Building & Industry

NOVENCO

SCHAKO Group

Reduce energy consumption

with ZerAx® and EC+ concept

EC+

Danfoss

The EC+ concept

EC+ efficiency 85%

Building & Industry
NOVENCO

Energy in focus

Rising energy costs and environmental awareness drive the demand for smarter, more efficient solutions. Together, Danfoss and NOVENCO® Building & Industry answer this demand with the EC+ concept – designed to increase HVAC efficiency and radically reduce energy use in new and existing AHUs. The solution combines NOVENCO's high-efficiency ZerAx® axial fans with Danfoss VLT® drives and permanent magnet motors for optimal performance.

Optimised AHU systems

NOVENCO and Danfoss have joined forces to deliver the most efficient AHU system available. With fan efficiency at 92% and motor and drive efficiencies above 95%, the EC+ solution achieves an overall system efficiency of 85% – up to 25% better than conventional alternatives.

The EC+ concept

EC+ focuses on optimising key components that impact overall system efficiency: PM motors, VLT drives and ZerAx fans. The combined system efficiency results from the following equation.

$\eta_{fan} \times \eta_{motor} \times \eta_{drive} = \eta_{system}$

The result is a high-performance system that combines maximum energy savings with reliability and long-term durability.

Advantages of EC+

- System efficiencies up to 85.5%
- Significant energy and cost savings with ROI down to 1 year
- Reduced CO_2 emissions
- Plug-and-play retrofit for existing installations
- Lifespan of 20+ years
- Minimal maintenance

The EC+ efficiency equation

92% x **95%** x **98%** = **85,5%**

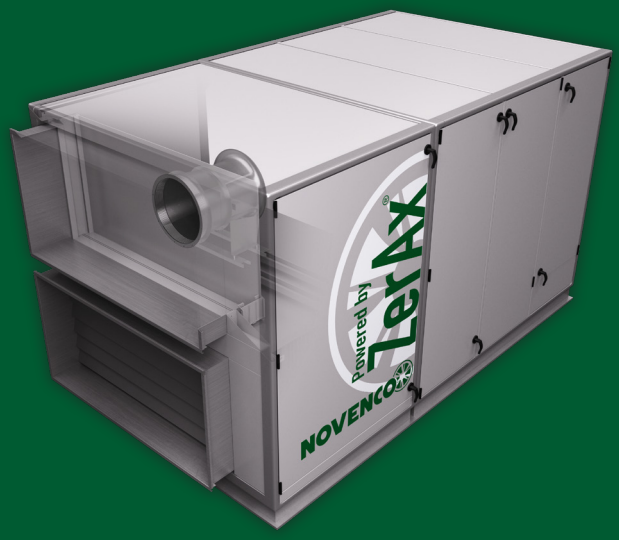
NOVENCO ZerAx®
Highly efficient
axial fan

High efficiency
PM motor

Danfoss VLT® with motor
independent technology

Energy savings with EC+

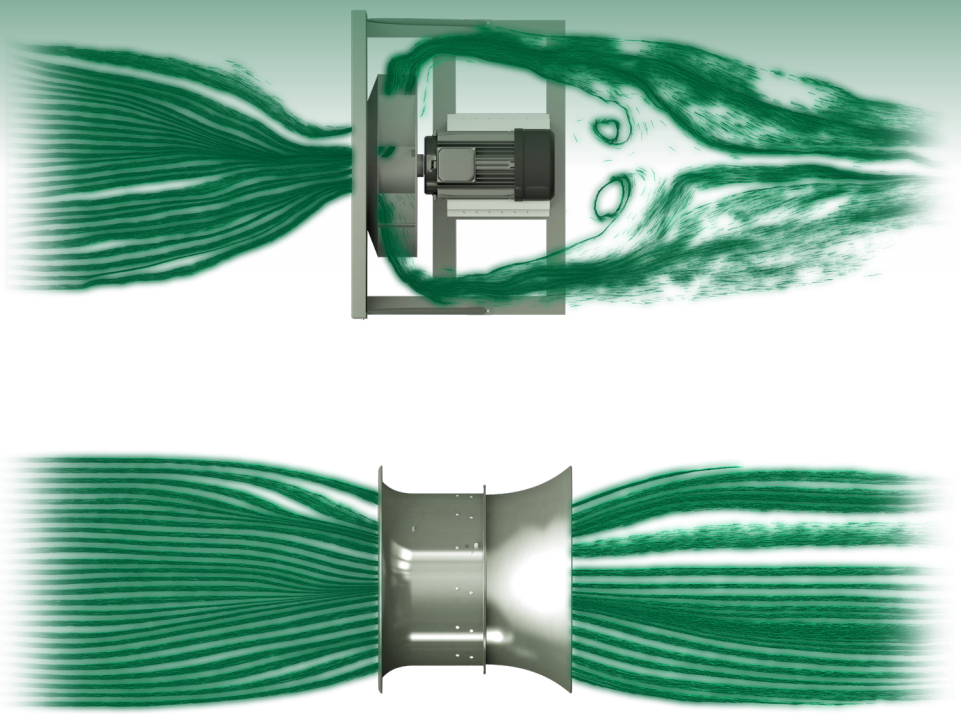
- At least 20% compared to best-in-class EC fans
- Typically 40% by retrofit of old plug fans
- Typically 50% by retrofit of old centrifugal fans



System efficiencies up to 85,5%
Lifespan of 20+ years
Ultra-low sound levels
Minial maintenance
Energy savings up to 50%
Plug-and-play
ROIs down to 1 year
Recyclability rate of 98%

The complete AHU length with ZerAx® fan is typically 30% shorter and 30% lighter than a comparable system with plug fan

Dynamic pressure is the key



Difference in air flow between centrifugal fans and ZerAx® axial fans

Maximising energy efficiency in ventilation requires fans that utilise both static and dynamic pressures, which increases efficiency, reduces energy consumption, lowers operating costs, and cuts carbon emissions.

Traditional plug and centrifugal fans rely only on static pressure, wasting the dynamic pressure and limiting efficiency to below 90%. In contrast, axial fans capture the full total pressure – static and dynamic – allowing efficiencies above 90%.

While plug and centrifugal fans may seem simpler and more flexible, their long-term operating costs and environmental impact are higher. High-efficiency axial fans consume less energy, reduce costs and minimise CO_2 emissions, making efficiency the critical factor in ventilation design.

NOVENCO® ZerAx® fans combine unmatched 92% efficiency, over 20 years of lifespan and 98% recyclability - the ultimate in performance and sustainability

Unilever, Italy

Unilever's ice cream facility combines high-performance cooling with smart, innovative technology, achieving 38% energy savings and a two-year payback.

Energy usage	kWh saving	CO2 reduction (annual)	Cost saving (€)	ROI (years)
-38%	199.080	46.8 t	23.890	2

Pre-retrofit

Post-retrofit

Zott, Germany

Zott dairy modernizes its cooling tunnels, achieving 66% lower energy use and rapid payback - all with reduced noise, maintenance and downtime.

Energy usage	kWh saving		Number of fans	ROI (years)
-66%	1.5 mio		120	1

Pre-retrofit

Post-retrofit

Carlsberg, Denmark

Carlsberg brewery upgrades its ventilation system, cutting energy use by 43% and lowering CO_2 emissions while securing a two-year payback.

Energy usage	kWh saving	CO_2 reduction (annual)	Cost saving (€)	ROI (years)
-43%	438.872	161 t	60.000	2.2

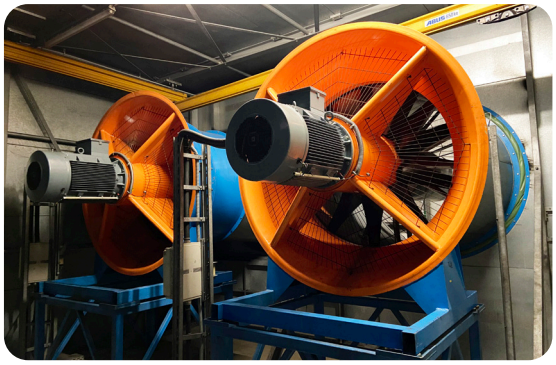
Pre-retrofit

Post-retrofit

Frankfurt Airport, Germany

Frankfurt Airport cuts energy use by 60% through advanced fan technology and smart system optimization, ensuring reliable and efficient ventilation.

Energy usage	kWh saving	CO_2 reduction (annual)	Cost saving (€)	ROI (years)
-60%	4.7 mio	2.2 kt	705.000	3



Pre-retrofit

Post-retrofit

About NOVENCO

NOVENCO Building & Industry is a global leader in high-efficiency ventilation solutions. With decades of engineering expertise, we develop fans and fan solutions that deliver exceptional energy efficiency, reliable performance and long-term durability - even under the harshest conditions.

The flagship ZerAx® fan series sets the benchmark for efficiency, durability and environmental performance across industrial and commercial applications.

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