




Tomorrow's solutions in today's buildings

REGULATED VENTILATION
FOR LIFT SHAFTS
SIMPLE AND EFFICIENT



INNOVATION • SAFETY • EFFICIENCY

www.bluekit.eu



Energy efficiency is an increasingly important consideration in building design and renovation. An airtight building shell plays an important role in this regard. However, the presence of a permanent opening in every lift shaft, which can lead to enormous heating and cooling costs, is often overlooked. This opening is legally prescribed by lift and building regulations for safety reasons, to ensure adequate ventilation of the lift shaft and the lift car in the shaft.



An open window out of sight

The chimney effect as a cost factor

Large energy losses result from the chimney effect due to the opening in the shaft head. In “leaky” buildings with a low energy efficiency rating, heated or cooled air from various levels in the building is sucked into the shaft, where it rises and escapes through the opening. This air coming from outside must then be heated or cooled.

Heating losses also occur in passive or low-energy buildings designed to comply with the latest energy standards. Existing ventilation systems can create a negative pressure condition, which draws warm or cold air into the lift shaft according to the season. In both cases, the energy losses and resulting higher energy costs are enormous.



We „lift“ the secrets of lift shafts

Hazards with insufficient ventilation

The opening also acts as a smoke vent in the event of a fire, making it a crucial feature. This keeps smoke or fumes, which concentrate inside the shaft, from passing through lift doors and spreading to other fire compartments in the building. The natural draft causes the smoke to exit through the opening.

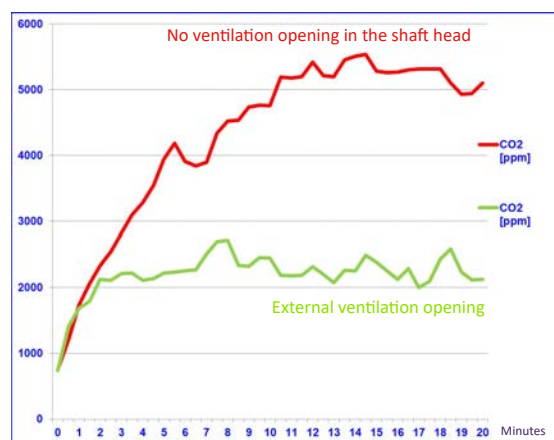
Adequate ventilation and smoke venting are not possible if the ventilation opening is missing. Real-time tests confirm that in the event of a lift malfunction with people trapped in the lift car, oxygen levels can drop and the CO₂ concentration in the air can rise within 10 minutes. This effect is compounded by the increased respiration rate of the passengers.



Lift shaft **without** external ventilation opening



Lift shaft **with** external ventilation opening



Life test CO₂ in a low-energy building:
rise in CO₂ in lift car in the event of a malfunction
with people trapped in the car (Munich 2014)

BlueKit L-AIO

How does the BlueKit L-AIO system work?

The installed BlueKit L-AIO system includes a high-performance heat and smoke vent (HSV) which keeps the opening closed unless it is needed. The heating and cooling energy remains inside the building, sustainably reducing the operating cost of the building. The safety of lift users is ensured by a smart system composed of various components for air quality monitoring, smoke detection and ventilation.

The ventilation components open automatically in the event of:

- Smoke detection in the shaft or the machine room
- High temperature in the lift shaft and/or lift car
- Use-driven or time-driven ventilation for fresh air renewal
- Lift system malfunction
- People trapped in the lift car
- Poor air quality detected directly in the lift car, where it makes most sense
- Power failure



YOUR ADVANTAGES WITH THE BLUEKIT L-AIO SYSTEM

- Enormous energy cost savings
- Short amortisation time
- Lower CO₂ emissions contribute to climate protection
- Continuous air quality monitoring
- Reliable and quick smoke detection
- Need-optimised ventilation according to building type
- Quick and easy installation
- Independent of any lift manufacturer



**Certainly the easiest way to achieve
energy savings in your building**



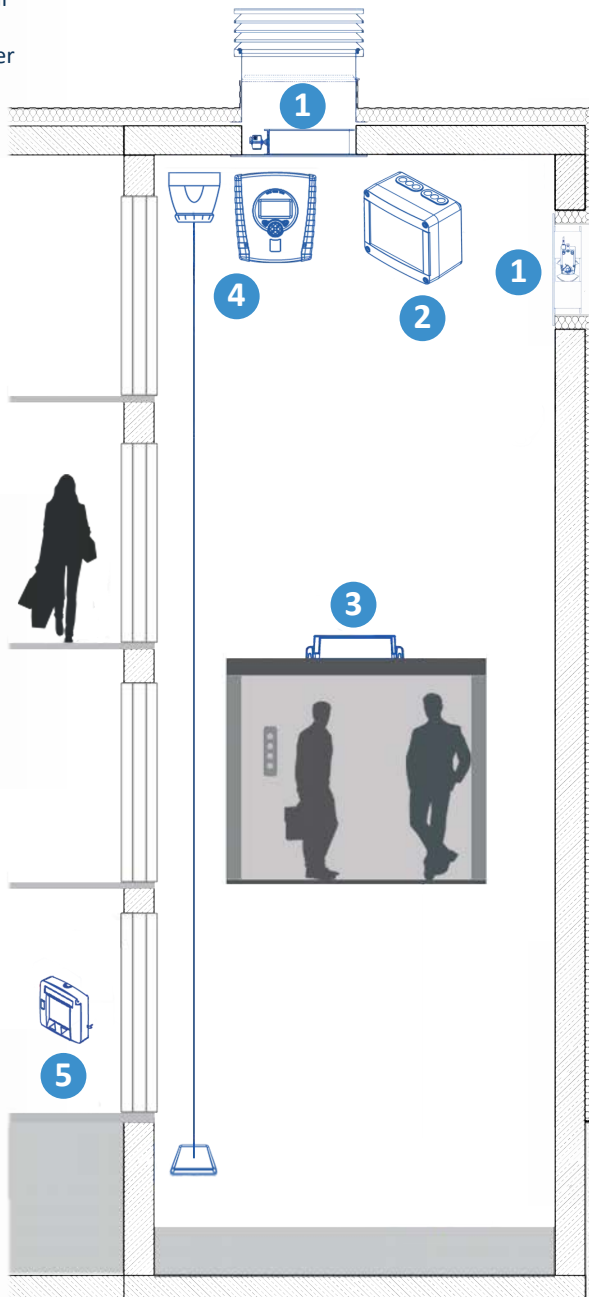
The BlueKit system at a glance

THE BLUEKIT SYSTEM CAN BE INSTALLED WITH ALL MAKES OF LIFTS
AND CONSISTS OF JUST A FEW KEY COMPONENTS:

1

VENTILATION COMPONENT

Provides effective closure of the vertical or horizontal ventilation opening, and can be installed with or without weather protection (see ventilation flap brochure).



CENTRAL UNIT

The BK-AIO central unit controls the opening of the ventilation components. It also has integrated temperature sensors to determine ventilation demand in the event of excessive temperature.

2

3

VENTILATION CONTROL

The Lift Status Transmitter (LST-VOC) wirelessly communicates ventilation demand to the central unit: time-driven, use-dependent, and directly to the lift car in case of poor air quality, high temperature or a malfunction with people trapped in the car.

5

SYSTEM STATUS DISPLAY AND MANUAL TRIGGERING

Pressing the button triggers a command for ventilation or smoke venting. It also enables resetting a fire alarm and displays the system status with LEDs.

SMOKE DETECTION

The smoke detection system installed in the lift shaft reports smoke production to the central unit, triggering the opening of the ventilation component for smoke extraction.

4

The right ventilation components are essential for optimisation and regulation of shaft ventilation. They serve to close the permanent opening in the lift shaft, in order to prevent the uncontrolled loss of heat energy. The deployed shutters provide effective control of ventilation as well as reliable smoke venting in the event of a fire. The BlueKit® system includes thermally insulated and functionally reliable (certified to EN 12101-2) ventilation shutters and louvre windows, with or without weather protection components such as weather protection grille and ventilation hoods.



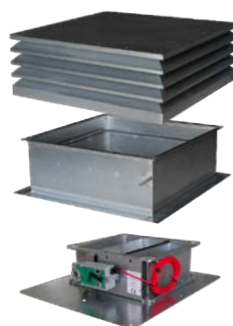
Tailored ventilation components



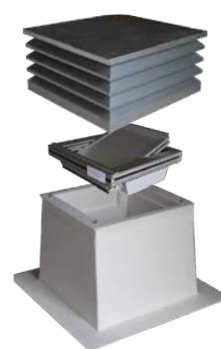
Louvre window



Ventilation flap



Ventilation flap with roof vent



Thermo Flap: fiberglass base with integrated louvre window and cover

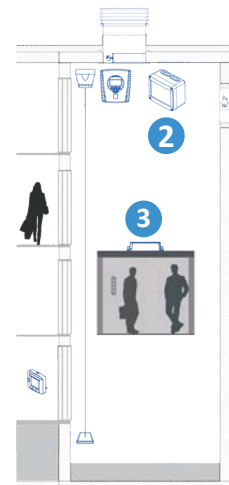
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YOUR ADVANTAGES WITH OUR VENTILATION SOLUTIONS

- The right solutions for new buildings and renovations
- Installation on flat roof or in facade
- Outstanding thermal insulation factor
- Easy installation and flexible maintenance options, depending on installation type
- Additional features available, such as silent motors or special RAL colours

System control: everything under control

The BlueKit L-AIO system is controlled by the BK-AIO central unit. It regulates the opening of the ventilation components and monitors ambient conditions with its temperature sensors. It can also be connected to fire alarm control units (FACU) or a fire alarm system (FAS) and to the building control system (BCS).

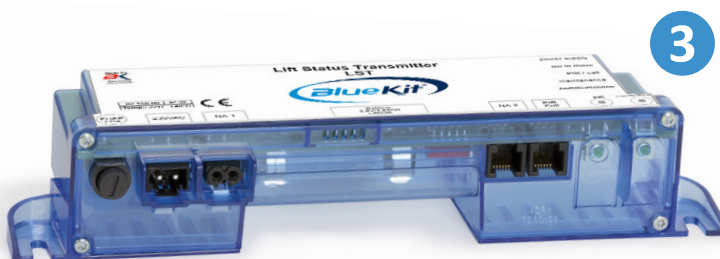


YOUR ADVANTAGES WITH THE BK-AIO CENTRAL UNIT

- Suitable for systems with machine room and group shafts
- Configurable using encoding switches
- Plug-and-play installation
- Pre-programmed, user-adjustable ventilation cycle (10 minutes every 10 hours)
- Eight RJ45 ports with LED status and line state indication (malfunction and alarm) for easy connection of additional components
- Suitable for ventilation components with ventilation opening up to 1.2 m²
- Suitable for the use of several ventilation components

Lift car monitoring with LST-VOC

The BlueKit® LST-VOC (Lift Status Transmitter-Volatile Organic Compounds) provides essential lift car monitoring to ensure the safety and well-being of lift users. It measures temperature and air quality directly in the car, right where the measurement results matter the most. It also provides information about lift motion, maintenance and malfunctions. Thereby the optimum ventilation demand is determined and communicated to the central unit.



YOUR ADVANTAGES WITH THE LIFT STATUS TRANSMITTER

- Communicates with the BK-AIO central unit over a wireless link
- Detects the presence of passengers in the lift car
- Ensures the safety of lift users in the event of malfunction
- Additional monitoring by temperature and air quality sensors
- Ventilation mode and duration flexibly adaptable to building use

Reliable smoke detection over the entire lift shaft height with one of our two smoke detection systems.



Reliable smoke detection

LIFT Beam (LB)

Shaft height up to 200 m

4



Fire detection is achieved by transmitting an **infrared light beam** onto a reflecting prism. In the event of a fire, the intensity of the beam is weakened and an alarm signal is sent to the infrared transmitter. The Auto-Align function for automatic motorised alignment of the infrared beam, along with the Auto-Optimise function to compensate for building motion and soiling, ensure optimal smoke detection with LIFT Beam

Point detectors (PD)

Shaft height up to 36 m



The **point detectors** are attached vertically to the shaft wall on mounting brackets. In the event of a fire, these latest generation smoke detectors enable reliable and quick smoke detection in the lift shaft based on the scattering principle. They are suitable for monitoring lift shafts, machine rooms and/or evacuation levels.

YOUR ADVANTAGES

- Seamless shaft monitoring
- Low maintenance effort
- Easy testing
- Low installation effort

- Flexible installation
- Economical solution for low-rise buildings
- Low space requirement

Visualising potential savings

Did you know?

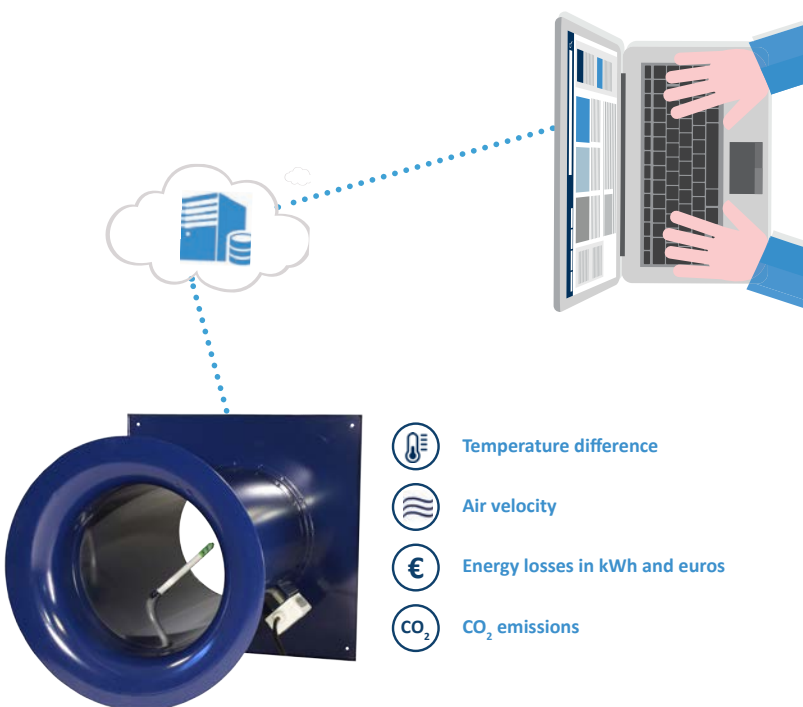
You can get an initial idea of how much money and energy you can save with a BlueKit system by visiting our website at www.bluekit.eu. Use the free **simulation program** to conveniently measure your potential energy savings and generate your own energy savings report.



You only trust hard facts? So do we!

Lift Vision

Do you want to know how much energy you actually lose in your lift shaft? With **BlueKit Lift Vision** and the associated **BlueKit L-Tuba** device, you can measure these losses based on your own data. The unique **BlueKit L-Tuba** is placed in front of the permanent ventilation opening in the machine room. There, it gathers the collected data for thermal energy losses and CO₂ emissions and calculates the resulting costs. These are transferred to the secure online dashboard, which you can access in real time using protected individual access.



YOUR ADVANTAGES WITH LIFT VISION

- Access your data at any time, from your PC or smartphone
- Secure portal with protected individual access
- Convenient, modular graphical data views
- Fast installation, ready to use

Everything from a single source

BlueKit Services

Our Technical Service department offers you professional support for the **installation, maintenance, project execution and commissioning** of BlueKit systems.

Our technicians are experts in lift construction and are trained in legal requirements with regard to occupational health and safety.

We support your projects with the following services:

- Site survey and analysis
- Project consultation and management
- Delivery, installation and commissioning
- Maintenance and troubleshooting
- Financing options

With our comprehensive BlueKit packages including installation and commissioning you benefit from attractive special conditions.

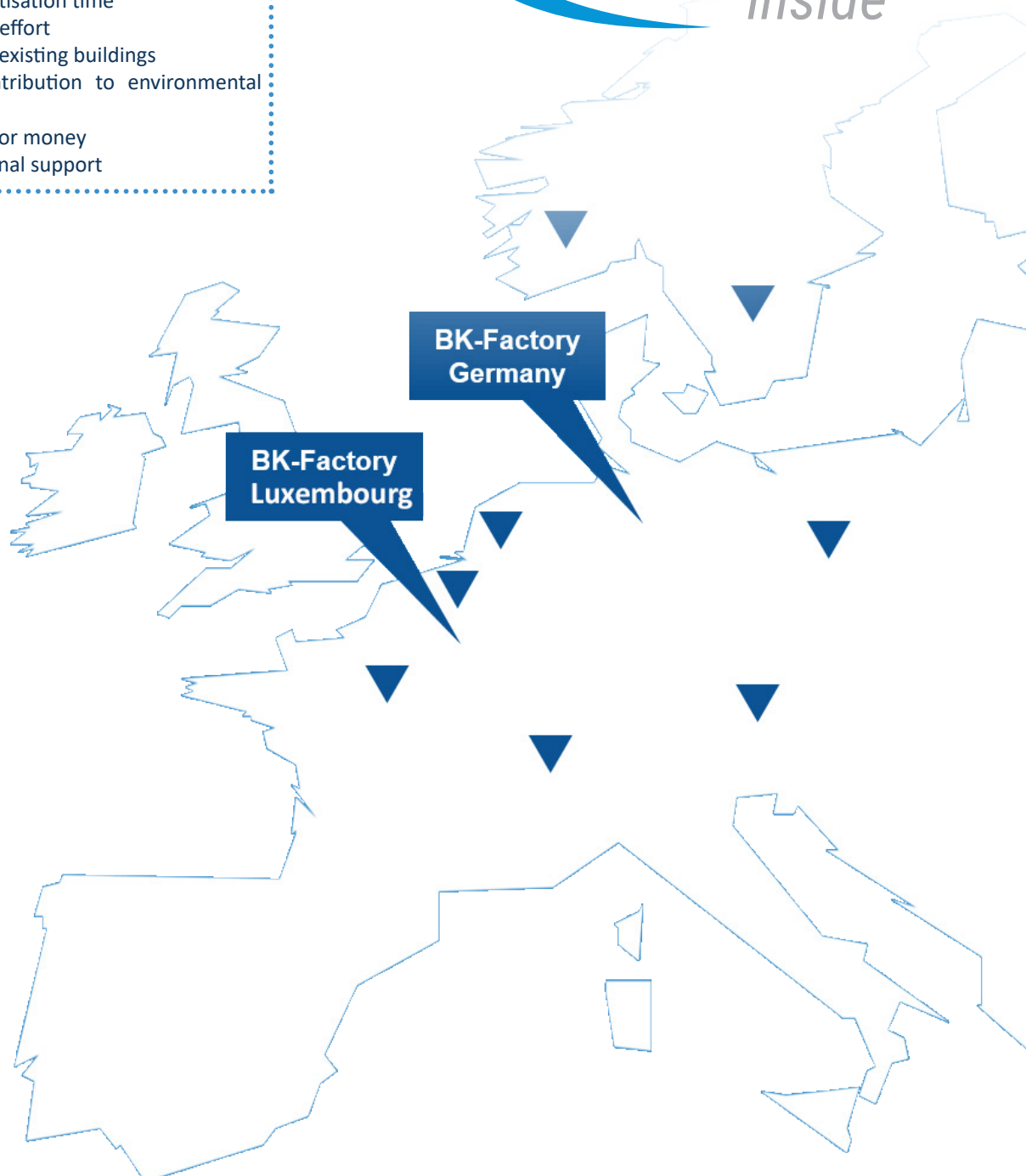
Our Technical Service team meets your individual needs and will generate a quotation according to your needs. Contact us!



A proven pan-European solution

BlueKit, the first choice of thousands of customers throughout Europe, due to:

- Very short amortisation time
- Low installation effort
- Easy upgrade in existing buildings
- Sustainable contribution to environmental protection
- Excellent value for money
- Individual, regional support





Contact us!

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FURTHER INFORMATION
www.bluekit.eu



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