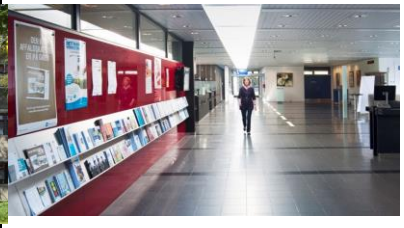
DK_Albertslund_Albertslund Rådhus

Image 01: Façade shading ventilation inlet valves © AI a/s	**Image 02:** West façade © AI a/s	**Image 03:** Ground floor © AI a/s
		

Building Specifications

Address	Nordmarks Allé 1, 2620 Albertslund, Denmark
Building Category	Office
Year of Construction	1971 and 1973 (renovated in 2008 and 2010)
Special Qualities	n/a
Location	56° northern latitude, 12° eastern longitude. Located in an urban area with surrounding buildings of the same size.
Climate	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)

Large trees located south from the building have an impact on the wind pressure and provide shading from the sun. Evaporative cooling from the open water channel has an impact on the cooling needs of the building

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

Form: The building complex consists of three long box shaped buildings (build in 1971) and a fourth building (1973) as liaison. The three blocks are parallel to each other and are stretched along north/south direction and the fourth building, placed along west/south, links the three blocks together. Total floor area is 8430 m2

Envelope: Façade contains narrow, stretched window sections with external solar shading at each floor (mostly in west and east directions). Construction: Heavy mass building

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

Airflow Guiding Components: Windows in the ceiling are used to run natural ventilation. Hinged valves are located under the windows to secure fresh air supply in the winter period.

Airflow Enhancing: Cross and stack ventilation principles are used. Hybrid ventilation for toilets and kitchens. Windows are used as inlets in summer months. In cold season the valves behind the radiators are used for fresh air supply. The radiators are preheating the incoming fresh air before it reaches the occupied zone. A mechanical exhaust operates hybrid ventilation in winter days. External solar shading systems are installed on the buildings façades

Actuators, Sensors and Control Strategies

Chain actuators operate façade windows and roof openings
The ventilation system is controlled by temperature sensors in each room, also manual control is possible.
Weather station measuring wind speed/direction, rain, temperature and humidity was set on the rooftop
The solar shading is automatically controlled on the basis of the illumination level at the roof and the wind pressure on each façade
The building is using NV Advance^{TM} control system, to control hybrid ventilation and solar shading

Building Energy Systems (Heating, Ventilation, Cooling, Electricity)

Hybrid ventilation is activated if natural ventilation is not efficient enough
Heating by radiators
Information about electricity is not available

Building Ownership and Building Facility Management Structures

The owner, Albertslund municipality, occupies the building.
Architect: AI a/s

Acknowledgements

n/a

Datasheet Source:
WindowMaster A/S