only visually appealing, but also met all technical requirements. The company, therefore, decided to use a range of air diffusers, cooling panels and other ventilation equipment from Kiefer. Innovative configuration of this equipment made the most of the situation on site. As a reliable partner, Kiefer not only offers high quality components – it also provides professional advice and is willing to develop special, project-specific solutions.



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## Extension of the Development Center of STIHL, Waiblingen



Photo © Atelier Dirk Altenkirch

### Function INDUCOOL

INDUCOOL cools with air and water. Most of the thermal energy is removed quickly and economically by cooling water. High-quality air diffusers ensure a high degree of comfort and optimum air distribution.

### Advantages INDUCOOL

- Greater thermal comfort with low air velocity
- Chilled ceiling panels require only 5-10 % of the ceiling area
- Reduced energy cost by exploiting the cooling potential of outdoor air
- High cooling capacity up to 500 W/m
- Integration of cooling panels in all common ceiling systems
- A full-surface cooling-water system is not required

### Technical Data:

Object:	STIHL development centre, Waiblingen
Proprietor:	Andreas STIHL AG & Co.KG, Waiblingen
Planner:	Deerns Deutschland GmbH, Stuttgart
Architect:	Spacial Solutions GmbH, Munich
Construction volume:	12.000 m <sup>2</sup>
Products:	Chilled Ceiling Panel INDUCOOL Induction Air Diffuser INDUL AP15, AP18, AV24, AV45 Air Diffuser INDUDRALL Air Diffuser INDUDRALL Z-A Fan Coil System INDULVENT ec Transfer Grilles INDUSILENT TG and SG



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## Raiffeisenbank Heide

The first savings and loan societies that were later amalgamated into today's Raiffeisenbank Heide were founded as early as the 19<sup>th</sup> century. The Spar- und Darlehenskasse e.G.m.u.H, which is now the Raiffeisenbank Heide, was subsequently established in 1921. Just four years later, the society moved into the current business premises near the market in Heide. After several mergers with neighbouring Raiffeisen banks, the head office in Heide eventually outgrew its premises. In October 2014 the foundation stone was laid for the extension and renovation of the existing building. After a construction phase lasting just over 12 months, the opening of the new Raiffeisenbank Heide was celebrated in November 2015.

As part of the extension and renovation work, the entire building was also to be equipped with an air conditioning system, including mechanical ventilation. For this, various room types with entirely different cooling loads, air flow rates and requirements had to be taken into consideration. The limited space above the intermediate ceiling in the existing building further complicated the search for a suitable system. Engineering consultants Pahl und Jacobsen Heide eventually chose the

INDUCOOL-Compact Chilled Ceiling Panel from Kiefer. Thanks to the highly versatile nature of the INDUCOOL range, all room types could be served by the same system. These include the customer foyer with waiting area, individual and team offices, as well as the consulting and conference rooms.

The refined aluminium framework and perfect integration of the INDUCOOL panels into the perforated plasterboard ceilings impressed both the interior designers of ebene03.büro für räume and the proprietors themselves. These features significantly contribute to the high grade architectural appearance of the building as a whole today.



Photos © Kiefer

INDUCOOL Chilled Ceiling Panels for a high level of thermal comfort in the conference rooms of the Raiffeisenbank Heide.





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Raiffeisenbank Heide



Photo © Kiefer GmbH

Optimum indoor environment in the customer foyer with INDUCOOL Chilled Ceiling Panels from Kiefer.

## Function INDUCOOL

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## System advantages INDUCOOL

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- High cooling capacity up to 500 W/m
- Integration of cooling panels in all common ceiling systems
- A full-surface cooling-water system is not required

## Technical Data

Building:	Raiffeisenbank Heide
Proprietor:	Raiffeisenbank eG Heide
Architects:	DL Architekten + Partner, Bredsted
Interior Designers:	ebene03.büro für räume, Hamburg
Consultant:	Engineering Consultants Pahl und Jacobsen, Heide
Completion:	11/2015
Product:	Chilled Ceiling Panel INDUCOOL, 235 lfm.
Construction Volume:	14.400 m <sup>2</sup>





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# Chilled Ceiling Panel INDUCOOL-Compact

## Morgan Stanley, London



Photo © Kiefer GmbH

Morgan Stanley Entrance Hall - stringent technological and design requirements are combined in a harmonious, functional whole.

When Morgan Stanley opted to refurbish part of their London HQ located at 25 Cabot Square in Canary Wharf, the requirement was to provide high quality, flexible air conditioned space for client meeting rooms, conference and training rooms.

With space air conditioning loads ranging from 45 W/m<sup>2</sup> to 170 W/m<sup>2</sup>, this presented a challenge to find a product that would meet the demanding levels of comfort, a PPD of 5% according to ISO EN 7730 as well as the architectural requirements.

The Mechanical & Electrical Consulting Engineer, MEIT Associates of London, having successfully used Kiefer products previously, recognised that the Kiefer INDUCOOL would offer the ideal solution.

In addition to the challenge of meeting the comfort requirements, the architect, tp bennett LLP required a product that could be integrated into various ceiling types, plasterboard, metal and wood, making it essential for the INDUCOOL to be finished in matching colours, these being white – RAL9016, Pearl Beige – RAL1035, Grey Brown RAL 8019 & Pantone 7463 to match the

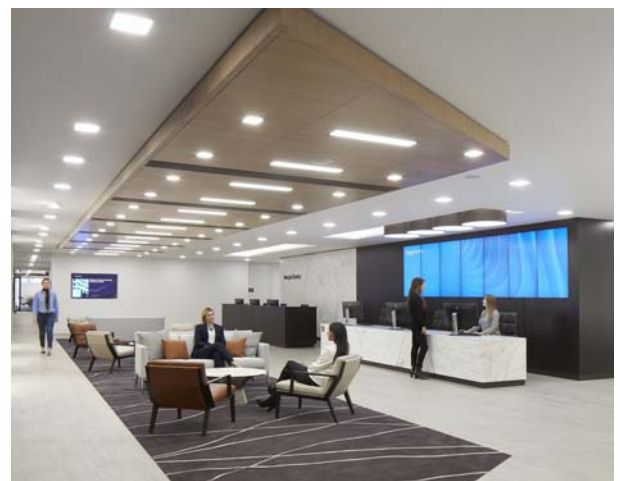


Photo © Kiefer GmbH

wooden ceiling. There was an additional requirement for RAL 5001, Morgan Stanley “blue” for the specialist areas.

Kiefer were able to meet both the technical and aesthetic challenge, producing the INDUCOOL in the required colours to provide an exceptional working environment.



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## Morgan Stanley, London

### Function INDUCOOL

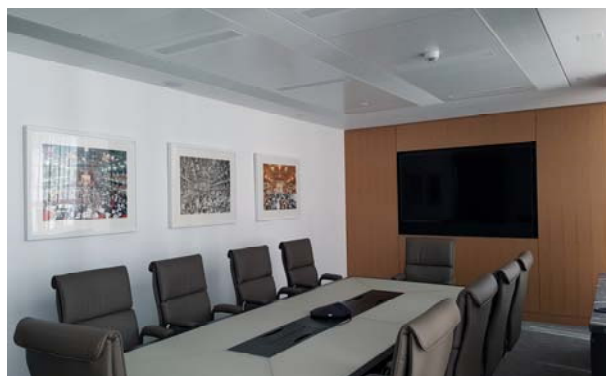
INDUCOOL cools with air and water. Most of the thermal energy is removed quickly and economically by cooling water. High-quality air diffusers ensure a high degree of comfort and optimum air distribution.

### System advantages INDUCOOL

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- Reduced energy cost by exploiting the cooling potential of outdoor air
- High cooling capacity up to 500 W/m
- Integration of cooling panels in all common ceiling systems
- A full-surface cooling-water system is not required

### Technical Data

Object:	Morgan Stanley, London
Proprietor:	Morgan Stanley & Co. International PLC
Planner:	Meit Consultants LLP, London
Architect:	tp bennett LLP, London



Photos © Kiefer GmbH



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# Chilled Ceiling Panel INDUCOOL-Compact

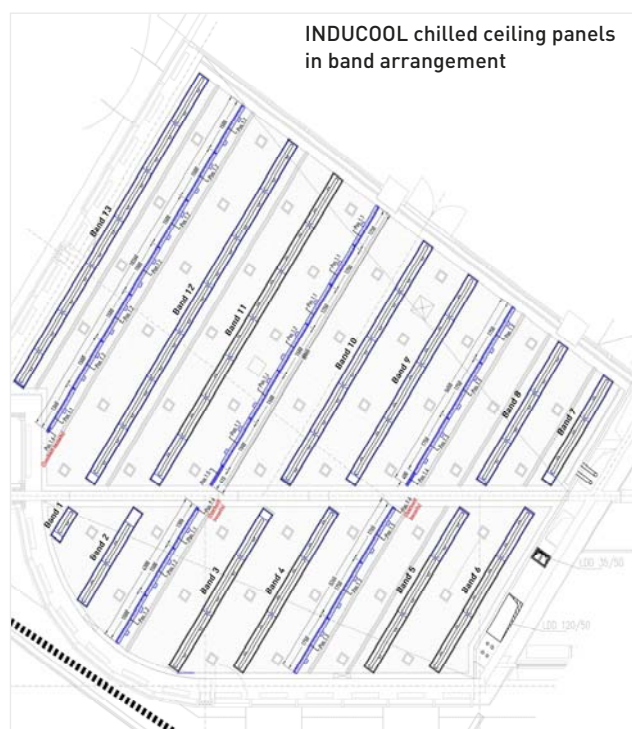
## New CSU Party Headquarters Munich



Photo © Kiefer GmbH

INDUCOOL chilled ceiling panels for a high thermal comfort in meeting- and conference rooms

The German political party CSU chose the former building of the publisher Langenscheidt Verlag in the Mies-van-der-Rohe Straße 1 for its new headquarters. However, beforehand it was necessary to modify the 15 year-old building to cater for the requirements of the new owner. The focus was on the technical modernization and equipment of the meeting rooms and function rooms. This included replacement of the air conditioning systems. The high cooling loads and large air flow rates made completely new planning necessary, which at the same time had to ensure optimal heating comfort for the users. Due to very good experience in the implementation of previous projects with Kiefer, the engineering planning office ITG GmbH Landshut decided for a combination of INDUCOOL chilled ceiling panels and INDUL linear diffusers. The architects' office Weickenmeier, Kunz + Partner was impressed by the attractive appearance and the seamless integration of the components into the ceiling design. Detailed planning with all of those involved in the project enabled to create



INDUCOOL chilled ceiling panels in band arrangement

a successful combination of sophisticated air conditioning and visually attractive ceiling design.





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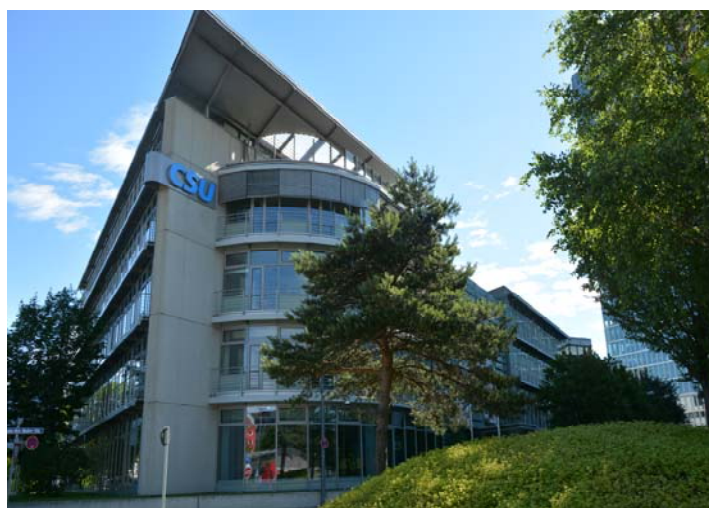
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# Chilled Ceiling Panel INDUCOOL-Compact

## New CSU Party Headquarters Munich

### Features

The challenge in this project was the combination of different requirements: High cooling loads in the meeting rooms and conference area on the one hand, and adaptation to the special room geometry, which is essentially characterised by the curved façade on the other. This was a case of putting a square peg into a round hole, rather than a round peg into a square hole. The high density of the function equipment also required a large amount of space in the ceiling. While the INDUCOOL panels meet the requirements for the high cooling load, the increased air flow rates are covered by the INDUL linear diffusers. With this innovative combination, all of the out-line conditions could be optimally met under the very high conditions for comfort.



Exterior view of the new CSU Party Headquarters

### Function INDUCOOL

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Photos © Kiefer GmbH

Conference room equipped with INDUCOOL Chilled ceiling panels and INDUL Linear diffuser from Kiefer.

### System advantages INDUCOOL

- Greater thermal comfort with low air velocity
- Chilled ceiling panels require only 5-10% of the ceiling area
- Reduced energy cost by exploiting the cooling potential of outdoor air
- High cooling capacity up to 500 W/m
- Integration of cooling panels in all common ceiling systems
- A full-surface cooling-water system is not required

<b>Building:</b>	CSU Party Headquarters Munich
<b>Proprietor:</b>	Christlich-Soziale Union in Bayern e. V.
<b>Architects:</b>	Weickenmeier, Kunz + Partner Architekten, Ingenieure GmbH, Munich
<b>Consultant:</b>	ITG GmbH, Eching/Weixerau
<b>Components:</b>	150 lfm INDUCOOL-Compact Chilled ceiling panels 70 lfm linear diffusers INDUL V24 and V45
<b>Completion</b>	2016



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## Julius Blum – High standards for the environment and HVAC technology

Julius Blum is an international company based in Höchst that is specialised in the manufacture and sale of cabinet hardware. The family company can look back on more than 60 years of company history. Having started as a small smithy, over the course of half a century it has developed into an international hardware specialist. Today, the brand is well-known around the world for its innovative cabinet hardware.

From its licensed manufacture of Anuba hinges in 1958 to the first series of concealed cabinet hinges and roller runners in the sixties, Blum experienced continuous growth. In 1985, the company ushered in a new era with the development of the Blum Clip hinge for tool-free hardware installation. With recent technical innovations such as the Blumotion soft-close system in 2001, the electrical motion support system Servo-Drive in 2006 and the new motion technology Tip-On Blumotion in 2014, Blum continues to set new standards.

The high quality standards of Julius Blum apply not only to its own products, but also to the company's cooperation with its partners at all levels. In January 2015, Julius Blum GmbH partnered with nine other Vorarlberg companies to found the "Climate Neutrality Alliance 2025" with the goal of making all of their activities 100 percent climate-neutral by the year 2025. As a result, the requirements for the function and design of HVAC systems are equally high at all plants.

As early as 1995, Kiefer supplied ventilation components to Blum for convenient HVAC technology, which perfectly combines function and design. From the initial construction phase through to the current phase, Kiefer has implemented customised solutions that are capable of meeting sophisticated challenges. INDUL, INDUCOOL-Compact and INDULVENT ventilation components were used in a range of applications in various plants and construction phases, in offices, as well as in training workshops, training rooms and testing rooms.



INDUL in the light well in Plant 3 Photo © plafondnova André Leuenberger



Optimally integrated INDUL linear diffuser in Plant 3 Photo © Kiefer GmbH



INDUCOOL chilled ceiling panel in Plant 7 Photo © Kiefer GmbH





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# Chilled Ceiling Panel INDUCOOL-Compact

## Julius Blum – Sites with Kiefer air diffusers and chilled ceilings

The Julius Blum company continues to grow and will soon open its eighth plant in Dornbirn.

Plant 1, the former main plant, is currently home to the engineering departments, while the cabinet hinge manufacturing and administration of Blum are located in Plant 2.

The technical centre incorporating research and development is located in Plant 3. In the partially renovated offices in Plant 2 and Plant 3 at Höchst, 1,100 m INDUL linear diffusers and 720 m INDUCOOL cooling panels were integrated in Plafondnova expanded metal acoustic ceilings.



Plant 1, Höchst – Former main plant



Plant 2, Höchst – Headquarters with ad-

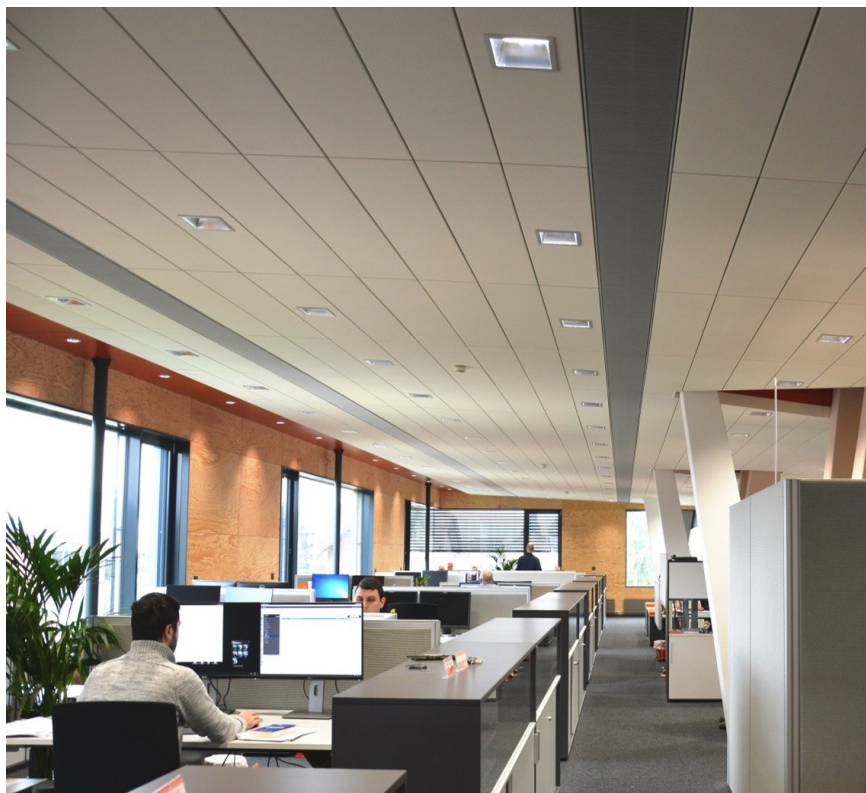


Plant 3, Höchst – Technical centre



Plant 4, Bregenz – Box/runner systems

Photos © Blum GmbH



Expanded metal ceilings with integrated INDUCOOL ceiling elements as chilled ceilings in Plant 3 - Photo © Kiefer GmbH

Box and runner systems are produced in Plant 4 in Bregenz. To provide ventilation, 700 m of INDUL linear diffusers, types P15 and P18, were optimally integrated into the ceilings.



Kiefer components in Plant 2  
Photo © Kiefer GmbH





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# Chilled Ceiling Panel INDUCOOL-Compact

## Julius Blum – Sites with Kiefer air diffusers and chilled ceilings

Individual components for fitting systems and assembly aids are manufactured in Plant 5 in Fußach.

In Plant 6 in Gaißau, parts for pull-out systems are produced. This is also where the plastic coating systems are located.



Plant 7 is located in Dornbirn and has its own rail connection. This logistics centre is optimally conditioned with more than 400 m of INDUCOOL chilled ceiling panels and 40 INDUVENT ec circulation coolers from Kiefer.

In the near future, the new punching plant, Plant 8, will be completed in the immediate vicinity of Plant 7. The use of further ventilation components from Kiefer is planned there, too.



Blum Plant 7, Dornbirn, logistics centre: Chilled ceiling panels INDUCOOL-Compact  
Photo © Kiefer GmbH

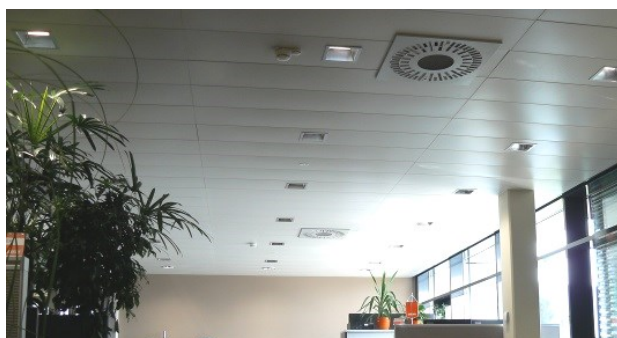


Kiefer INDUCOOL-Compact chilled ceiling panels in Plant 3



Plant 5, Fußach – Individual components

Plant 7, Dornbirn – Logistics Centre



Decentralised fan coil system INDUVENT ec in Plant 3.  
Photos © Kiefer GmbH



Plant 8, Dornbirn – Planned new construction

Photos © Blum GmbH



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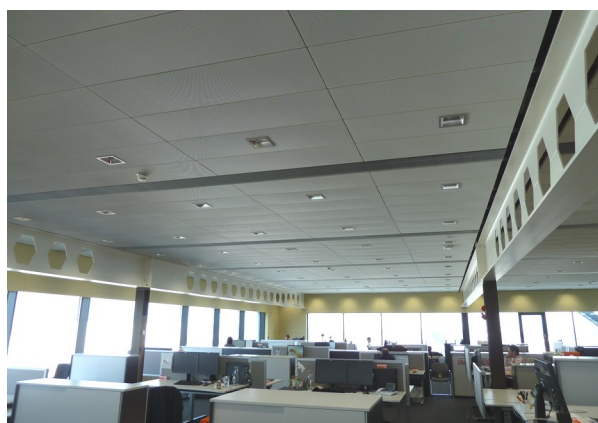
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# Chilled Ceiling Panel INDUCOOL-Compact

## Julius Blum – Expanded metal acoustic ceilings with INDUCOOL



INDUL linear diffuser in Plant 2 – Photo © Kiefer GmbH



INDUCOOL chilled ceiling panel in Plant 2 – Photo © plafondnova



INDULVENT ec RQF in Plant 3 – Photo © Kiefer GmbH

### INDUCOOL functional chilled ceiling panel:

INDUCOOL cools with air and water. Most of the thermal energy is removed quickly and economically by cooling water. High-quality air diffusers ensure a high degree of comfort and optimum air distribution.

### Advantages of INDUCOOL chilled ceiling panels:

- Greater thermal comfort with low air velocity
- Chilled ceiling panels require only 5-10% of ceiling area
- Reduced energy costs by exploiting the cooling potential of outdoor air
- High cooling capacity, up to 500 W/m
- Integration of cooling panels into all common ceiling systems
- A full-surface cooling-water system is not required

Building:	Julius Blum Plant 2 BE 11 and Plant 3 BE 8, Höchst, Austria
Architects:	Arno Bereiter Architekturwerkstatt, Lustenau, Austria
Proprietor:	Julius Blum Beschlägefabrik GmbH, Austria
Consultant:	Klimaplan, Hohenems
Ceiling- and wall air systems:	PLAFONDNOVA AG, Rotkreuz Switzerland
Additional Plants:	Bregenz, Fußach, Gaißau, Dornbirn

Scope Höchst plant 2 BE 11 and plant 3 BE 8:  
700 rm. chilled ceiling panel INDUCOOL-Compact

Scope, total:  
approx. 1,400 m<sup>2</sup> chilled ceiling panel  
INDUCOOL-Compact  
approx. 2,000 m<sup>2</sup> linear diffuser INDUL  
approx. 100 units comfort fan coil system  
INDULVENT

Completion: 1995-2016





# INDUCOOL

## Chilled ceiling panel



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## Imperial54 – Office space in a prime location

### Modern Office Building at a prominent Location in Zurich-Oerlikon

The Imperial54 office building impresses with its attractive, timeless architecture and provides flexible areas on all floors for the realisation of users' individual office concepts. Light-flooded rooms with high standards of air-conditioning and ventilation ensure comfortable workplaces with optimum spaces and ideal illumination. An inner courtyard with lounges as conversation zones perfect the user experience. Located right in the centre of Zurich-Oerlikon, it offers a wide range of shops, restaurants and optimum connections to public transport systems. For private cars there is an underground car park with 372 parking places. Customers can use the visitors' parking spaces in front of the building. Well-known companies such as Zurich Insurance, AXA, Baxter, Holcim, etc. are located in the immediate neighbourhood.

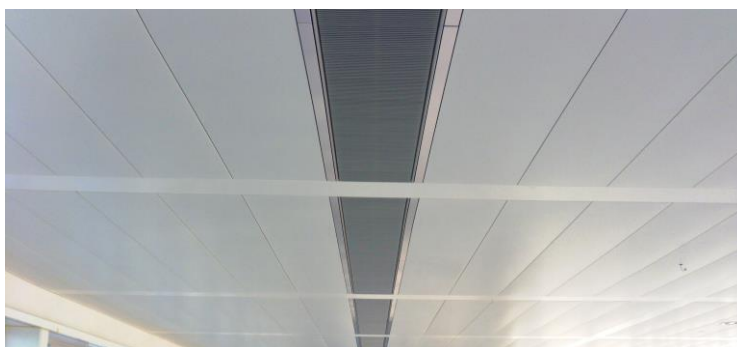


Photo © Fredy Häfliger AG

INDUCOOL panels as the technical solution with spacer panels to adapt them to different modular ceiling systems.

### Special feature spacer panels

An unusual technical solution here is the use of aluminium spacer panels. These are used to adapt INDUCOOL panels to existing or newly planned modular ceiling systems. In addition they accentuate the INDUCOOL panels and are an eye-catcher.

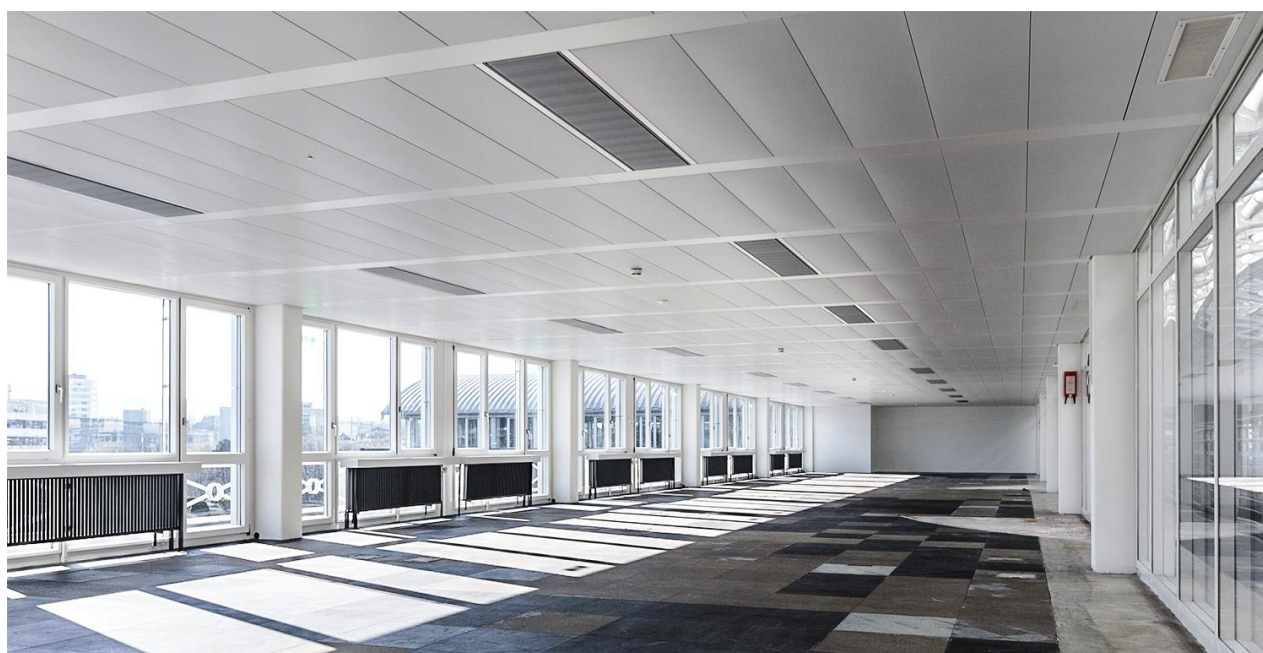


Photo © Imperial54.ch / IGIMO AG

Light-flooded rooms with optimised air-conditioning and ventilation by means of INDUCOOL panels elegantly integrated into the ceilings.







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# INDUCOOL

## Chilled ceiling panel

### Imperial54 – Optimal air conditioning

Photo © Imperial54.ch / IGIMO AG



INDUCOOL by Kiefer integrated into the ceiling as an elegant design element.

Visualization © Imperial54.ch / IGIMO AG



Optimum living and working conditions and ideal workplace lighting

Photo © Imperial54.ch / IGIMO AG



Exterior view of Imperial54

#### Function chilled ceiling panel INDUCOOL

INDUCOOL cools with air and water. Most of the thermal energy is removed quickly and economically by cooling water. High-quality air diffusers ensure a high degree of comfort and optimum air distribution.

Depending on the dimensioning, this achieves a cooling capacity of up to 500 W/m. It is therefore sufficient to cover just 5-10% of the ceiling area with INDUCOOL panels. The rest of the ceiling is freely accessible and is available for any kind of architectural design.

#### System advantages

- Greater thermal comfort with low air velocity
- Chilled ceiling panels require only 5-10% of ceiling area
- Reduced energy costs by exploiting the cooling potential of outdoor air
- High cooling capacity, up to 500 W/m
- Temperature differences up to -14 K
- Integration of cooling panels into cost-effective standard ceilings
- A full-surface cooling-water system is not required

<b>Objekt:</b>	<b>Imperial54, Thurgauerstraße 54 Zurich Oerlikon</b>
<b>Proprietor:</b>	<b>Institutional Proprietor Real Estate funds IGIMO AG</b>
<b>Architect:</b>	<b>Renespa AG Weinfelden, Switzerland</b>
<b>Consultant:</b>	<b>Fredy Häfliger AG Zurich</b>
<b>Ventilation-System:</b>	<b>205 rm. INDUCOOL Chilled ceiling panels with filler plates</b>
<b>Completion:</b>	<b>2013</b>

# INDUCOOL

## Chilled ceiling panel



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## The Steward Building - Where the city meets London's creative heartland

A new landmark building connects London's creative heartland with the City. The Steward Building is designed by the award winning architects Allford Hall Monaghan Morris. Located in Spitalfields, where a rich heritage meets an exciting future and business and creativity work side by side, the open terraces of the building offers fantastic views over the bustling streets below. A contemporary feeling and traditional office building are well balanced, which is especially expressed in the design of the reception with brickwork, timber flooring and ceiling glazing. From outside the glass façade offers a brilliant view inside the building. High profile neighbours like big banks and global corporations space out evenly. Inside the Steward building provides 4.482 square meters (48.249 square feet) of clean contemporary office space with active chilled beam air conditioning, vast amounts of natural light flood in the office floors, roof terraces at 5<sup>th</sup> and 6<sup>th</sup>



Photo © Kiefer GmbH

INDUL linear diffuser integrated elegant as a design element in the ceiling structure.

floor levels with interconnecting staircase and 38 bicycles parking spaces. The Steward Building enjoys the benefit of excellent transport links; a three minute walk takes you to one of London's key transport hubs, Liverpool Street Station. From here you can access London's Underground network, National Rail system and by 2018, Crossrail.

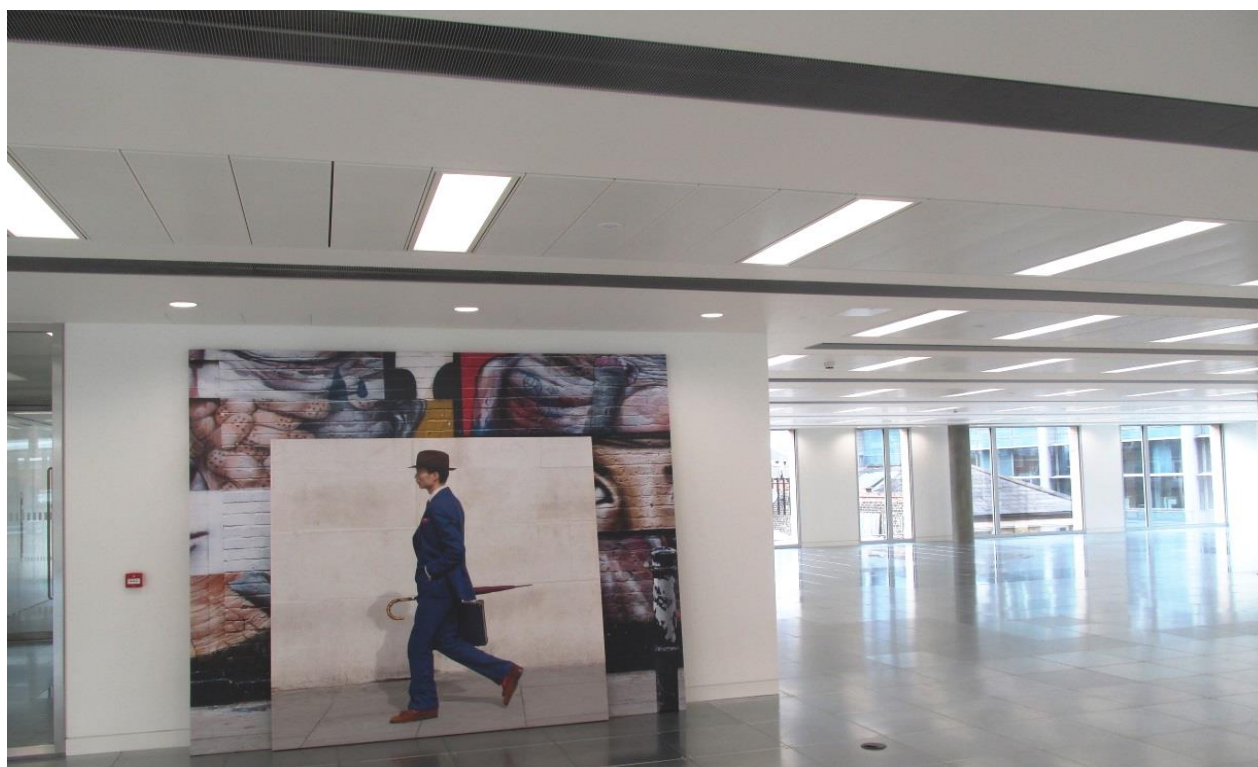


Photo © Kiefer GmbH



# INDUCOOL

## Chilled ceiling panel



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## The Steward Building - Optimal room climate, perfect balance and fantastic views

Photo © Kiefer GmbH



Optimal room climate with chilled ceiling panels INDUCOOL from Kiefer

Photo © Kiefer GmbH



Kiefer INDUCOOL ceiling panels

Photo © Knight Frank



Steward Building exterior view

### Function chilled ceiling panel INDUCOOL

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- Reduced energy costs by exploiting the cooling potential of outdoor air
- High cooling capacity, up to 500 W/m
- Temperature differences up to -14 K
- Integration of cooling panels into cost-effective standard ceilings
- A full-surface cooling-water system is not required

<b>Building:</b>	<b>The Steward Building, London</b>
<b>Proprietor:</b>	<b>Henderson Global Investors, London</b>
<b>Architects:</b>	<b>Allford Hall Monaghan Morris (AHMM)</b>
<b>Consultant:</b>	<b>TIAA Henderson Real Estate, London</b>
<b>Ventilation system: and scope</b>	<b>Approx. 1,000 m chilled ceiling panel INDUCOOL integrated in plaster-board ceiling</b>
<b>Completion:</b>	<b>2014</b>





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# Chilled Ceiling Panel INDUCOOL

## Ministry building Stuttgart



Photos © Marcus Ebener

### New ministry building by Staab Architects in Stuttgart

Corridors for slimming? With a length of 200 metres, this new ministry building in Stuttgart's Willy-Brandt-Strasse invites employees there to participate in short sprints. The design and planning are from the Berlin office of Staab Architekten. The users are the Ministry of the Interior, the Environment Ministry, and the Ministry for Nutrition and the Countryside.



The new building brings about 20 different ministry offices together under one roof in a prominent location in Stuttgart. The 7,500 square metre construction site lies to the north of the cultural boulevard between the underground stations Staatsgalerie and Neckartor – and Stuttgart 21 is scarcely ten minutes away. On the narrow triangular plot, the architects have built several rectangular blocks of varying sizes and slightly offset from each other. In this way they have cleverly adapted the building complex to a site which narrows towards the south-east. Five atriums give structure to the ensemble; they provide for daylight and access in each block. The façade, 200 metres long, features large, horizontally formatted windows. The result is an unostentatious, elegant administration building with approximately 25,000 square metres gross floor area; it affords the ministries the appropriate degree of prestige. The construction costs are estimated to be EUR 65m. For the architects, who won the design competition in 2008, the major challenge was to achieve a judicious division of the long block into sub-sections that were acceptable to pedestrians and employees, while simultaneously integrating the large complex into the urban environment. On the narrow triangular plot, they have built several rectangular blocks of varying sizes, slightly offset from each other. In this way they have cleverly adapted the building complex to the site, which narrows towards the south-east.

It is not just the building's architectural quality that impresses. It simultaneously sets standards with its sustainable energy concept. A building envelope with high energy quality in conjunction with efficient building systems are the major components of the energy concept.



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# Chilled Ceiling Panel INDUCOOL

## Ministry building Stuttgart

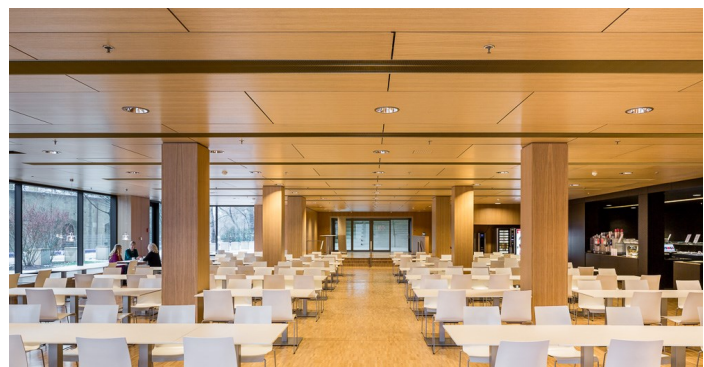
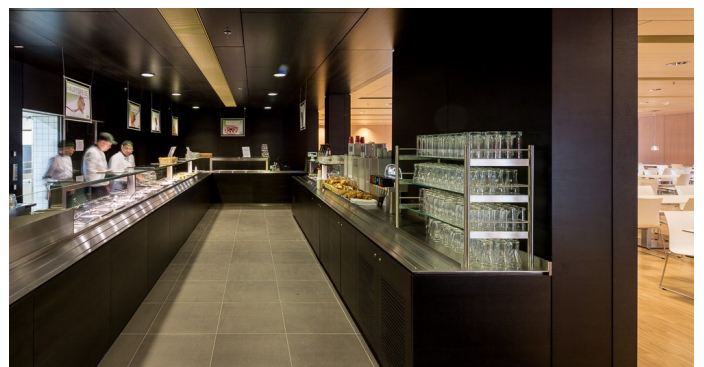
### Function Chilled ceiling panel INDUCOOL:

INDUCOOL cools with air and water. Most of the thermal energy is removed quickly and economically by cooling water. High-quality air diffusers ensure a high degree of comfort and optimum air distribution.

### Advantages:

- Greater thermal comfort with low air velocity
- Chilled ceiling panels require only 5-10% of ceiling area
- Reduced energy costs by exploiting the cooling potential of outdoor air
- High cooling capacity, up to 500 W/m
- Temperature differences down to -14 K
- Integration of cooling panels into cost-effective standard ceilings
- A full-surface cooling-water system is not required

<b>Building:</b>	Ministry building Stuttgart
<b>Architects:</b>	Staab Architekten, Berlin
<b>Proprietor:</b>	Vermögen und Bau Baden-Württemberg
<b>Consultant TGA:</b>	Duschl Ingenieure Project GmbH & Co. KG, Rosenheim
<b>Ventilation system:</b>	Chilled ceiling panel INDUCOOL
<b>Scope:</b>	3.000 m <sup>2</sup>
<b>Type of ceiling:</b>	Wood-panel ceilings respectively plaster-board ceilings
<b>Specific cooling load:</b>	50 - 120 W/m <sup>2</sup>
<b>Specific air flow:</b>	30 - 65 m <sup>3</sup> /hm



Photos © Marcus Ebener





Seit 1877

**Kiefer**

Luft- und Klimatechnik

Neue Wege mit Luft

# Chilled Ceiling Panel INDUCOOL

## University of Vienna, Austria

On 15 March 2012, the building at Währinger Straße 29 was finally handed over to the University of Vienna by the Bundesimmobiliengesellschaft (the state-owned property company), two years after building work had been started. Once work on the facilities and furniture had been completed, the Faculty of Computer Science and the Institute of Communication and Media Studies were able to move into their new home in the autumn. The new site enables the Faculty of Computer Science, which was previously split across several locations, to be brought together in one single building.



New location of the University of Vienna in the 29<sup>th</sup> Währingerstraße



More air performance and high energy efficiency with thought-out design details.

### Special features

Covering a total area of around 11,000 square metres, the students and teachers are now able to enjoy a modern working environment. The investment amounts to approximately 25 billion euro.

The new building is split over seven upper floors and provides the following facilities: office spaces, work areas and communication zones for the students, three lecture theatres, twelve seminar rooms, six IT rooms and seven IT research labs. The foyer is situated on the ground floor and provides direct access to the student services and advisory rooms and library area via the staircase. In addition to comfort and design, great importance has also been placed on installing an energy-saving air-conditioning system and ensuring comfortable rooms, providing optimum conditions for the students.



# Chilled Ceiling Panel INDUCOOL

## University of Vienna, Austria

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### Advantages:

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- A full-surface cooling-water system is not required



<b>Building:</b>	<b>University of Vienna, Austria</b>
<b>Architects:</b>	<b>NMPB Architects ZT GmbH, Vienna</b>
<b>Proprietor:</b>	<b>Bundesimmobiliengesellschaft (BIG)</b>
<b>Consultant, building services:</b>	<b>ZFG, Baden</b>
<b>Ventilation system component:</b>	<b>Chilled ceiling panel INDUCOOL-Technics I</b>
<b>Scope:</b>	<b>10.600 m<sup>2</sup></b>
<b>Installation type:</b>	<b>Visible installation, INDUCOOL panels are fully lined on the rear on the air and water sides. Only one air and cooling water connection is required for each strip.</b>
<b>Specific cooling load:</b>	<b>120–180 W/m<sup>2</sup></b>
<b>Specific air flow:</b>	<b>12–18 m<sup>3</sup>/hm<sup>2</sup></b>
<b>Opening:</b>	<b>Winter 2012</b>





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# Kiefer

Luft- und Klimatechnik

Neue Wege mit Luft

## Chilled Ceiling Panel INDUCOOL

### Technology Centre Engel, Schwertberg

A family managed company based in Schwertberg, Austria, ENGEL is a world leader in the manufacture of machinery for plastics processing. New technologies and the most modern production equipment can be taken for granted at ENGEL.

With this new building for its Technology Centre in Schwertberg, the company sets a further innovative signal for the future. The sectors technical development, design of small and medium-sized machines, quality assurance, the training centre, sales and marketing, and the personnel department are located here.



Photo: © ENGEL AUSTRIA GmbH

INDUCOOL in the Technology Centre Engel in Schwertberg

**ENGEL**  
be the first.

Photo: © ENGEL AUSTRIA GmbH



New building Technology Centre Engel in Schwertberg

#### Features

The new Technology Centre at the main works in Schwertberg, with a gross area of over 12,000 m<sup>2</sup>, is one of the most significant construction projects in the history of Engel. In the new building, the firm's development capacity will be restructured and interlinked. The high demands on modern equipment apply not just to the technical installations, but also to the efficient use of energy.

Besides comfort and design, here energy-saving air-conditioning and a good working environment are equally assured to create optimum conditions for employees and customers.



# Chilled Ceiling Panel INDUCOOL



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## Kiefer

Luft- und Klimatechnik

Neue Wege mit Luft

## Technology Centre Engel, Schwertberg



### Function chilled ceiling panel INDUCOOL

INDUCOOL cools with air and water. Most of the thermal energy is removed quickly and economically by cooling water. High-quality air diffusers ensure a high degree of comfort and optimum air distribution.

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- High cooling capacity, up to 500 W/m
- Temperature differences up to -14 K
- Integration of cooling panels into cost-effective standard ceilings
- A full-surface cooling-water system is not required

<b>Building:</b>	<b>Technologiezentrum Engel, Schwertberg</b>
<b>Architects:</b>	<b>Architekturbüro Kada, Graz</b>
<b>Proprietor:</b>	<b>ENGEL AUSTRIA, GmbH</b>
<b>Consultant TGA:</b>	<b>BHM Ingenieure, Linz</b>
<b>Gross area:</b>	<b>15,000 m<sup>2</sup></b>
<b>Conditioned area:</b>	<b>6500 m<sup>2</sup></b>
<b>Scope of order:</b>	<b>1000 rm. of INDUCOOL chilled ceiling panels</b>
<b>Completion:</b>	<b>2009</b>

**INDUCOOL in Technology Centre ENGEL**  
Photos © ENGEL AUSTRIA GmbH

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Seit 1877

# Kiefer

Luft- und Klimatechnik

Neue Wege mit Luft

## Chilled-ceiling panel INDUCOOL

### EURO PLAZA Vienna

EURO PLAZA in Vienna is continuing to grow and will soon be the biggest in its class. Steel, glass and aluminium facades, which radiate elegance and transparency in equal parts, are complemented by a spacious atrium in which numerous seating arrangements between arcades and lawns provide ideal surroundings for relaxation. Inside the building, a prestigious foyer leads to the individual offices. The EURO PLAZA combines work and leisure, comfort and service with modern architecture and innovative design right in the centre of Vienna.



Photo: © Anna Blau

EURO PLAZA Vienna, building phase 1



Foto: © Anna Blau



EURO PLAZA Vienna, building phase 4

#### Features

The technical standard of the EURO PLAZA office complex is currently the highest in Vienna.

The combination of modern architecture and elegantly designed facades with external sun screens, false floors, suspended ceilings, chilled ceiling panels, individually controlled ventilation, and an open-plan concept for flexible usage in the centre of Vienna has attracted well-known companies, for example, Asfinag, AT&S, Danone, EMC, Hewlett-Packard, Kapsch AG, L'Oréal, Microsoft, Schering, Steelcase, Strauss & Partner, and many others.



# Chilled-ceiling panel INDUCOOL

## EURO PLAZA, Vienna



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# Kiefer

Luft- und Klimatechnik

Neue Wege mit Luft



INDUCOOL and INDUL in the EURO PLAZA conference centre  
Photos: © Anna Blau

### Function chilled ceiling panel INDUCOOL

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- Temperature differences up to -14 K
- Integration of cooling panels into cost-effective standard ceilings
- A full-surface cooling-water system is not required

<b>Building:</b>	<b>EURO PLAZA, Vienna</b>
<b>Architects:</b>	<b>Neumann + Partner, Vienna</b>
<b>Proprietor:</b>	<b>KAPSCH Immobilien GmbH, Vienna</b>
<b>Project development: Property developer and project manager</b>	<b>Strauss &amp; Partner Immobilien GmbH, Vienna</b>
<b>Consultant, building services:</b>	<b>Scholz Ingenieurgesellschaft mbH, Stuttgart / Dresden / Vienna</b>
<b>Construction phases 1-4 and Wienerbergstrasse building</b>	
<b>Gross surface area:</b>	<b>128,000 m<sup>2</sup></b>
<b>Scope of order:</b>	<b>13,200 rm. INDUCOOL chilled ceiling panels</b>
	<b>4,500 rm. INDULType V45 linear diffusers</b>
<b>Completion period:</b>	<b>2002-2008</b>



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Luft- und Klimatechnik

Neue Wege mit Luft

# Chilled Ceiling Panel INDUCOOL

## Krones AG, Neutraubling

Krones plans, develops, manufactures and installs machinery and complete installations for filling and packaging; the company is the world market leader in its field. The new seven-storey technology centre in Neutraubling features imposing architecture and incorporates sophisticated technology.



Photos © Krones AG

### Function chilled ceiling panel INDUCOOL

INDUCOOL cools with air and water. Most of the thermal energy is removed quickly and economically by cooling water. High-quality air diffusers ensure a high degree of comfort and optimum air distribution.

#### System advantages

- Greater thermal comfort with low air velocity
- The chilled ceiling panels require only 5-10% of ceiling area
- Reduced energy costs by exploiting the cooling potential of out door air
- High cooling capacity, up to 500 W/m
- Temperature differences down to -14 K
- Integration of cooling panels into cost-effective standard ceilings
- A full-surface cooling-water system is not required

<b>Building:</b>	<b>Krones AG, Neutraubling Technology Centre</b>
<b>Proprietor:</b>	<b>Krones AG, Neutraubling</b>
<b>Ventilation system component:</b>	<b>Chilled ceiling panel INDUCOOL</b>
<b>Features:</b>	<b>Special intermediate ceilings with height reduced to only 11.5 cm INDUCOOL requires a height of just 95 mm for installation</b>
<b>Type of ceiling:</b>	<b>Metal coffered ceiling</b>
<b>Scope:</b>	<b>11,000 m<sup>2</sup> conditioned area</b>
<b>Active ceiling area:</b>	<b>&lt; 10 %</b>





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Luft- und Klimatechnik

Neue Wege mit Luft

# Chilled-ceiling Panel INDUCOOL

## Altes Schloss, Stuttgart

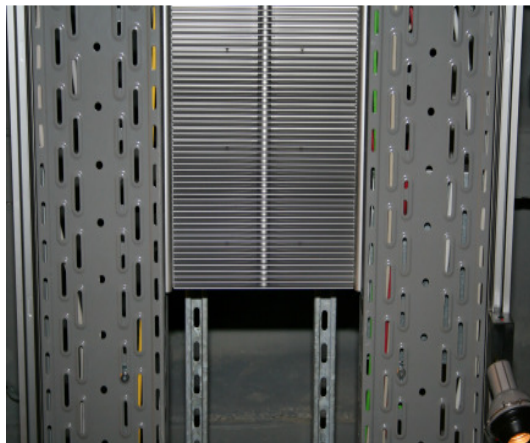
The visiting-exhibition area on the third floor of the Altes Schloss in Stuttgart has been equipped with new security and air-conditioning systems. Predominant concerns were the stringent requirements relating to the preservation and structure of the historic building in addition to functionality and efficiency.

The objective was to condition an 1,100 m<sup>2</sup> exhibition area with a room height of 3.7 m and an anticipated cooling load of 70 kW (64 W/m<sup>2</sup>) by means of a 6,000 m<sup>3</sup>/h primary air volume flow (5.5 m<sup>3</sup>/hm<sup>2</sup>). The cooling panels were to be freely suspended in the room on visible mountings. Eight parallel lighting strips are installed, spaced 2,500 mm apart and integrated into the cooling panels.



Photo: © LMZ

This ancient castle lies in the heart of Stuttgart. The first castle was built about 950 AD to defend the Stutengraben from which Stuttgart derives its name. Conversion of the moated castle to a renaissance palace was completed by 1570. Following a major fire in 1931 and damage during the Second World War, the entire complex was rebuilt and today houses the Württemberg State Museum.



### Details of visible installation

Individual INDUCOOL-Compact elements with cable trays on both sides and strip luminaires.

### Features

Air conditioning for a museum presents special challenges. Works of art are displayed whose preservation in sound condition demands unconditional protective measures whether for permanent or for visiting exhibits.

From the conservation viewpoint the most important criteria are maintaining a specific, constant temperature, adequate humidity suitable for the absorption characteristics of the material exhibited, and an appropriate intensity of illumination.

Whereas, in museums with permanent exhibitions, the conditions in the rooms can be adjusted to suit the exhibits, for temporary exhibitions, it is frequently necessary to develop specific air-conditioning concepts for particular spaces.

# Chilled-ceiling Panel INDUCOOL



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# Kiefer

Luft- und Klimatechnik

Neue Wege mit Luft

## Altes Schloss, Stuttgart



### Function chilled ceiling panel INDUCOOL

INDUCOOL cools with air and water. Most of the thermal energy is removed quickly and economically by cooling water. High-quality air diffusers ensure a high degree of comfort and optimum air distribution.

### System advantages of chilled ceiling panel INDUCOOL

- Greater thermal comfort with low air velocity
- Chilled ceiling panels require only 5-10% of ceiling area
- Reduced energy costs by exploiting the cooling potential of outdoor air
- High cooling capacity, up to 500 W/m
- Temperature differences down to -14 K
- Integration of cooling panels into cost-effective standard ceilings
- A full-surface cooling-water system is not required

<b>Building:</b>	<b>Altes Schloss (Ancient Castle) Visiting-exhibition area Stuttgart</b>
<b>Proprietor:</b>	<b>Staatliches Vermögens- und Hochbauamt Stuttgart</b>
<b>Consultant, building services:</b>	<b>Krebs Ingenieure Ditzingen</b>
<b>Ventilation system component:</b>	<b>Chilled-ceiling panel INDUCOOL</b>
<b>Type of installation:</b>	<b>Visible mountings</b>
<b>Scope:</b>	<b>1,100 m<sup>2</sup> conditioned area</b>
<b>Active ceiling area:</b>	<b>&lt; 10 %</b>
<b>Specific cooling load:</b>	<b>60-120 W/m<sup>2</sup></b>
<b>Specific air flow:</b>	<b>10-15 m<sup>3</sup>/hm<sup>2</sup></b>



# Chilled Ceiling Panel INDUCOOL



Seit 1877

## Kiefer

Luft- und Klimatechnik

Neue Wege mit Luft

## Barclays Bank, London

The headquarters of Barclays Bank in the centre of London's Docklands is a 156 metre high, 32 storey skyscraper, making it the sixth highest in London. It forms part of the Canary Wharf office complex. The major firms located here include international banks such as HSBC, Citigroup, Barclays Bank and Bank of America, several media and newspaper companies, for example The Independent, Reuters and the Daily Mirror, and other large organisations. Barclays Bank PLC, is a financial concern with substantial international operations. Barclays is the third largest bank in Great Britain and has 118,000 employees worldwide. Within the framework of a redevelopment concept the building has been technical equipped with chilled ceiling panels INDUCOOL.



### Function chilled ceiling panel INDUCOOL

INDUCOOL cools with air and water. Most of the thermal energy is removed quickly and economically by cooling water. High-quality air diffusers ensure a high degree of comfort and optimum air distribution.

### System advantages

- Greater thermal comfort with low air velocity
- Chilled ceiling panels require only 5-10% of ceiling area
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- Temperature differences down to -14 K
- Integration of cooling panels into cost-effective standard ceilings
- A full-surface cooling-water system is not required

<b>Building:</b>	<b>Barclays Bank PLC 1 Churchill Place Canary Wharf, Docklands, London</b>
<b>Proprietor:</b>	<b>Barclays PLC</b>
<b>Architects:</b>	<b>Hellmuth, Obata + Kassabaum (HOK), St. Louis, USA</b>
<b>Ventilation system component:</b>	<b>Chilled ceiling panel INDUCOOL</b>
<b>Type of ceiling:</b>	<b>Metal coffer ceiling</b>
<b>Scope:</b>	<b>12,000 m<sup>2</sup> conditioned area</b>



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**Kiefer**

Luft- und Klimatechnik

Neue Wege mit Luft

# Chilled Ceiling Panel INDUCOOL

## Klett Shop, Stuttgart

The Klett Verlag has opened its own shop in Stuttgart with a sales area of 300 m<sup>2</sup>. There is an enormous selection of teaching and learning materials for all ages – a good assortment, logically arranged. The interior fittings in the yellow and orange Klett colours, curved, suspended textile strips, which not only introduce dynamics and colour, but also aid orientation, and optimal climatic conditions give the shop an elegant design and an inviting atmosphere.



Klett Shop, Stuttgart



Visible installation of INDUCOOL in Klett Shop, Stuttgart

### Features

The air-conditioning system in the Klett Shop Stuttgart combines optimised conditions in the rooms with an unusual design in which the air-conditioning equipment is used to create an overall architectural harmony. Visibly installed with great accuracy, neatness and attention to detail, the air-conditioning equipment becomes a real eyecatcher – function and design inseparably united.



# Chilled Ceiling Panel INDUCOOL



Seit 1877

# Kiefer

Luft- und Klimatechnik

Neue Wege mit Luft

## Klett Shop, Stuttgart



Visible installation of INDUCOOL in Klett Shop, Stuttgart

### Function chilled ceiling panel INDUCOOL

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### System advantages

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<b>Building:</b>	<b>Klett Shop, Stuttgart</b>
<b>Architects:</b>	<b>Gottfried Beck, Stuttgart</b>
<b>Proprietor:</b>	<b>Klett Verlag, Stuttgart</b>
<b>Consultant:</b>	<b>Planungsunion, Fellbach</b>
<b>Ventilation system: component</b>	<b>INDUCOOL</b>
<b>Scope:</b>	<b>106 lfm. INDUCOOL</b>
<b>Feature:</b>	<b>Visible installation air-conditioning equipment items are used as styling elements</b>



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Neue Wege mit Luft

# Chilled Ceiling Panel INDUCOOL

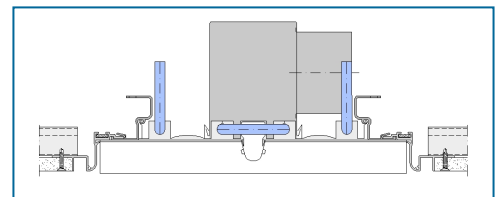
## Pressehaus Stuttgart

The architects Pfeiffer, Ellermann and Preckel have given a thorough facelift to this publishing house dating from the seventies and featuring nine storeys, a square floor plan and fair-faced concrete facades. Two separate entries have been merged into a single, open-plan main entrance with a spacious foyer, which harmoniously unites old and new. The reflective travertine floor and the elegant reception area, equipped with an innovative visitor guidance system, allow scope for light and air in equal measure.



Photo: Wilhelm Mierendorf

INDUCOOL elements with KL3 GK air-guide profiles for installation in plaster ceilings



### Function Chilled ceiling panel INDUCOOL

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<b>Building:</b>	<b>Pressehaus Stuttgart</b>
<b>Architects:</b>	<b>Pfeiffer, Ellermann, Preckel Lüdinghausen</b>
<b>Proprietor:</b>	<b>Pressehaus Stuttgart Grundstücksverwaltung GmbH, Stuttgart</b>
<b>Consultant, building services:</b>	<b>AXIMA GmbH Stuttgart</b>
<b>Ventilation system component:</b>	<b>Chilled ceiling panel INDUCOOL</b>
<b>Type of ceiling:</b>	<b>Plasterboard ceilings</b>
<b>Scope:</b>	<b>2,500 m<sup>2</sup> conditioned area</b>
<b>Active ceiling area:</b>	<b>&lt; 10 %</b>
<b>Specific cooling load:</b>	<b>50-125 W/m<sup>2</sup></b>
<b>Specific air flow:</b>	<b>9-12 m<sup>3</sup>/hm<sup>2</sup></b>



# Chilled Ceiling Panel INDUCOOL



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**Kiefer**

Luft- und Klimatechnik

Neue Wege mit Luft

## Hotel Le Royal Méridien, Hamburg

Dining with a view. The hotel Le Royal Méridien offers you just that in the hotel's own Restaurant Le Soleil. From all eight floors the guests here have a fantastic view over the Outer Alster.

Air-conditioning is here a question both of well-being and of design. Stringent technological and design requirements are combined in a harmonious, functional whole.



Photo © Joi-Design, Hamburg



### Function Chilled ceiling panel INDUCOOL

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<b>Building:</b>	<b>Restaurant Le Soleil in Le Royal Méridien, Hamburg</b>
<b>Interior architects:</b>	<b>JOI-Design Hamburg</b>
<b>Proprietor:</b>	<b>Hotel Le Royal Méridien Hamburg</b>
<b>Consultant, building services:</b>	<b>Ingenieurgesellschaft mbH epm Essen</b>
<b>Ventilation system: component</b>	<b>INDUCOOL chilled ceiling panel</b>
<b>Type of ceiling:</b>	<b>Plasterboard ceilings</b>
<b>Scope:</b>	<b>250 m<sup>2</sup> conditioned area</b>
<b>Active ceiling area:</b>	<b>&lt; 10 %</b>
<b>Specific cooling load:</b>	<b>60-120 W/m<sup>2</sup></b>
<b>Specific air flow:</b>	<b>10-15 m<sup>3</sup>/hm<sup>2</sup></b>

# Chilled Ceiling Panel INDUCOOL



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Luft- und Klimatechnik

Neue Wege mit Luft

## Vivento call centre, Frankfurt

The capabilities of a call centre are determined by a sophisticated synergy of people, technology and organization. The highest requirements for heating, air conditioning and room acoustics have to be implemented here: low ambient air velocities, even ambient temperature without fluctuations, handling of specific cooling loads and low reverberation times. The comfort of the employees in such a densely populated space presents a special challenge.



### Function chilled ceiling panel INDUCOOL

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### System advantages

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- Chilled ceiling panels require only 5-10% of ceiling area
- Reduced energy costs by exploiting the cooling potential of outdoor air
- High cooling capacity, up to 500 W/m
- Temperature differences down to -14 K
- Integration of cooling panels into cost-effective standard ceilings
- A full-surface cooling-water system is not required

<b>Building:</b>	<b>Callcenter Vivento Frankfurt</b>
<b>Proprietor:</b>	<b>DeTe Immobilien Frankfurt</b>
<b>Consultant:</b>	<b>Planungsgruppe M + M AG Böblingen</b>

<b>Ventilation system component:</b>	<b>Chilled ceiling panel INDUCOOL</b>
<b>Type of ceiling:</b>	<b>Drywall-acoustics-ceiling</b>
<b>Scope:</b>	<b>576 m<sup>2</sup> conditioned area</b>
<b>Activated ceiling area:</b>	<b>&lt; 5 %</b>
<b>Specific Cooling capacity:</b>	<b>80 W/m<sup>2</sup></b>
<b>Specific air flow rate:</b>	<b>10,2 m<sup>3</sup>/hm<sup>2</sup></b>