

## KNAUF DANOLINE VENTILATION CEILINGS

[knaufdanoline.com/air](http://knaufdanoline.com/air)

***KNAUF DANOLINE***

# AIRCHITECTURE

## THE NEED FOR A BETTER INDOOR CLIMATE

**The need for fresh air affects architecture in many ways. And gypsum ceilings play a decisive role.**

We spend more and more of our time indoors. Such factors as increasingly tough legislation are placing more focus on indoor climate and comfort, which have been found to have an adverse effect on our ability to learn and concentrate.

### **More options for architects**

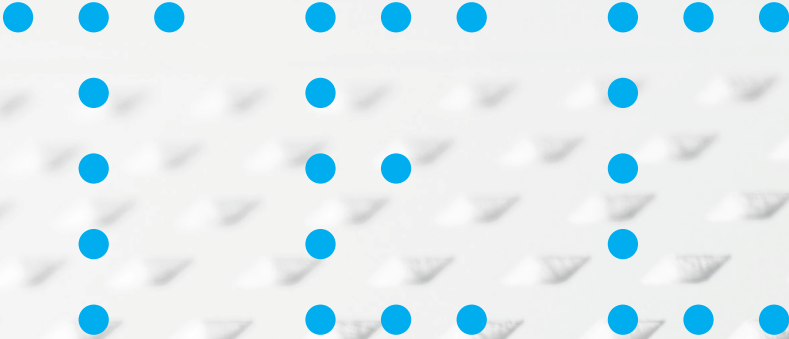
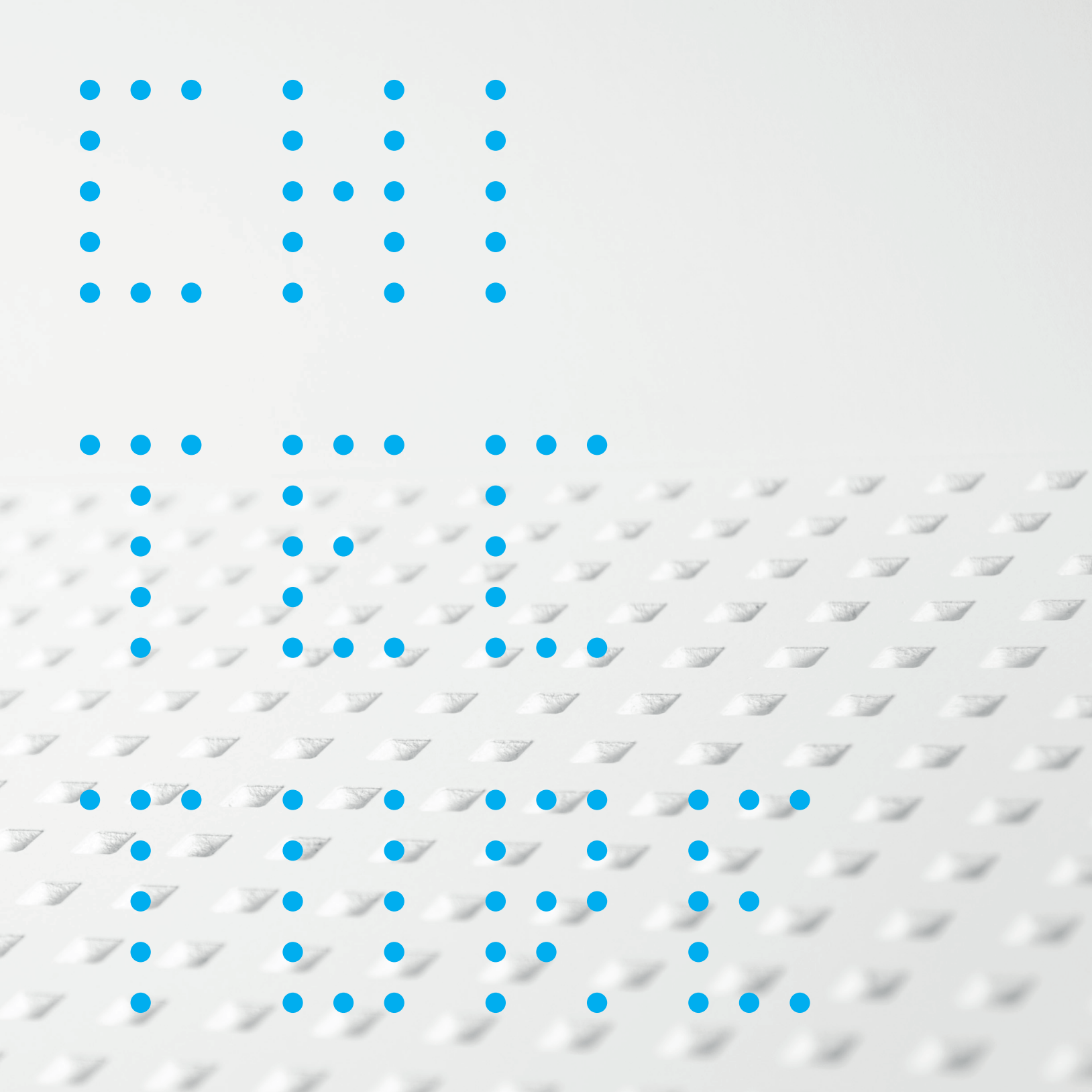
Knauf Danoline believes that gypsum ceilings play a decisive role in being able to meet the tougher demands for a clean, fresh indoor climate.

That's why we have introduced extra functions for our gypsum ceilings, maximising their functionality.

Architects can not only think ventilation as an integrated part of the overall architecture, but they can also combine good acoustics, aesthetics and ventilation without compromising the overall architectural vision of the building.

### **Acoustic ceilings for the future**

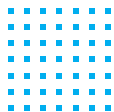
But acoustic ceilings not only represent a means of improving the indoor climate. They also meet a whole range of requirements shaping the architecture of the future. These include space optimisation, energy-efficiency and sustainability.











## CASE

School Skolen i Bymidten  
Helsingør, Denmark  
Product: Contur Unity 3



ARCHITECT  
**HANNE PEDERSEN**  
PROJECT MANAGER  
AND CONSTRUCTION ECONOMIST

The objective was to minimise building height while retaining as much of the original volume as possible. Gypsum ceilings were chosen for aesthetic reasons – we think that they blend in better with the existing buildings from the 1880s than other ceiling products on the market. And we've also found that they have a longer service life in schools.



# GYPSUM IMPROVES BUILDING SUSTAINABILITY

## **Recycling**

a clean recyclable material

## **Repainting**

without affecting the acoustics

## **Long service life**

robust and stable product

## **Recyclability**

up to 99% can be recycled

## **Cooling effect**

can also be used as cooling ceiling

# MORE SPACE FOR MODERN ARCHITECTURE

## **Easier design process**

No need for active/passive zones

## **Low build height**

The ceiling cavity can be significantly reduced

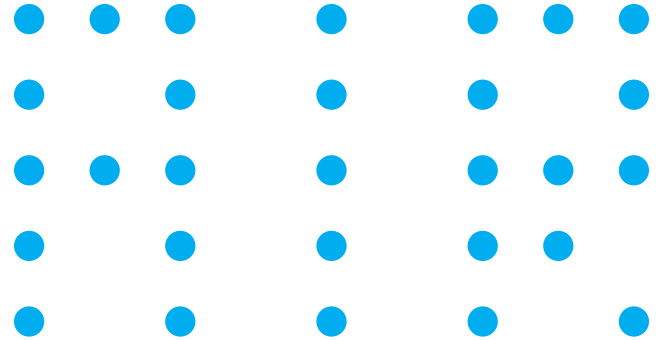
## **Avoid thick walls**

Extraction can be installed in the ceiling

## **No crossing ventilation ducts**

Potential saving of 20-50 cm





# AIRCOUSTICS

## VENTILATION AND ACOUSTICS IN A SINGLE SOLUTION

**Ventilation ceilings by Knauf Danoline are created from the vision to combine ceiling, air and sound. Without having to compromise.**

Knauf Danoline ventilation ceilings are designed to create complete fusion between acoustics and aesthetics. They brilliantly combine sound absorption with invisible ventilation through a gypsum ceiling. That's why you can avoid ventilation grills, ensuring an unbroken ceiling surface, enhancing the architectural expression.

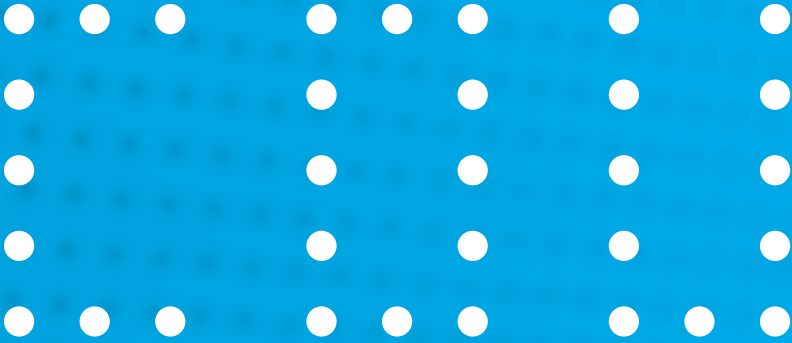
### **Entire ceiling surface ventilates**

These unique ceilings ventilate by blowing cooled air into the ceiling space.

The acoustic felt creates differential pressure, that ensures even distribution of the air across the entire ceiling surface. Because the surface is uniform and the pressure the same across the entire ceiling, the air passes right down to the floor before slowly rising again towards exhaust grills. The smooth, consistent spread of air across the entire ceiling means no draughts.

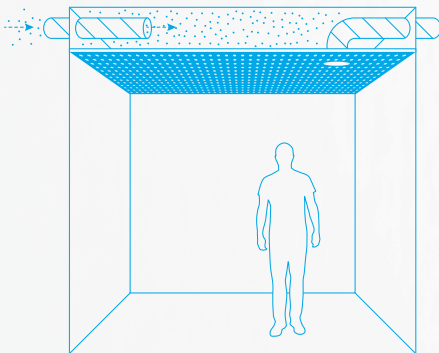
### **Major potential for savings**

Being able to avoid ventilation vents means avoiding crossing ducts which can potentially save 20-50 cm on floor height for new build. The low construction height means optimum use of space in renovation projects. In addition, running costs are lower, as ventilation across the entire ceiling means that the ventilation system can run with lower air pressure.

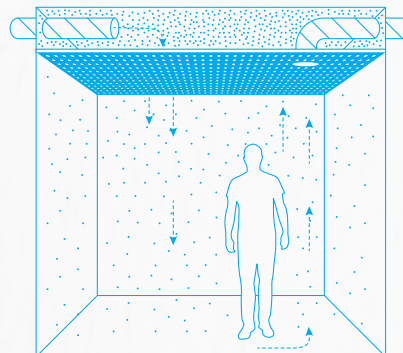


# HOW KNAUF DANOLINE VENTILATION CEILINGS WORK

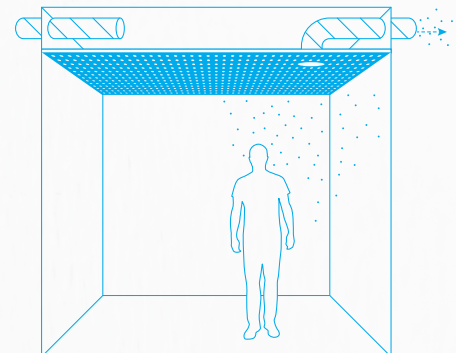
Cooled air is blown  
directly into the ceiling  
cavity



Differential pressure causes  
the smooth passage of air  
right down to the floor



The air slowly rises again  
and is extracted





# NOTABLE BENEFITS FOR USERS

## **No draughts**

Smooth air flow across the entire ceiling

## **Comfort**

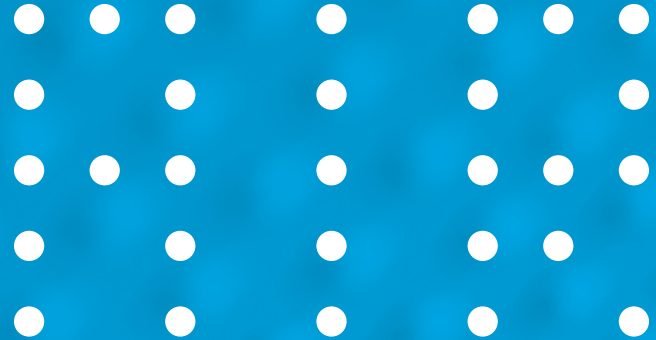
No noise from ventilation systems

## **Complete freedom for interior design**

No areas with the risk of draughts

## **Healthy indoor climate**

Gypsum is a natural material



# AIRSTHETICS

## UNITY COMBINES FORM AND FUNCTION

**Design and functionality  
should always go together.  
That's why we created the  
Unity range.**

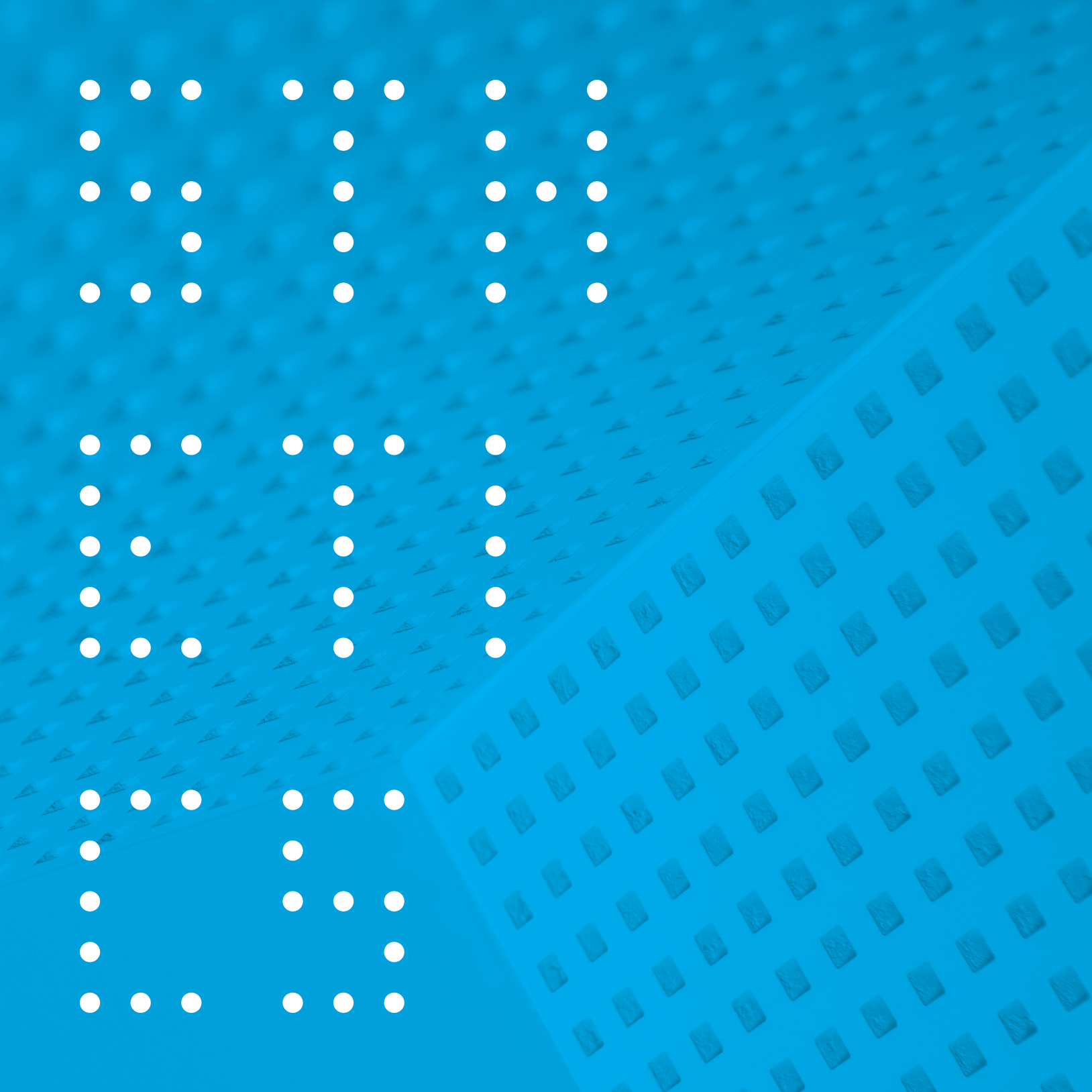
All Knauf Danoline T-grid ceilings can be used for low impulse ventilation. We recommend the Unity range, as it has a number of unique features that make it the ideal choice for ventilation ceilings.

**More benefits with Unity**  
The homogeneous design of Unity creates a smooth, uninterrupted ceiling.

It also means that there is no need to cover the upper side with mineral wool. That means the entire ceiling can ventilate, ensuring an even spread of air flow, and distributing fresh air throughout the room. With no risk of draughts. By avoiding passive zones, you ensure that the entire ceiling surface absorbs sound.

### **Freedom for design**

Unity offers a complete range of perforation designs and edges. That means a considerable degree of freedom to put together the ceiling design that matches your architectural visions.



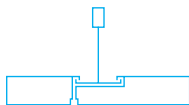


# GYPSUM GIVES A CEILING SOMETHING SPECIAL

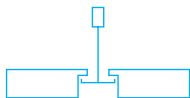
## **Gypsum ventilation ceilings offer a number of unique features**

The entire ceiling surface ventilates and absorbs sound. No passive zones nor mineral wool on the back of the tiles is needed. You can use the same standard tile across the ceiling. Tile thickness is just 12.5 mm. Tiles can be repainted without any loss of acoustic effect.

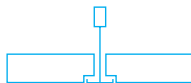
EDGE DESIGN



**CONTUR D+**  
An elegant and simple look.  
Concealed T-grid.

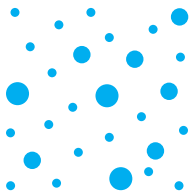


**BELGRAVIA E+**  
Discreet shading.  
Recessed T-grid.

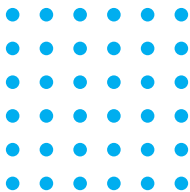


**PLAZA A+**  
Functional design.  
Flush T-grid.

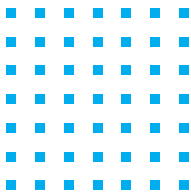
PERFORATION  
DESIGN



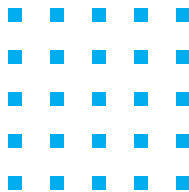
**UNITY 8|15|20**  
Ø 8|15|20 mm  
Perforations: 10.8%  
Sound absorption:  
**αw 0.60**  
for 200 mm suspension  
no mineral wool



**UNITY 4**  
Ø 4 mm  
Perforation: 12.2 %  
Sound absorption:  
**αw 0.70**  
for 200 mm suspension  
no mineral wool

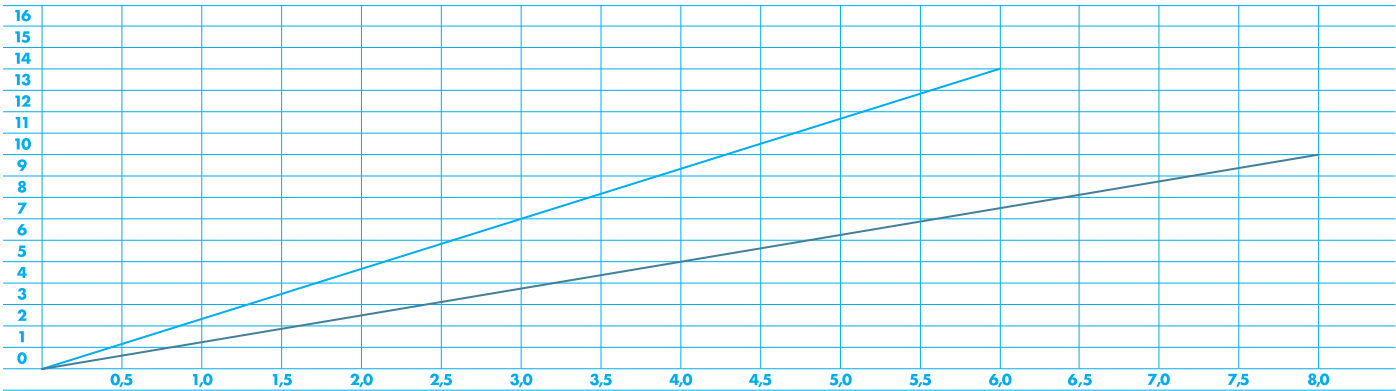


**UNITY 3**  
3.5 mm × 3.5 mm  
Perforation: 17.2 %  
Sound absorption:  
**αw 0.80**  
for 200 mm suspension  
no mineral wool



**UNITY 9**  
9 mm × 9 mm  
Perforation: 18.9 %  
Sound absorption:  
**αw 0.75**  
for 200 mm suspension  
no mineral wool

AIR CIRCULATION [L/M²/SEC.]



DIFFERENTIAL PRESSURE [PA]



VENTILATIONS PERFORMANCE  
CONTUR UNITY 3



VENTILATIONS PERFORMANCE  
PLAZA & BELGRAVIA UNITY 3

# LOOK UP

**Everything we do is done  
with one thing in mind: To  
make you look up.**

Look up. And see how aesthetics  
and acoustics elegantly unite.

Look up. And experience the  
limitless potential and beauty of  
gypsum.

Look up. And discover how state-  
of-the-art functionality is bridged  
with Danish design traditions.

Look up. And be amazed by  
coherent and acoustic spaces that  
stand the test of time.

Look up. And see the beauty of  
everyday life.

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