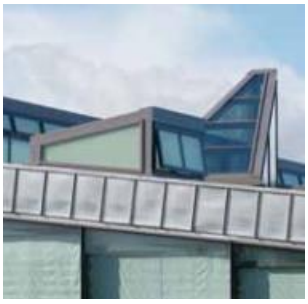
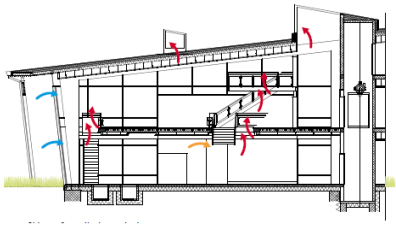
DK_Kolding_Beirholms Væverier

Image 01: Exterior view © WindowMaster A/S	**Image 02:** View of windows on roof © WindowMaster A/S	**Image 03:** Ventilation scheme © WindowMaster A/S
		

Building Specifications

Address	Nordager 20, 6000 Kolding, Denmark
Building Category	Office
Year of Construction	2010
Special Qualities	n/a
Location	56° northern latitude, 10° eastern longitude, placed in suburban area. The surroundings is built-up with other office and production facilities approximately the same size. There is a pond located to the northwest from the building. Man-made earthwork is placed along the northeast facade
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)

A pond has been placed at the northwest side of the building to ameliorate the macroclimate.

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

Form: Rectangular shaped building with a double sloped roof

Morphology: The building consists of a showroom, office, and warehouse area. One part of the building has two storeys (showroom and office) and the other part has one storey (warehouse). Administration zone is designed according to landscape office principle. Total floor area is 1400m2.

Envelope: The southwest façade of the building is fully glazed with integrated automatically controlled window openings serving as inlets for the natural ventilation. Other facades are made of a combination of insulated heavy mass walls with integrated glazing areas. An overhang over the glazed Southwest facade that shields against the direct solar radiation in hot summer thereby reducing the need for cooling. Non-adjustable external solar shading louvers are placed on the southwest and southeast façades.

Construction: Apart from the glazed area at the southwest façade, the building is made from heavy mass elements like concrete and bricks.

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

Showroom, administration rooms and dining area are ventilated by natural ventilation. However, meeting rooms, fitness room and warehouse are ventilated by mechanical ventilation with heat recovery.

Airflow Guiding Components: Windows which operate as air inlets are located in the southwest façade and are opened automatically for night ventilation. The air exhaust is provided by electrically controlled skylight openings using the stack effect created between the window openings on the ground floor and the curb mounted skylights on the roof of the building. Air supply for the comfort ventilation is ensured through electrically operated windows in the Southwest facade.

Actuators, Sensors and Control Strategies

Chain actuators operate façade and roof windows.

Besides the automatic control of the windows, manual window control is possible. However, after 30 minutes the windows switch back to automatic control.

Temperature and CO2 sensors in the showroom, office and dining area.

Weather station measuring temperature, humidity, CO2, wind, and rain was set on the rooftop.

The building uses NV Advance™ control system.

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

Mechanical ventilation with heat recovery in meeting rooms, fitness room and warehouse.

Information about heating system and electricity is not available

Building Ownership and Building Facility Management Structures

The building is owned and occupied by Beirholms Væverier.

Aknowledgements

n/a

Datasheet Source:
WindowMaster A/S