

## DK\_Copenhagen V\_Industriens Hus

**Image 01:**

The building from the top  
© Transform ApS  
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**Image 02:**

Northeast façade  
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**Image 03:**

The atrium in the core of the building  
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### Building Specifications

<b>Address</b>	H.C. Andersens Boulevard 18, 1553 Copenhagen V, Denmark
<b>Building Category</b>	Office
<b>Year of Construction</b>	1979 (Renovated in 2013)
<b>Special Qualities</b>	Double glazed façade
<b>Location</b>	56° northern latitude, 13° eastern longitude. Located in dense urban area, surrounded with buildings from all directions.
<b>Climate</b>	Cfb (warm temperate climate, moist with adequate precipitation in all months and no dry season, warm summer with the warmest month below 22°C)

### Vent. Cooling Site Design Elements (Solar Site Design and Wind Exposure Design, Evaporative Effects from Plants or Water)

n/a

### Vent. Cooling Architectural Design Elements (Form, Morphology, Envelope, Construction & Material)

**Form:** Rectangular shaped building. The parts along H.C. Andersen Boulevard and Vesterbrogade consist of 8 floors, while the parts to southwest have a decreasing number of floors. The roof of the southwest part of the building is covered with a cascade of outdoor terraces

**Morphology:** The first floor consists of a big foyer, which contains a large number of different stores. The original building façade has been moved in to create a space between the old building and the new façade by forming a large foyer on the ground floor. The upper floors are used as offices. The atrium, which connects all the different floors, is placed in the middle of the building. Total area of the squared building is 41,500m<sup>2</sup>

**Envelope:** The building has a double-glazed façade. Microshaded-insulated glass has been used in glazed facades. The roof contains a large number of skylights. The solar shading is automated.

**Construction:** Heavy mass building

### Vent. Cooling Technical Components (Airflow Guiding Components, Airflow Enhancing Components, Passive Cooling Components)

**Airflow Guiding Components:** Permanent openings at the bottom of the double glazed façade are used as the inlets for the natural ventilation, while the openings in the top of the double-glazed facade are automatically controlled depending on cooling or heating needs of the building. Automated openings at the top of the atrium are used as outlets for the natural ventilation.

## IEA EBC Annex 62 Ventilative Cooling

<b>Actuators, Sensors and Control Strategies</b>
Temperature and CO2 sensors are placed in the atrium and at different locations inside the double-skin façade Weather station measuring temperature, humidity, CO2, wind, rain and solar irradiation was set on the rooftop NV Advance™ ventilation system is used
<b>Building Energy Systems</b> (Heating, Ventilation, Cooling, Electricity)
The office areas are cooled by cooling baffles. Mixing ventilation with VAV is used in meeting rooms, canteen and all the stores when natural ventilation is not efficient enough. Recirculation cooling installations are located above the suspended ceiling. The building is connected to the new district cooling system. Information about heating and electrical systems is not available.
<b>Building Ownership and Building Facility Management Structures</b>
Dansk Industri owns the building, and the office areas are rented from different companies Architect: Transform ApS Arkitektur & Urban Design
<b>Acknowledgements</b>
n/a
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