

Building & Industry

NOVENCO

SCHAKO Group

Nieuw Hoog Catharijne – five levels of fresh air below ground

About the project

The renewed mall Nieuw Hoog Catharijne in Utrecht brings together modern architecture, open spaces and seamless integration with the city. Designed in close cooperation with architects from Amsterdam and Los Angeles, the building connects the Central Station with the city centre through two parallel boulevards that form one continuous public space.

A striking feature is the large glass volume called the “Stadskamer”, where visitors can look directly down onto the flowing Catharijnesingel canal beneath their feet.

The development features 23,000 m² of retail space, 19,000 m² of shopping gallery, 9,000 m² for a hotel and an underground car park with approximately 1,300 spaces. Sixty residential apartments complete the mixed-use complex.



CGF-500 jet fan with under 27 cm installation for maximum car park clearance



Air distribution across all five levels of the car park is handled by 42 CGF-500 centrifugal jet fans

Five-storey underground solution

NOVENCO Building & Industry delivered the redesign, component supply, installation and commissioning support for the ventilation system of this unique five-level underground car park.

With a total area of 40,000 m², it is one of the largest underground parking facilities in the Netherlands. An uncommon construction method was used, building simultaneously upwards and downwards from level -2 to accelerate the overall project.

The ventilation system is designed primarily for fresh air supply and CO/LPG extraction. It is also available to the fire brigade for smoke control in the event of fires.

Equipment delivery

To create an efficient and robust ventilation system, NOVENCO supplied two large NovAx™ ACP-1400 axial flow fans, providing a combined fresh air capacity of approximately 200,000 m³/h.

Additional fresh air enters through the main entrance tunnels equipped with six NovAx AUT-400 jet fans that induce fresh air further into the parking facility. Air distribution across all levels is handled by 42 CGF-500 centrifugal jet fans. Their installation height of less than 27 cm ensures maximum clearance within the car park.

Extraction of polluted air is managed by three NovAx ACN-1600 axial flow fans with a total exhaust capacity of 460,000 m³/h. All jet fans were powder-coated white. Combined with the white ceilings and walls, the car park achieves a clean and bright appearance.

NOVENCO also installed roof cowls, ventilation shaft grilles on every level, attenuator baffles, fan isolation dampers and large balancing dampers for optimal airflow distribution through the entire system.



NovAx AUT-400 jet fan installed at the car park entrance

Facts:

- 23.000 m² retail space and 19.000 m² shopping gallery
- Five-storey underground car park, total 40.000 m²