

# Project Solution & Design Guide

Tailored solutions that deliver safety, comfort, and energy efficiency – powered by decades of expertise in window automation and façade technology



# From Concept and Design to Completion and Beyond

WindowMaster specialises in the design, supply, and commissioning of chain drive actuators, control systems, and complete packaged solutions for both Natural Ventilation and Smoke Ventilation. We combine innovative products with tailored services to create safe, healthy, and energy-efficient indoor environments.

Our intelligent control systems and window operators are customised to meet project-specific requirements for comfort, efficiency, and life safety. With decades of experience, we have built deep expertise in both natural and smoke ventilation. We know that effective solutions must be integrated early in the design process, through close collaboration – an area where WindowMaster excels.

Our extensive know-how is the foundation for high-performance ventilation and smoke control systems that safeguard lives while optimising indoor comfort. By combining advanced knowledge with long-standing expertise in window automation and façade technology, we consistently deliver high-quality, future-ready solutions.

At every stage, we work closely with customers to optimise technical solutions and achieve the most cost-effective outcomes.









# Your partner throughout the process

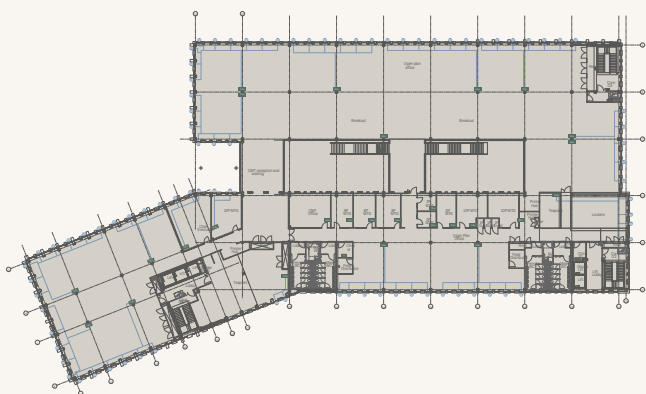


## Design & Project Planning

WindowMaster provides consultancy and support from the earliest architectural drawings through to installation and operation. Each solution is tailored to balance natural ventilation, smoke control, and hybrid systems while meeting all performance, safety, and compliance requirements.

### We assist with:

- Project assessment during the planning phase
- Complete solution proposals
- Indoor climate and CFD calculations
- Façade vent and skylight design
- Dimensioning of openings for smoke and natural ventilation
- Turnkey solution planning



## The Solutions

Our solutions are developed through close partnerships with leading research institutes and decades of project experience. This expertise is built into our intelligent control systems, which manage both natural ventilation for everyday comfort and smoke ventilation for life-safety. By monitoring temperature, CO<sub>2</sub>, humidity, and wind, the systems automatically optimise indoor conditions.

Natural ventilation windows operate quietly and efficiently with precise incremental control, while smoke vents operate in dedicated 24V mode to ensure rapid, reliable performance in critical situations. Buildings are divided into climate and safety zones, each individually monitored and managed to guarantee healthy indoor conditions while meeting all regulatory and life-safety requirements.

This integrated approach ensures buildings that are not only energy-efficient and comfortable but also safeguarded with robust life-safety systems – future-ready solutions that provide long-term value and peace of mind.

### Configurable options include:

- Natural ventilation
- Smoke ventilation
- Hybrid ventilation
- Night cooling
- Sun shading
- Heating systems
- Cooling systems
- Automatic window openers
- UKCA/CE marked smoke vents
- Project-adapted control systems



## Implementation

WindowMaster manages installation and commissioning directly or via highly trained partners. We configure system parameters, complete the initialisation process, and provide clear documentation for operation and maintenance.

For turnkey projects, we oversee delivery end-to-end, ensuring natural, smoke, and hybrid systems are perfectly integrated. With single-source supply, customers save time coordinating suppliers and gain assurance that all products are fully compatible.

### **Our engineers provide:**

- Simulations
- Installation
- Commissioning and testing
- Handover, training, and user instruction



## Follow-Up & Service

Our natural and smoke ventilation systems are designed for long-term reliability. However, components such as actuators, power supplies, controllers, and the interaction between window openers, smoke vents, and fixtures require regular inspection.

We offer service visits, repairs, and tailored service agreements to ensure systems continue to deliver comfort and safety. All agreements include hotline support, giving customers peace of mind that expert help is always within reach.

### **Our services include:**

- Service, maintenance, and functional testing
- Software updates and maintenance
- Remote service, system changes, fault identification, and backup
- Regular monitoring and adjustment
- Event logging
- Indoor climate and life-safety optimisation recommendations



## Intelligent Control Systems for Natural Ventilation

The design of a building is critical to achieving an optimal indoor climate and effective smoke control, but equally important is how the system is controlled. In some cases, natural ventilation is supported by mechanical systems (hybrid ventilation), while smoke ventilation requires fast-response, compliant controls to meet life-safety standards.

All WindowMaster solutions – natural, smoke, or hybrid – are built on BACnet, KNX, LON, and MotorLink® technologies, ensuring easy integration with mechanical ventilation and Building Management Systems (BMS).

### **NV Advance®**

NV Advance® is a versatile natural ventilation solution based on intelligent controls. Ideal for large buildings with more than 8 ventilation zones.

#### **The indoor control strategy considers:**

Wind speed and direction  
Indoor and outdoor temperature  
CO<sub>2</sub> levels  
Rain detection  
Relative humidity

NV Advance® can also control sunblinds, cooling, heating, and Mechanical Ventilation.

### **NV Embedded®**

NV Embedded® is our distributed and scalable solution that controls the indoor climate based on intelligent monitoring and in-cloud data storage. Suitable for every type of building.

#### **The indoor control strategy considers:**

Building location and function  
Occupant comfort via app  
Ease-of-visualization for climate data  
Indoor and outdoor temperature  
CO<sub>2</sub> levels  
Rain detection

NV Embedded® can also control sunblinds, cooling, heating and Mechanical Ventilation. Future updates will incorporate additional functionality.

# Flexible Smoke Panel Connectivity

Effective smoke and heat ventilation is one of the most critical life-safety measures in any building. Our smoke control panels are designed to be flexible, scalable, and compliant – delivering reliable protection from small stairwells to large, complex facilities.

## **CompactSmoke™**

Compact smoke control panels for the control of  $\pm 24V$  DC actuators and / or actuators with MotorLink® for Smoke Ventilation and daily Comfort Ventilation.

The panels can be used in small and medium sized buildings as well as in building sections e.g. stair cases and restaurants.

Supplied with 4–20A

Up to 10 smoke zones / ventilation groups

Smoke detectors, break glass units and keypads can be connected to each group

Comes with two back-up batteries

tested to the most recent standard,  
EN 12101–10

## **FlexiSmoke™**

Modular smoke ventilation panels for the control of  $\pm 24V$  DC actuators and actuators with MotorLink® for Smoke Ventilation and daily Comfort Ventilation. The modular panel can be used in larger and medium sized buildings e.g. shopping centres, schools or sport/leisure facilities.

Supplied with 20A, 40A or 60A

Bus communication via KNX or BACnet IP for Comfort Ventilation

Smoke ventilation based on wind direction

Flexible system structure

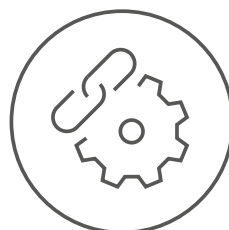
Simple system adaptation in the event of renovation

Configuration and troubleshooting with the integrated touch screen without the use of a PC. A PC can be connected without additional modules

Tested to the most recent standard,  
EN 12101–10

# Intelligent control of windows with MotorLink®

MotorLink® is a communication technology that enables 2-way control and feedback between window actuators and the Building Management System.



## Top 5 benefits



### **Whisper quiet operation**

Get nearly soundless window actuator operation with MotorLink® enabled TrueSpeed™



### **Accurate control and feedback**

Run actuators with precise speed and to a specific degree of opening, plus get real-time feedback of openings and faults to the BMS



### **Synchronized, dynamic facades**

Movement and control across multiple actuators is smooth when opening and closing for the highest level of facade aesthetics



### **Easier installation**

Because MotorLink® MotorControllers manage the communication from the window actuators to BMS, there is less cabling directly to BMS



### **Safe operation**

When in close mode, window actuators can detect obstacles preventing operation and then reverse to release the object







## Let's stay in touch

We are happy to be your sparring partner in the implementation of natural, hybrid, and smoke ventilation solutions.

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WindowMaster aspires to protect people and the environment by creating a healthy and safe indoor climate, automatically ventilating spaces with fresh air through facade and roof windows in buildings. We offer the construction industry foresighted, flexible and intelligent window actuators and control systems for natural ventilation, hybrid ventilation, and smoke ventilation – of the highest quality.

WindowMaster employs highly experienced cleantech specialists in Denmark, Norway, Germany, United Kingdom, Ireland, Switzerland, and the United States of America. In addition, we work with a vast network of certified partners. With our extensive expertise built up since 1990, WindowMaster is ready to help the construction industry meet its green obligations and achieve their architectural and technical ambitions.

[windowmaster.com](https://windowmaster.com)