



» DATA SECURITY & COST-EFFECTIVENESS

Operational reliability for data centres



*Die like Wai is die bääste**

* Sater Frisian for 'The straight path is the best'



What does HANSA stand for? As a medium-sized company with decades of experience in ventilation technology and products designed for a long service life, we understand that short-term success is not what our customers or our company need.

Therefore, we continuously strive to improve our products through optimised designs and components or demand-driven control systems such as our AI-based *etaSmart* system. At the same time, we continue to invest in our company and in what we consider our most valuable resource: our employees.

At the same time, we are committed to making our business increasingly sustainable. This includes measuring and reducing our carbon footprint, supporting local initiatives through our social commitment, and enhancing the recyclability of our products.

Only by taking these steps, we can continue to be a reliable partner for you, our customers – now and in the future – in line with our guiding principle: 'You can count on us!'

Jan Neumann
Managing Director



ABOUT US

HANSA Klimasysteme GmbH has been based in Strücklingen, in the municipality of Saterland, since 1961; Saterland is known for its Sater Frisian language, the smallest linguistic enclave in Germany. Our products speak for themselves.

For decades, we have been synonymous with technically sophisticated, high-quality air-conditioning systems. As a family-owned and managed company since 1971, we stand for continuity, stability, and long-term reliability.

The company

Ever since the company was founded, we have earned a reputation throughout Germany and far beyond for manufacturing ventilation units for schools, sports halls, swimming pools and hospitals, as well as for industrial and process engineering applications. Building on this expertise, we offer a comprehensive portfolio of air-handling units for a wide range of applications.

Our units are engineered to deliver high quality, functionality, reliability and energy-efficient operation. The actual energy performance depends on the specific unit configuration and the correspond-

ing technical documentation. Throughout our product development, we have secured numerous intellectual property rights through the European Patent Office, reflecting the innovative nature of our technologies.

As a member of the German AHU Manufacturers Association (RLT-Herstellerverband e.V.), we design and manufacture our units in strict accordance with the AHU guidelines, ensuring the highest standards of quality, operational safety, and regulatory compliance for both our customers and the operators of our equipment.

The team

We invest in the continuous development of our employees and train the next generation of skilled professionals. The HANSA team comprises experienced specialists in the field of ventilation unit manufacturing, with expertise spanning refrigeration technology, control engineering, and automation.

Our units are designed and manufactured in accordance with the quality management requirements of DIN EN ISO 9001:2015.

Our sales team consists of experienced experts who are committed to finding the right solution for you.

Our philosophy

Our goal is to meet our customers' climate control requirements as effectively as possible while helping to protect the environment. To achieve this, we offer systems that can be tailored to our customers' specific operating conditions using flexible manufacturing processes and state-of-the-art components while minimizing energy consumption. As the energy requirements of both the overall system and its individual modules can be reduced without compromising performance, both investment and energy costs are reduced.

been independently assessed. Product-related emissions have been calculated using market-based secondary emission factors. We have purchased carbon credits to offset the unavoidable greenhouse gas emissions resulting from our operational and product-related activities. This simultaneously achieves positive social and environmental effects. In accordance with the EmpCo EU Directive, the results of the sustainability assessment are presented transparently as a sustainability overview on our publicly accessible ImpactBoard web portal.

The carbonfootprint of our company, our production processes and the product-related emissions – from raw material extraction to the factory gate – has

Committed to climate protection – not just through our products



HANSA is a member of the AHU Manufacturers Association (Herstellerverband Raumlufttechnische Geräte e.V.).

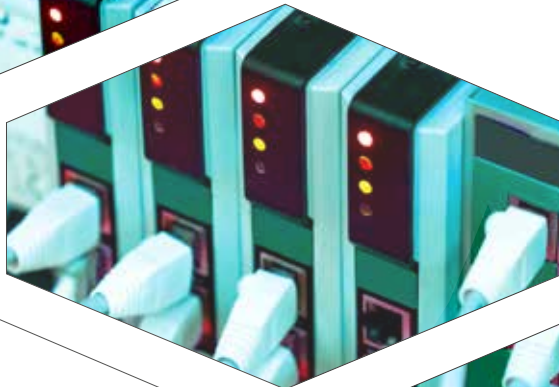


DATA SECURITY

Maximum operational reliability for your data centre

The primary functions of our ventilation units are to maintain constant temperatures in the vicinity of the components requiring cooling and to efficiently dissipate large amounts of heat.

Reliability and, in particularly sensitive applications, redundant heat dissipation units ensure maximum operational reliability.





Your benefits

- Economical and cost-effective
 - Optimised carbon footprint
 - 3D planning
 - Remote monitoring
 - Highly customisable
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IT cooling

HANSA heat dissipation units are highly customisable ventilation and full air-handling systems offering high energy efficiency, depending on the system design and operating conditions. Lower energy consumption can reduce energy-related emissions during operation. They can be

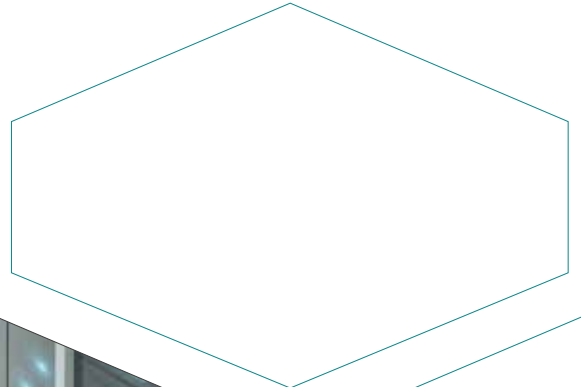
adapted to virtually any installation environment and are suitable wherever high heat loads need to be dissipated. Benefit from our expertise in compactness, reliability and efficiency.



Highly efficient cooling

The climatic conditions to be considered vary considerably depending on the customer and the application. HANSA offers tailor-made solutions for every requirement. For example, our patented four-damper technology, developed for Deutsche Telekom's air-conditioning

system, has achieved energy savings of up to 80% compared with split-system air-conditioning units. Our leadership in compactness, reliability and efficiency is demonstrated by the fact that we have supplied more than 8 000 units to Deutsche Telekom.





What we offer:

- ✓ Reduced operating costs
- ✓ Tailor-made solutions
- ✓ Precise 3D planning
- ✓ Constant temperatures
- ✓ High energy efficiency
- ✓ Reliable data security
- ✓ Reduced risk of downtime

COST-EFFECTIVENESS

Profitability

HANSA air-conditioning units deliver high energy efficiency, reducing energy consumption and improving the carbon footprint of your data centre. Innova-

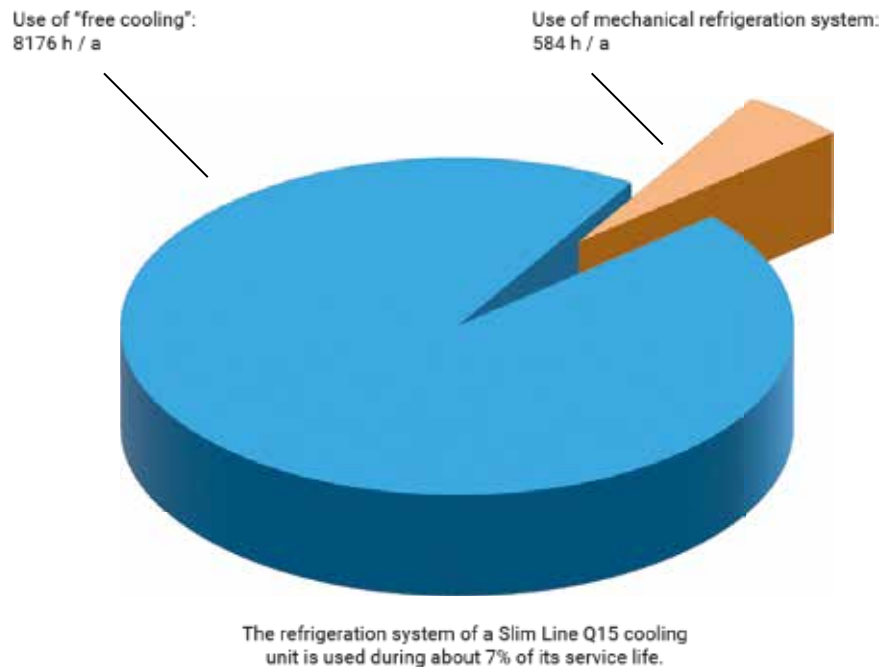
tions from our *etaTECH* range further enhance the cost-effectiveness of your cooling system.

Reduced operating costs

Recirculating air cooling units (also known as split systems) cool only the air within the thermally stressed room and therefore rely on the continuous operation of a mechanical refrigeration system, resulting in high operating costs. Unlike recirculating air cooling units, HANSA units with free cooling utilise the naturally cooler outside air, thereby reducing the operating time of the mechanical refrigeration system.

In Central Europe, outside air temperatures rarely exceed the target tempera-

tures required in thermally demanding environments such as server rooms. Our free cooling air-conditioning units utilise this outside air to reduce the operating time of the mechanical refrigeration system in Germany to approximately 7% of the total operating time (based on climate data in accordance with DIN 4710, Frankfurt am Main), significantly reducing operating costs compared with recirculating air cooling units. In addition, the output of the supply and extract air fans is controlled according to the thermal load and the outside air temperature.



Calculation example

You have a plant room with a cooling load of 15 kW. Our Slim Line Q15 is ideally suited for use in this application.

Across the entire temperature range, the annual electricity consumption is as follows (details of the calculation are provided below):

- Recirculating air cooling unit (split system): 40 550 kWh
- Slim Line: 9 671 kWh

This corresponds to an energy saving of approximately 76%.

Assuming an electricity price of EUR 0.30/kWh, the annual operating costs are:

- Recirculating air cooling unit: EUR 12 165
- Slim Line: EUR 2 901

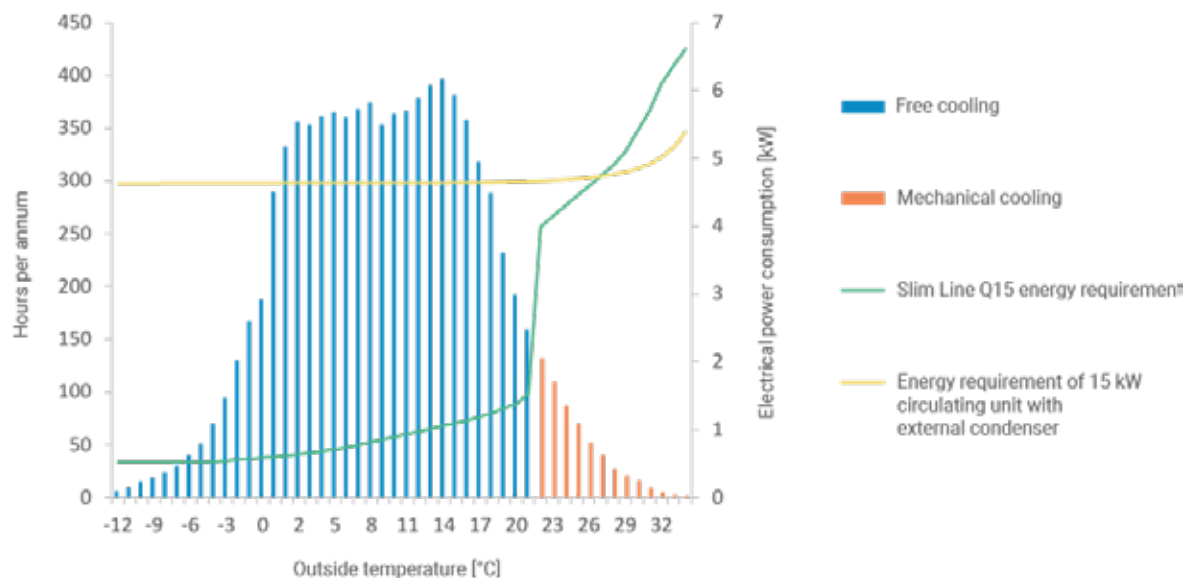
Annual savings: EUR 9 264

Savings through free cooling

The histogram illustrates the distribution of outdoor air temperatures over the course of a year (location: Frankfurt am Main). Firstly, it shows the temperature range in which the mechanical refrigeration system of the Slim Line Q15 operates (orange), because free cooling alone is not sufficient. Secondly, it illustrates the total temperature-dependent power consumption of the compressor and the controlled fans of the Slim Line Q15 (green), together with that of a 15

kW recirculating air cooling unit with an external condenser (yellow).

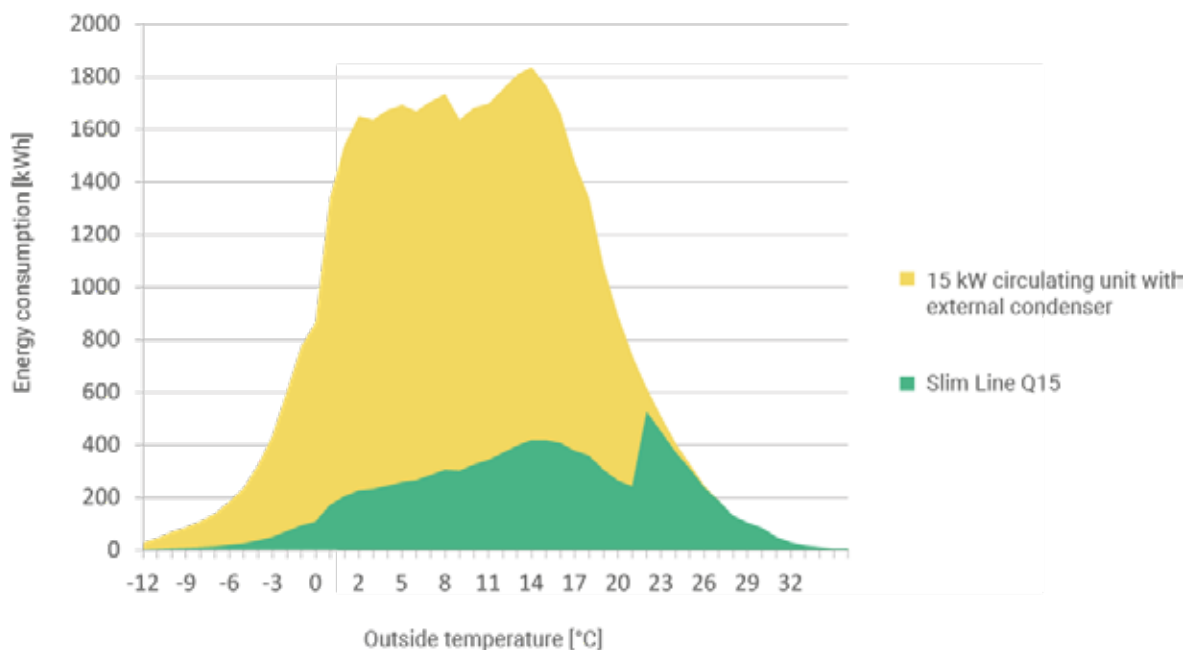
The significant reduction in the Slim Line unit's power consumption once the refrigeration compressor switches off at outside air temperatures below 22 °C is clearly visible, whereas the recirculating air cooling unit maintains an almost constant power consumption for the refrigeration unit and the recirculating air fan.





Reducing energy consumption

The figure plots the total energy consumption resulting from the use of mechanical and free cooling, together with the energy required to drive both fans, over the relevant temperature range (green). The energy consumption of a recirculating air cooling unit with an identical refrigeration system is also shown (yellow).



BLUE LINE IT

Tailor-made solutions
through customisable units



HANSA Blue Line IT ventilation and full air-handling units are characterised by integrated heat recovery and an exceptional degree of customisation. The heat recovery system comprises either a rotary heat exchanger (Blue Line IT-eco-R) or our patented solution featuring a double

cross-counterflow plate heat exchanger with adiabatic spray humidification (Blue Line IT-GS-ASB+, patent no. DE 10 2018 213 274 A1). The rotor in the Blue Line IT-eco-R can also be installed horizontally.

How Blue Line IT works

Through heat recovery, cold outside air cools the warm extract air from the server room or equipment room. The cooled air is then recirculated to the equipment being cooled.

If the outside air is too warm, it is cooled adiabatically. If necessary, the supply air temperature can be reduced further using a cooling coil.

The system operates on the principle of free cooling with separate airflows. This can reduce the operating time of the mechanical refrigeration system and thereby lower electricity consumption during operation. HANSA air-conditioning units therefore support energy-related Green IT objectives.



HEAT DISSIPATION UNITS

Solutions for every application

Wherever high heat loads arise as a result of industrial processes, they must be dissipated safely and as efficiently as possible to ensure trouble-free operation. Whether in large data centres, server rooms or, more generally, technical rooms such as fibre-optic network control centres. This can be achieved either by cooling the indoor air (recirculation mode) or by regularly replacing the indoor air with

cooler outside air (free cooling). HANSA offers solutions for both approaches. Whether you choose our standard Slim Line and ReCool Line units – or the highly customisable Free Line and Blue Line IT ventilation and full air-handling units – our portfolio covers a wide range of typical applications.



Slim Line

Highly efficient, compact units manufactured in large quantities for cooling spaces with high thermal loads. Compared with recirculation or split-system units, these units can deliver significant energy savings in specific applications. Actual savings depend on the individual operating conditions.



Free Line

Our Free Line units are fully customisable air-conditioning units designed for the free cooling of server rooms and, more generally, for the dissipation of process heat. They can be perfectly adapted to a range of applications.



Recool Line

Recirculating air cooling units for removing excess heat from spaces with high thermal loads – whatever the operating conditions. Put your trust in HANSA, the climate specialist, and choose the recirculating air cooling unit that best meets your requirements.



3D PLANNING

Tailor-made solutions thanks to 3D planning

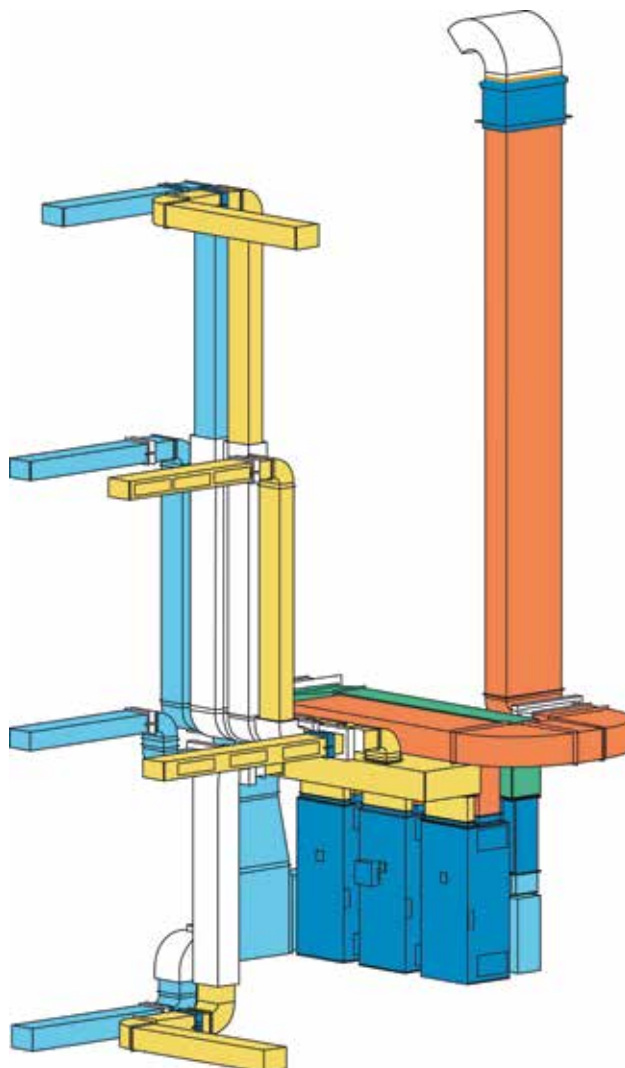
We work together with your architect or building services engineer from the very beginning of the building planning process. Our products can be adapted to suit almost any space.

Particularly when existing equipment is to be retrofitted, precise 3D planning in advance offers significant advantages.

This gives you, as the customer, and us, as the manufacturer, the confidence that everything will fit and function as intended.

Precise 3D planning enables tailor-made solutions that can be installed without difficulty and meet your individual requirements.





BIM

Building Information Modelling (BIM) is a methodology for the integrated planning, construction and management of buildings using state-of-the-art software. By taking all relevant building data into account and through detailed planning, HANSA units and systems can be optimally adapted

BIM

to the building structure and other project-specific requirements. The building is represented geometrically as a virtual 3D model. Revit BIM models for our Slim Line, ReCool Line, Compact Units and Pool Line Compact Units product ranges are available for download from the HANSA website, hansa-klima.de.

REFERENCES

Deutsche Telekom AG

One of Europe's largest telecommunications companies, Deutsche Telekom, has been using HANSA air-conditioning units to cool numerous telecommunications facilities for more than 20 years.



European Central Bank (ECB)

The European Central Bank (ECB) is an institution of the European Union and the central bank of the member states of the euro area. HANSA supplied the air-conditioning for the IT rooms.



EWE AG

EWE AG is a utility company operating in the fields of electricity, natural gas, telecommunications, information technology and environmental services. Various EWE facilities have been equipped with HANSA Slim Line Q series units.



Energieversorgung Offenbach AG

Energieversorgung Offenbach AG (EVO) is an energy utility supplying electricity, natural gas, water and district heating. HANSA has equipped various EVO data centres with Slim Line Q series units.



Gerstenberg Verlag Hildesheim

The publishing house Gerstenberg Verlag, based in Hildesheim, has been publishing books for children, young people, and adults for seven generations. HANSA has equipped the backup data centre with two Free Line units.



Kiel Fire Brigade Control Centre

The Kiel Fire Brigade Control Centre coordinates emergency response operations for the state capital of Kiel and the districts of Rendsburg-Eckernförde and Plön. The technical rooms are cooled by eight Slim Line units.



Long Island University – EDP Room

To cool the Long Island University data centre, HANSA equipped the EDP room with a Free Line unit featuring a maximum air volume flow of 15 000 m³/h, a humidifier and direct evaporative cooling.



Verkehrsbetriebe Karlsruhe

Verkehrsbetriebe Karlsruhe (VBK) is the public transport operator for the city of Karlsruhe in Baden-Württemberg. HANSA supplied various air-conditioning units for the VBK's office and IT facilities.



OUR CLIMATE

Global climate

Climate change is one of the defining challenges of our time. HANSA records emissions, works to reduce them, and transparently documents its additional climate protection contributions on the publicly accessible ImpactBoard web portal.

The effects of global warming are becoming increasingly apparent, and we can counteract them only through consistent action. As the emission reduc-

tions pledged by countries are not sufficient on their own, a significant level of commitment is required to combat human-induced climate change. We believe it is our responsibility to play our part. That is why, since 2020, we have been measuring our carbon footprint and supporting certified climate protection projects.





Climate systems

Customised system solutions for ventilation and air-conditioning units across all areas of applications are what set HANSA apart. Since the foundation of our company, we have focused on innovation and development to continuously improve energy efficiency and reduce operating costs. We provide ideal solutions for swimming pools, IT cooling, hygiene, industry, laboratories, schools and

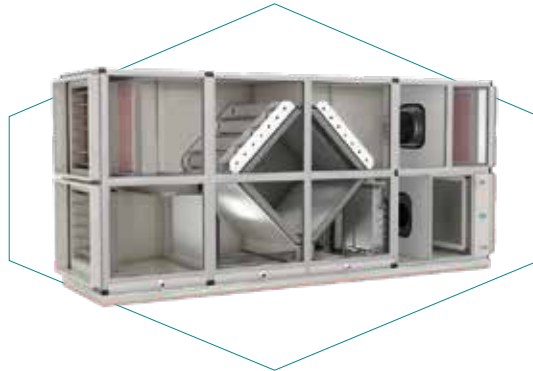
many more. Thanks to outstanding service and innovative technologies, such as our in-house **etaTECH** systems, air conditioning has never been easier. The adaptability of our products, combined with the expertise of our employees, enable us to guarantee optimum, highly efficient system solutions.

Working environment

At HANSA, the satisfaction of every employee is important to us. We believe that long-term success can only be achieved through a positive and fulfilling working environment. It is important to us that we follow this path together, to continuously develop ourselves as a team and as a company. To strengthen individual

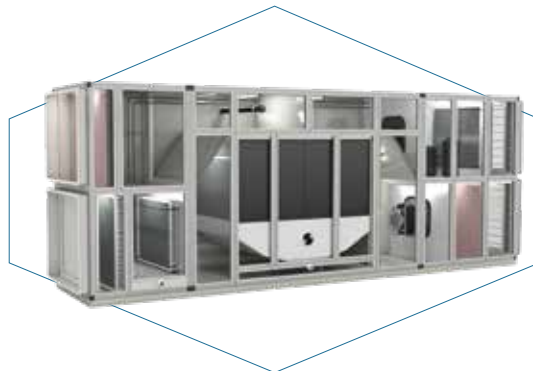
potential, we support the further education and professional development of all our employees. This creates opportunities for everyone to shape their own career path. Whether you're a trainee, a student, a skilled worker, or looking for a career change, together we'll write our success story!

MORE PRODUCTS



Pool Line

Swimming pool dehumidifiers provide reliable comfort while ensuring continuous protection of the building. Benefit from the durability and energy efficiency of our units, thereby reducing your operating costs.



Blue Line

Highly customisable ventilation and full air-handling units with central heat recovery (WRG) and high energy efficiency. All standard heat recovery systems can be integrated, including plate heat exchangers, rotary heat exchangers, run-around coil systems and Accublock.



Compact Line

The modular design of this product range enables cost-effective manufacturing while providing maximum flexibility and versatility. High quality standards and cost-effective operation are guaranteed.

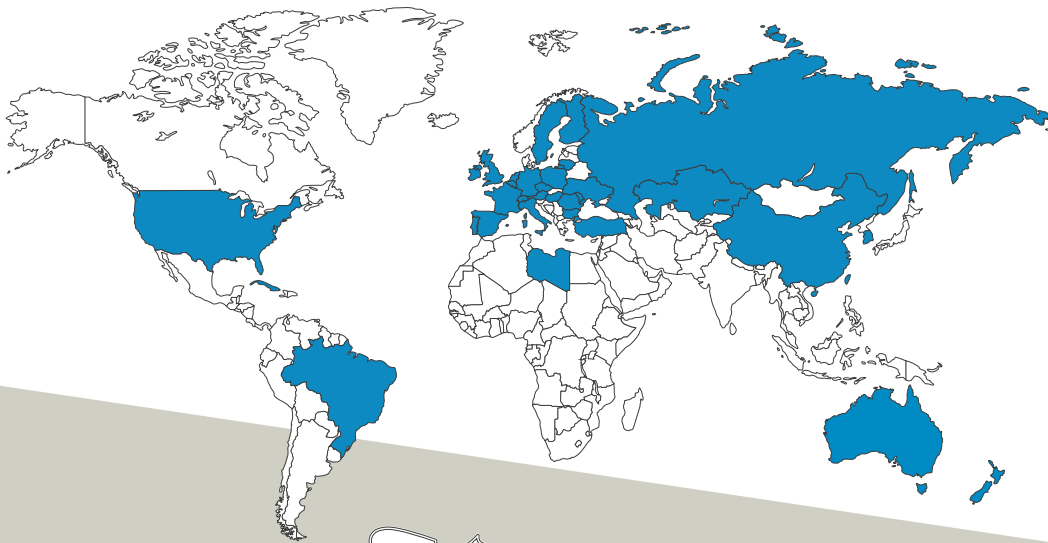


Specialised units

Our range of specialised units includes the LF-HY (food hygiene) and Hygro Line (recirculating air dehumidification) product series. More detailed information about all our products is available on our website.



Our units around the world



LOCATIONS



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