

VELUX  
Modular Skylights

Kindergården  
Drømmebakken

Aarup, Denmark

The Result  
The Result

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# Drømmebakken Kindergarten

VELUX Modular Skylights changed a dark 60s building into a light kindergarten





## From District Council office to play house

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Forty-nine modular skylights bring light into the lives  
of the children of Aarup, Denmark

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The old Aarup Town Hall would not immediately spring to mind as the setting for a modern kindergarten.

The extensive buildings spread out like large flat blocks in the landscape and are witness to a building style that owed more to occupying square metres than letting in light and air.

Today, these buildings are home to 'Drømmebakken', Aarup's new kindergarten, with 125 children in the kindergarten section and 25 in the day care nursery. Should one of the old town hall employees suddenly find themselves back in their old workplace, they would have difficulty recognising it. The buildings have been opened up in eleven places with the installation of no fewer than forty-nine modular skylights.

The result is a building that feels light, fresh and inviting, even on an overcast day – a building that invites to play.



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The challenge







# The Council leaves home

## An old building with particular challenges

On 1 January 2011, the District Council were packing their bags to go south towards Assens. The new Danish local authority reform meant that the old town hall had become superfluous and one of Aarup's most central buildings had become available for other purposes. This gave the Council an idea.

It had long been a plan to consolidate all of Aarup's smaller kindergartens into larger units, so the desert-

ed buildings seemed to be an answer to the Council's prayers. The only problem was the building's architecture, which made its rooms dark, damp and anything other than child-friendly. How could one get light and air into buildings with areas that were, in many instances, over 20 metres from the facade windows?

CASA architects solved the conundrum with the help of VELUX Modular Skylights.



Architect Brian Møinichen Wendin (left) from VELUX Denmark, has helped Birgit Rasmussen and Poul Qvist Hansen from CASA Architects to optimise the use of VELUX Modular Skylights.



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## Project phases, participants and materials

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### **The planning phase**

- The refurbishing project began immediately after the local authority moved out and took about 12 months.
- The contract was signed with VELUX Denmark on 1 July 2011.
- The installation took place between 15 and 16 November 2011.
- There were six planning and construction meetings in all.

### **The participants**

- The construction group was comprised of the responsible architect from CASA Architects, a building consultant from Assens Municipality and two representatives from the VELUX Group.

- The project architects were CASA architects, owned by Birgit Rasmussen.
- The installer was master joiner Klaus Lebak.

### **The product solution**

- 11 longlights placed in various parts of the building.
- 49 modular skylights 90x240 cm.
- 30 of the modules are venting.
- 5° pitch.
- WindowMaster control system.



Architect Birgit Rasmussen owns CASA Architects who were responsible for the planning of the new kindergarten. She explains how the solution came about during work on the old buildings.

"The starting point was this old town hall with great depth to the building. It was really dark in the middle and there wasn't much light for a building suitable for children. We began with the usual systems, but then we discovered VELUX Modular Skylights and became aware that we could create low, light atriums and completely new contexts – we could create bright spaces in the middle of the building. Each atrium would house a specific function.

#### **It just works**

The Council went with the idea and asked local joinery firm Klaus Lebak to be responsible for the installation itself. The master joiner just wanted to check the product out before beginning and his verdict was indisputable.

"From the word 'go', it just worked. It was really easy to work with. I see it as a new way of dealing with skylights. In principle, one man can install it himself – it's just one crane and one installer."



The fittings are fastened easily and quickly with just one screw and two clamping screws.



The installation is completed with a prefabricated cladding that is fitted to the skylights in advance.

Modular Skylights

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The solution  
The solution

# Where there's light, there's life

A positive surprise for both children and adults



When personnel and parents arrived for the housewarming party in January 2012, they entered a modern building, full of light. The eleven large long-lights have given the building a much more open feel, with light streaming down into the large functional areas. Especially the adults had a hard time recognising what had previously been the old, dark municipal offices. Helle Pia Sørensen, kindergarten leader at Drømmebakken, took particular notice of the parents' reaction.

"From the outside, you see this flat building, like many built in the 60s, so most people expect to come into a dark building. But you don't, and many parents are positively surprised at this," she says.

The same sentiments are shared by Line Visby Hansen, a member of the Parents' Committee.

"Most people here remember what it looked like before. There was no light and it was very dark inside. Today, you can see what's happening in the kindergarten as soon as you approach the building. I think that's because there's light coming in from above. Before, it was as if there was a lid on it. It was quite boring to look at and you couldn't see anything. But

now, with the large windows and all the light coming in from the roof you can see in to something light," she says.

## **When nature moves indoors**

Daylight and ventilation are vital for the wellbeing of children. Studies have shown both learning and health benefits when children have access to natural light and fresh air.

Both Drømmebakken's leader and the Parent Committee member agree that the solution is good for the wellbeing of the children.

"There's no doubt that the skylights have meant a lot to the institution. We think it's light and friendly and pleasant to be in. It's higher to the ceiling and the skylights are bigger than I expected," says Helle Pia Sørensen.

For Line Visby Hansen, it's all about the outside and inside becoming one. "It creates an organic feel and doesn't seem like such a big change when you come in after being outside. In a way, the light helps bring nature into the building," she says.

Køkken







Architect Birgit Rasmussen calls them 'light atriums'; central areas in the building where the daylight and the open space create a natural framework around the children's' activities.





# Controlling the indoor environment

The control system regulates the heating and allows fresh air in when required.

The Council are also pleased with the result. As Council building consultant Ib Meldgaard says, "When the VELUX Group are behind it, it can't be bad."

From project inception, Ib Meldgaard has managed the solutions proposed by the architects and he is pleased with the reactions he has received now that the building is occupied once again. He is especially pleased with the technology built into the system.

"The kindergarten are very enthusiastic and I also think it has worked out very well. We have a skylight solution that looks like normal windows – and it's all automatic, with natural ventilation and windows that open and shut themselves. It's all controlled by a WindowMaster system that also controls the underfloor heating. There are sensors in various places that measure temperature and CO<sub>2</sub>. If the CO<sub>2</sub>-level is too high, the system makes sure that new fresh air flows into the kindergarten. If the temperature is too high, the system reduces the underfloor heating and opens the skylights," he explains.



A wall switch helps control the modular skylights and blinds directly when necessary.



When the blinds are closed, the light and heat effect of the room is affected.





"I have a lot of people coming to have a look around – parents, politicians and other interested parties come and want to see the new building. They all comment on how lovely it is with all the light streaming in. It makes a world of difference.

Helle Pia Sørensen, kindergarten leader





“They [VELUX] said the solution could be installed in two days. I mentioned this to the guys at the workshop and of course, they said I must be mad.

Klaus Lebak, master joiner

“In a way, the light helps bring nature into the building.

Line Visby Hansen,  
Member of the Parent's  
Committee



“At the moment we’re doing a lot of renovation, refurbishing and extension work, and in this project daylight is very important. So I can easily imagine that we will use them [VELUX Modular Skylights] again.”

Birgit Rasmussen,  
CASA Architects