

we bring ^{better} air to life
Solutions for Building Air Comfort and Fire Safety



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FläktWoods



**Environment
Economical
Expertise**

Providing the best possible air comfort and safety for people by:

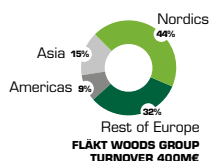
- **Protecting our shared environment**
- **Developing energy efficient and economical solutions**
- **Integrating our expertise in customer applications**

That's the essence of the Fläkt Woods e³ concept.

www.flaktwoods.com/energy

A global leader in air technology solutions with Nordic roots

85% of the Life Cycle Cost in a ventilation system is generated by the running energy cost. At Fläkt Woods we are committed to the continuous development of our complete range of Air Technology products and solutions, providing substantial energy and cost savings. Fläkt Woods is a global leader with a proven and impressive track record. High-performing components are an obvious starting point and every 5 minutes we deliver an air treatment, air ventilation or air diffusion product for complete climate systems all over the world. Reducing the environmental foot print through innovative products and energy efficient solutions has been at the core of our business since the start and that mindset is transferred through our unrivalled industry expertise into every project. Every day.



15



2150



65 Countries
Worldwide

“ Air Technology innovation is in our roots and we strongly believe that we are bringing “Better Air to Life”!

▶ Our partners in Europe, the Middle East, US, and Asia include:
end users, contractors, distributors, consultants and engineering firms

Focus Areas

Air Comfort

Every day we consume 1 kg of food and drink 2 litres of water, but we inhale approximately 20 000 litres of air. People expect high indoor comfort, property owners need profitable and energy efficient buildings, and environmental targets should be achieved or surpassed. We help you to achieve that. With over 100 years of experience, that is what our customers have come to expect from us.



Fire Safety

Flåkt Woods is a pioneer in the fire safety field, having built up vast applicational knowledge through involvement in many major construction projects. The ability to offer a full package of equipment, coupled with our vast experience, makes Flåkt Woods the ideal provider of fire safety solutions. All our products are CE marked.



Fläkt Woods is always right beside you



AIR DIFFUSION

Air diffusers and chilled beams are designed to ensure high quality indoor climate whilst providing advanced functionalities: draughts free, VAV, air distribution adjustment and flexible construction.

5 product families driven by Fläkt Woods' e³ concept, for your benefit



AIR TREATMENT

Air handling units integrate components for highly efficient and reliable solutions: energy recovery system, SEMCO® wheels, EC and PM motors, integrated controls and reversible heat pump



AIR DISTRIBUTION

Veloduct® is a complete system of round ducting for best-in-class tightness. Veloduct® is CE Marked certified (600°C, 2 hours) for fire safety application.



AIR MANAGEMENT

IRIS Original enables easy air management for commissioning and balancing, whereas Optivent® products offer the Demand Controlled Ventilation feature. CE marked dampers for fire application complete the range.



AIR MOVEMENT

All fans from Fläkt Woods are designed for general air movement, but we also offer special applications that protect against events such as emergency high temperature smoke extraction, pressurisation, and explosive atmospheres.

SEMICO, Veloduct and Optivent are registered trademarks of Fläkt Woods

Office Buildings

Office buildings are built for people, and the quality of the indoor environment will affect their health, comfort, and productivity. Managing this as efficiently as possible is a challenge. 85% of the Life Cycle Cost for office buildings is represented by HVAC systems, and the components offered through Fläkt Woods will ensure that overall costs are greatly reduced and the energy efficiency is enhanced.



Air Comfort

CORE PRODUCT-RANGE FOR OFFICE BUILDINGS



“ 220.000 buildings in 50 countries are equipped with Fläkt Woods air handling units

Fläkt Woods expertise area:

Energy Recovery Wheel

SEMCO® Energy Recovery Wheel solutions offer high efficiency in a compact design and often provide the best return on investment. With our long experience in designing and producing Energy Recovery Wheels in Europe and the US, Fläkt Woods can offer small size rotors for residential application as well as large diameter wheels for industrial installations. We can reduce the cost of cooling by installing wheels for heat and moisture recovery, and for hygienic applications, our wheel with 3Å molecular sieve provides total energy recovery while avoiding cross contamination.

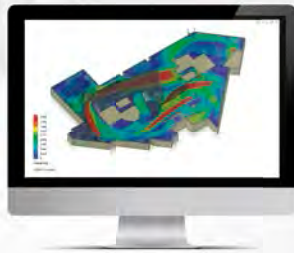


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Fläkt Woods expertise area:

Computational Fluid Dynamics

Airflow behaviour is difficult and complicated to predict, especially in large venues such as car parks. Accurate calculations are therefore paramount when creating an effective ventilation system. Fläkt Woods' modelling is backed up with both lab test research and smoke tests in real car parks to insure accuracy. Manual calculation methods, used by many, are extremely limited in their abilities, and are usually inaccurate and imprecise. At Fläkt Woods we therefore offer full CFD analysis to customers on all projects.



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Shopping Malls

Complex ducted systems are the traditional approach to enclosed car park ventilation in shopping malls, with fresh air levels and constant running of a ventilation system resulting in high day-to-day running costs. Our Thrust Fan System does not need ducts, which reduces your capital installation cost, and can be designed using sensor monitoring systems so that selected fans run only when necessary.



Fire Safety

CORE PRODUCT-RANGE FOR SHOPPING MALLS



Fans
Car park ventilation systems



Air Management
Fire dampers

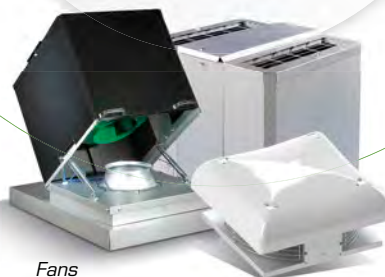


Air Diffusion
Adjustable swirl diffuser

- KEY BENEFITS:**
- Tested and CE approved products
 - Computational Fluid Dynamic expertise
 - High temperature range
 - Easy installation



Fans
Centrifugal fans



Fans
Roof fans

“ 4 300 car parks currently have ventilation with fire safety from Fläkt Woods installed

Education

When investing in Education infrastructure, there is a central priority: ensuring that all indoor spaces are configured and controlled for a flourishing learning environment. Fläkt Woods is not only an experienced HVAC systems integrator, we also have a unique position where our systematic demands can be closely met by component features, and component development is always done with the functionality of the entire system in mind.



Air Comfort

CORE PRODUCT-RANGE FOR EDUCATION ENVIRONMENTS



“ 3 million air diffusers are delivered every year to buildings around the world

Fläkt Woods expertise area:

Research & testing labs

As leading pioneers in our specialist fields, Fläkt Woods has one of the world's largest networks of facilities for testing entire air climate solutions. Our dedicated laboratories are equipped to demonstrate and prove product performance and control strategies. We have R&D facilities in Sweden, Finland, United Kingdom, and the USA. Specific dynamic testing capabilities include measurement and study of:

- Comfort levels
- Cooling & heating outputs
- Velocity profiles
- Noise criteria

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Fläkt Woods expertise area:

Econet® energy recovery

Our patented Econet® is an innovative energy recovery unit where all the components for heat recovery, heating, and cooling are integrated in a single compact unit. This design contributes to the impressive efficiency. The fact that there is no contamination risk between extract and supply air makes Econet® an excellent choice for hygiene applications.

- High efficiency run-around-coil
- Up to 75% efficiency
- No contamination between extract and supply air
- Shorter AHU footprint
- Twin, run & stand-by pump, for mission critical areas



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Hygiene

With experience from over 300 installations in hospital and healthcare facilities, Flåkt Woods is the safe choice for air management systems. Our solutions provide ultimate function for high-demand facilities, such as operating theatres. We deliver low life-cycle costs for the entire building whilst meeting the highest standards of energy efficiency.



Air Comfort

CORE PRODUCT-RANGE FOR HYGIENE APPLICATIONS



Air Treatment
eQ Hygiene



Air Diffusion
DIF-OT



Air Treatment
Controller



Air Treatment
Econet®



Air Diffusion
Cleanvent®

KEY BENEFITS:

- High level of protection for patients and processes
- Energy recovery with no cross-contamination
- Reliable operation
- High level of comfort

“ We have equipped 470 hospitals and 330 pharma plants in 22 countries worldwide

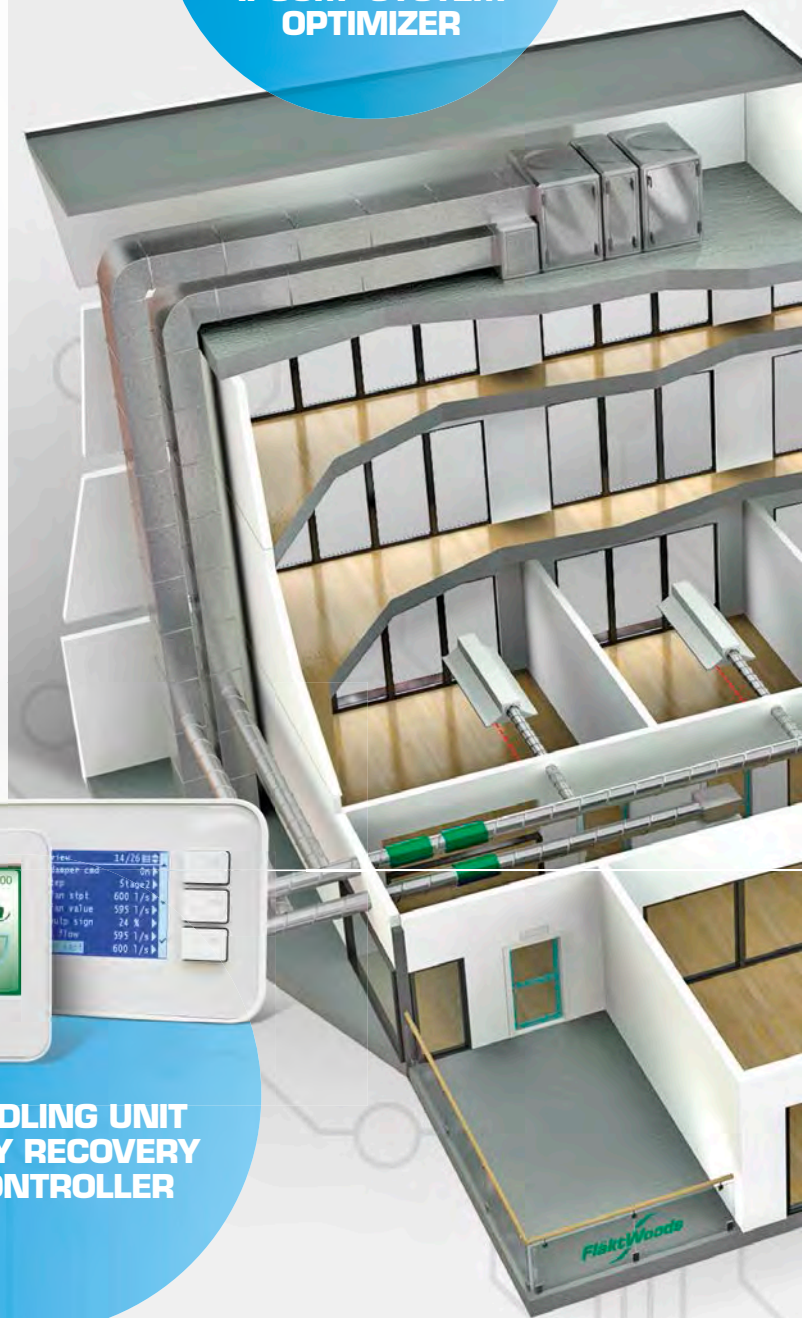


IPSUM® SYSTEM OPTIMIZER

Advanced product and system controls – to maximize energy efficiency and return on your investment



AIR HANDLING UNIT & ENERGY RECOVERY UNIT CONTROLLER





**FIRE DAMPER
CONTROL UNIT**



**CHILLED BEAM &
VAV CONTROLLER**



FAN CONTROLLER

Advanced selection tools

Life Cycle Cost sums it all up and Fläkt Woods' selection tools support the calculation.

Within the industry we use an analysis approach called "Life Cycle Cost" when designing ventilation systems. It balances the cost of better components and smarter system control with savings in maintenance and energy costs over the system's life time. Not surprisingly, a smarter system comes out on top!



The life time cost is typically 85% energy costs, 10% initial investments, and 5% maintenance.



ACON®

Easy-to-use and powerful selection. ACON® is a powerful and easy product selection tool for air handling units. It is the best and most advanced of its kind on the web. It offers rapid product selection to specific project requirements and provides you with all the technical information.

- Product dimensions
- Noise data
- Performance data
- Efficiency data
- Life Cycle Cost
- Product documentation
- Export of Dxf and Dwg files

 acon.flaktwoods.com



ExSelAir®

ExSelAir® is Fläkt Woods' web based product selection tool for calculation and documentation of air terminal diffusers. The tool shows all products, functions, and features visually, which makes it very easy to use.

ExSelAir® contains:

- 3D presentation of all products
- 3D presentations of the flow patterns in selected rooms
- A calculation and dimensioning tool
- Installation and maintenance manuals
- Connections with MagiCad or Revit (plugin or database)

 exselair.flaktwoods.com

FAN SELECTOR

Extended features for efficient Fan Selection. The Fläkt Woods Group Fan Selector is probably the most comprehensive tool of its kind in the world. The software has been developed based on many years experience of producing fan selection tools.

The Fan Selector Tool is available to all customers and prospects. To get access you need only a browser with an Internet connection. The tool can be configured with your own preferences (Language, metric, LCC calculation set up, currency, etc). The tool currently includes a large number of the Fläkt Woods axial fans, centrifugal fans, box and duct fans, and our Energy Recovery Units.

 fanselector.flaktwoods.com

Sustainability and responsibility

For quality and environmental assurance, the Fläkt Woods products and components are designed, manufactured, and tested to international quality standards, including ISO 9001, ISO 14001, and OHSAS 18001. Our commercial and technical sales support teams are there to assist you in choosing the right products, and meeting your certification targets according to LEED, BREEAM, and HQE standards, among others. The technical performance is in accordance with Eurovent standards and Fläkt Woods is a member of the AMCA.

Sustainability for Fläkt Woods and our business is strongly influenced by four areas



Maximize energy savings to reduce the environmental and carbon footprint in full comfort



Health and Protection for occupants, and building damage prevention



Being financially viable for our customers and optimising their Return-On-Investment and Life Cycle Cost



Strong relations with our customers and markets for sharing and learning



Environment Economical Expertise

Thanks to our e³ concept, we provide innovative and sustainable products to help you achieve or surpass your environmental targets whilst optimising your investment and Life Cycle Cost.

Centres of Excellence

At Fläkt Woods, we grow our excellence by investing in research and development in our production facilities, Centres of Excellence, Research Centres, and state of the art laboratories.

We believe that reliability, sustainability, and innovation turn up thanks to accomplished engineering teams developing best-in-class products. Moreover, our engineers work closely with the sales and technical support teams and our customers to achieve great success and validating the development. Excellent examples of this are our innovative SEMCO® Total Energy Recovery Wheel and IPSUM® optimisation system. This is realized by applying our i³ values:



INNOVATIVE AIR TECHNOLOGY FOR BEST PERFORMANCE

Principles of the SEMCO® Total Energy Recovery Wheel

The SEMCO® recovery wheel provides both sensible and latent heat recovery between the supply air and the exhaust air of a building ventilation system. It is composed of a flat and corrugated aluminum media rotor of uniform width, treated with selective absorbent, and optimized for both heating and cooling recovery, dehumidification, and transfer of moisture. Our new Semco® rotary heat exchanger radically reduces the energy costs by up to 50%.





INVESTMENT IN OUR PRODUCTS, SALES FORCE, AND OPERATIONS

Fläkt Woods Academy

Fläkt Woods recognises that excellent customer service demands skilled technical and sales teams. Therefore, we have developed an advanced e-learning academy to sustain the development and improvement of Fläkt Woods' employees expertise. Thus the customer benefits from the ability of the Fläkt Woods team to assist in their projects.



INTELLIGENT PRODUCTS AND SYSTEMS DEVELOPMENT

Special Applications

Fläkt Woods' expertise covers areas requiring high levels of skill to offer customized and reliable solutions for highly specialised industries such as Pharmaceutical, Marine, Oil & Gas. Our long list of references for installations in cruise ships and offshore platforms proves the quality and reliability of Fläkt Woods products. With our proven track record, our design and engineering departments support our customers by enhancing basic ventilation products and air treatment solutions to meet all requirements.