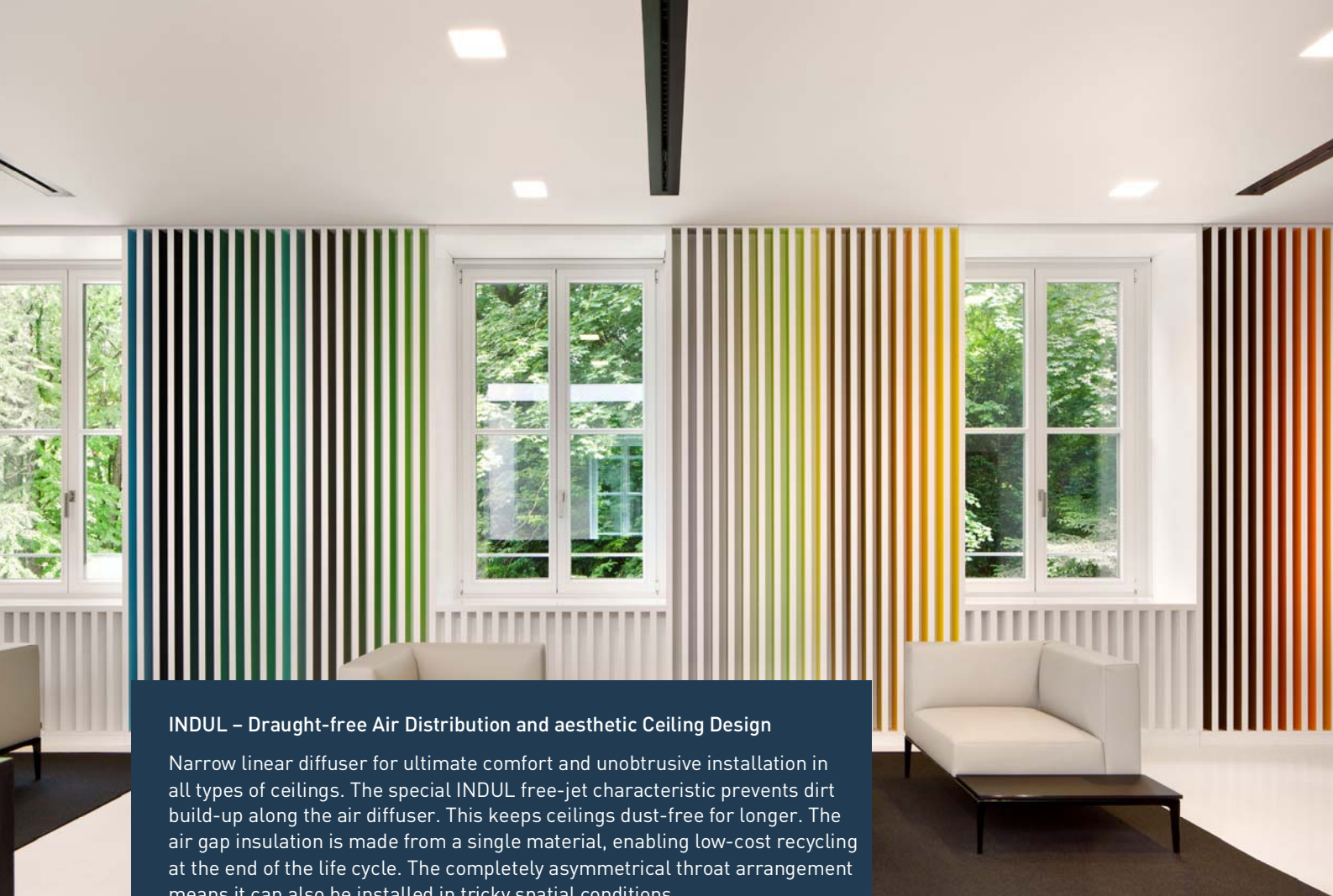


# LINEAR DIFFUSER INDUL<sup>®</sup>N



### INDUL – Draught-free Air Distribution and aesthetic Ceiling Design

Narrow linear diffuser for ultimate comfort and unobtrusive installation in all types of ceilings. The special INDUL free-jet characteristic prevents dirt build-up along the air diffuser. This keeps ceilings dust-free for longer. The air gap insulation is made from a single material, enabling low-cost recycling at the end of the life cycle. The completely asymmetrical throat arrangement means it can also be installed in tricky spatial conditions.

Auditorium Allianz SE, Munich  
Photo © Ken Schluchtmann

## Draught-free Air Distribution for greater Comfort – Design and highest Comfort

The most important factor in creating a pleasant atmosphere in ventilated rooms is to avoid draughts. The Linear Diffuser INDUL offers the best technical prerequisites for the job. The air is divided into fine jets of only a few mm and distributes in the room in alternating directions with a spread of 45°. This results in a particularly uniform distribution of the air with a highly favourable flow of air through the room without noticeable draught.

INDUL Linear Diffusers allow for very slight fitting widths from 15 mm. They are available in various designs and can be integrated in all ceiling structures without any problems for high demands on ventilation comfort and aesthetic ceiling arrangements.

### A comfort Linear Diffuser for clean Ceilings

The reliable 90° free jet characteristic distributes the supply air directly into the common area, without contact with the ceiling. Precisely formed discharge profiles avoid the coanda effect. This keeps ceilings dust-free longer.

### Environment Protection and Health

Back in 1993, Kiefer was the first manufacturer to use air gap instead of mineral fibres for the insulation of INDUL Linear Diffusers. The whole model series are produced with air gap insulation for an optimised insulation effect and is therefore completely recyclable.

# Strengths



## Energy

The extremely high induction of the INDUL linear diffusers enables draught-free operation even at very low supply air temperatures, resulting in significant energy-saving potential through the use of free cooling.



## Architecture

The delicate outlet profiles can be inserted into any desired ceiling architecture and keeps ceilings dust-free longer. Whether unobtrusive or deliberately accented, they meet all architectural requirements.



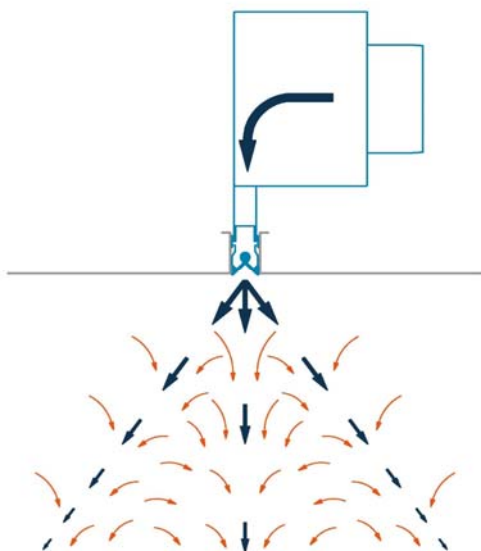
## Technology

Only the INDUL free jet characteristic enables a uniformly diffuse ambient air flow and permits temperature differences of up to -14K while meeting even the highest demands in terms of comfort.

# Function

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. In spite of the low temperatures, the air gap insulation largely prevents loss of energy. And the air diffuser scores points in terms of life cycle costs as evaluated by current certification systems due to the use of recycled aluminium.

Air flow rate	20 – 250 m <sup>3</sup> /hm
Installation width	15, 18, 24 and 45 mm
Installation length	500 – 2500 mm
Throat height	37 – 130 mm
Temperature difference	up to -14 K



## » DESIGN AND HIGHEST COMFORT «

The delicate outlet profiles can be inserted into any desired ceiling architecture and keeps ceilings dust-free longer. Whether unobtrusive or deliberately accented, they meet all architectural requirements. INDUL linear diffusers allow very small installation widths from just 15 mm. They are available in a range of designs and meet the highest demands in terms of both ventilation comfort and attractive ceiling design.

**Festival hall Bregenz**  
Photo © Bruno Klomfar

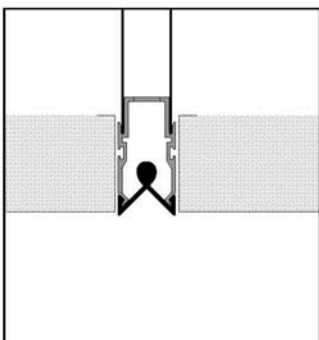
## Simple and quick Installation

The INDUL mounting accessories allow simple quick installation and easy adjustment. The plug-in system for installation in series or as individual elements has been well proven in practice.

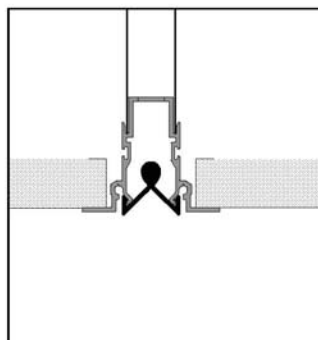
The plaster bracket for trouble-free installation of INDUL Linear Diffusers in plasterboard ceilings is unique. This simplifies installation and also protects the discharge profile by the included protection strip during painting and plaster work. Precise edges are formed between plasterboard ceiling and linear diffuser.

### Installation:

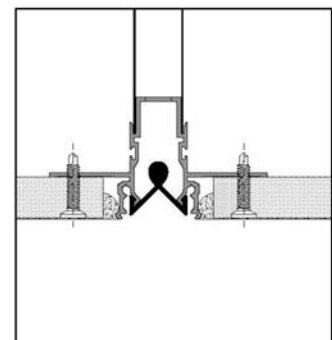
#### Metal-coffered Ceilings



#### Mineral Fibre Ceilings



#### Plasterboard Ceilings





Auditorium Allianz SE, Munich Photo © Ken Schluchtmann

## Freedom in aesthetic Ceiling Design

**Top Comfort with high Cooling Capacity at reduced Air Flow Rates! A perfect Technology for a sophisticated Design!**

INDUL linear diffusers allow for very slight slot widths from 15 mm, which can be integrated in all ceiling joints without any problems. They offer architects freedom when designing elegant, creative and sophisticated ceilings and live up to the high ventilation requirements which are essential for that feeling of well-being.

The following selection of reference projects offers you an initial overview of the over 1500 projects that have been equipped with INDUL linear diffusers around the world: from office buildings and banks, over hotels, spas and fashion boutiques up to sophisticated places of cultural interest such as museums, festival halls and theatres.



Spa Hotel Sackmann Baiersbronn  
Photo © Hotel Sackmann



Casino Bregenz  
Photo © Marcelmayer

## References Office | Conference | Entrance Hall

Photo © Kiefer GmbH



### JULIUS BLUM GMBH VARIOUS FACILITIES

Proprietor Julius Blum GmbH, Höchst  
 Architect Arno Bereiter Architekturwerkstatt  
 Consulting Klimaplan, Hohenems  
 Engineers HVAC

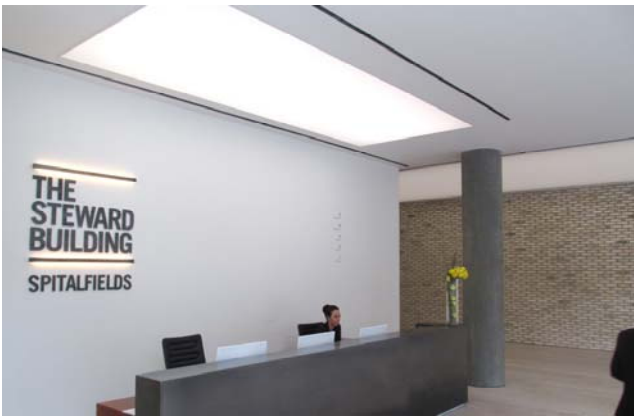


Photo © Ken Schluchtmann

### AUDITORIUM ALLIANZ SE, MUNICH

Architects dan pearlman MarkenArchitektur GmbH, Berlin  
 Reichwald Schultz, Hamburg, Berlin  
 Consulting HVAC ITG GmbH, Landshut

Photo © Kiefer GmbH



### THE STEWARD BUILDING, LONDON

Proprietor Henderson Global Investors, London  
 Architect Allford Hall Monaghan Morris (AHMM)  
 Consulting Long & Partners, London  
 Engineers HVAC



Photo © Meckatzer Löwentraut Benedikt Wolf KG

### BRAUEREI MECKATZER, HEIMENKIRCH

Proprietor Brauerei Meckatzer, Heimenkirch  
 Architect Günther Kerler  
 kerler + partner Architect ingenieure, Sigmaringen

## References Hotel | Wellness | Spa

Photo © Hotel Waldorf Astoria



### HOTEL WALDORF ASTORIA, BERLIN

Architects Prof. Christoph Mäckler Architects  
 InnenArchitect Aukett + Heese GmbH, Berlin  
 Consulting Ingenieurgesellschaft Grabe mbH,  
 Engineers HVAC Hannover

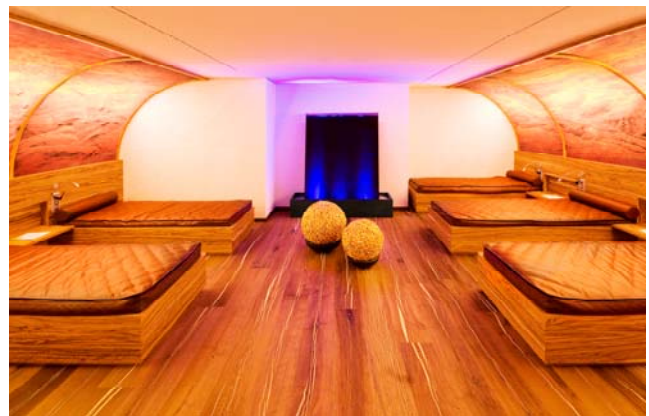


Photo © Hotel Sackmann GmbH

### HOTEL SACKMANN, BAIERSBRONN

Proprietor Hotel Sackmann, Baiersbronn  
 Architect Architecturbüro Vögele, Freudenstadt  
 Consulting Planungsbüro Haustechnik Liepelt,  
 Engineers HVAC Baiersbronn

## References Museums

Photo © Museum Frieder Burda



### MUSEUM FRIEDER BURDA, BADEN-BADEN

Proprietor      Frieder Burda, Baden-Baden  
 Architect        Richard Meier, New York  
 Consulting       SEF Ingenieure, Karlsruhe  
 Engineers HVAC

Photo © Staatliche Museen zu Berlin, Photo: Achim Kleuter



### MUSEUMSINSEL BERLIN

Proprietor        Stadt Berlin  
 Architect        David Chipperfield, Berlin/London  
 Consulting       Jaeger, Mornhinweg & Partner,  
 Engineers HVAC Berlin

Photo © Kiefer GmbH



### LOUVRE ABU DHABI

Proprietor        Tourism & Culture Authority,  
 Abu Dhabi  
 Architect        AJN Jean Nouvel, Paris  
 Consultant       buro happold consulting, Bath

Photo © Kiefer GmbH



### PRADA MUSEUM, MILAN

Proprietor        Fondazione Prada Milan  
 Architects        OMA - Rem Koolhaas Rotterdam/  
 New York

## References Theater

Photo © Kiefer GmbH



### TEATRO CARLO FELICE, GENOVA

Proprietor        Teatro Carlo Felice, Genoa  
 Architects        Aldo Rossi / Ignazio Gardella  
 Milan

Photo © Festspielhaus Bregenz / Bruno Kramfar



### FESTIVAL HALL BREGENZ

Proprietor        Landeshauptstadt Bregenz  
 Architects        Architecturbüro Dietrich /  
 Untertrifaller, Bregenz  
 Consulting HVAC Klimaplan, Hohenems



» TECHNICAL &  
AESTHETICAL  
EXCELLENCE  
IS OUR DRIVE «

Kiefer develops and sells high-quality air diffusers around the world, such as linear diffusers, fan coil systems, chilled ceiling panels and concrete core cooling systems. In close collaboration with the Kiefer engineering plant experiences from planning, implementation, service and maintenance of comfort and industrial air conditioning slips in the development of the components and systems.



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