

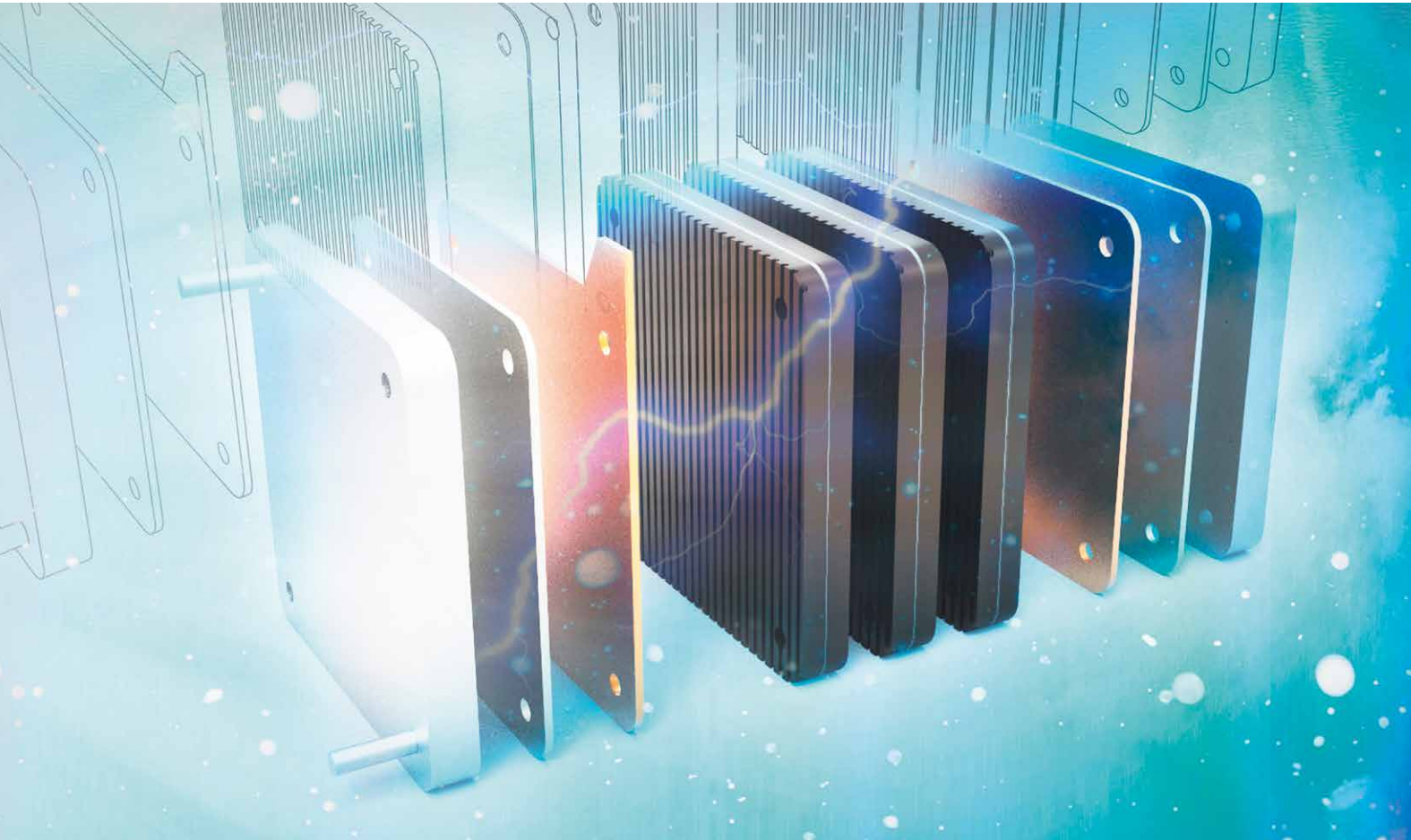
Vindur® Turnkey.

System rooms for fuel cells.

The key to perfect processes.

Reliable – the mobility of tomorrow.

Contamination-free processes for fuel cell production? This is where we can help.



Sustainable technology.

Hydrogen is the green energy of the future. Innovative hydrogen vehicles offer emission-free, silent driving over long distances.

The main focus of the technology is on fuel cell vehicle drives. Avoiding airborne contamination is a particular challenge in the fuel cell production process.

Reliable process conditions.

Fuel cells consist of a large number of components connected in series in a stack and assembled to form a fuel cell system.

Accurate contamination control with reliable monitoring of particle size and number, temperature and humidity is essential. This is exactly what our Vindur Turnkey services were designed for. You can certainly rely on that.

Innovative – Vindur Turnkey services.

Planning, implementation, service - everything from a single source.

All-inclusive package for system rooms.

We plan and implement customised solutions from a single source. Our systems are used in new builds, conversions, extensions and upgrades. We offer turnkey clean rooms and measuring rooms, as well as the supply of high-quality components from filter fan units (FFU) to mini environments for individual production steps. We support our customers from the initial planning stage to implementation and commissioning up to 24/7 after-sales management.

Our Vindur Turnkey services.

- ▮ Walls, ceilings, lighting and floor systems
- ▮ Personnel and material locks
- ▮ Climate and air-conditioning technology
- ▮ Drying technology
- ▮ MCR unit
- ▮ Monitoring systems
- ▮ Crane systems
- ▮ Media supply
- ▮ Qualification
- ▮ Mobile and stationary clean room tents
- ▮ Mini environments
- ▮ Enclosures and covers
- ▮ After-sales service including fault management and remote service

For fuel cell applications.

- ▮ Clean rooms
- ▮ Measuring rooms
- ▮ Semi-clean rooms
- ▮ Mini environments
- ▮ Process climate systems

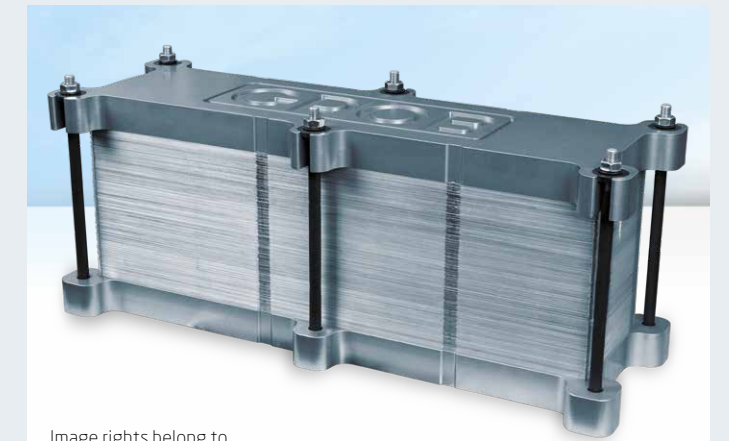


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Clean room technology for all production steps:

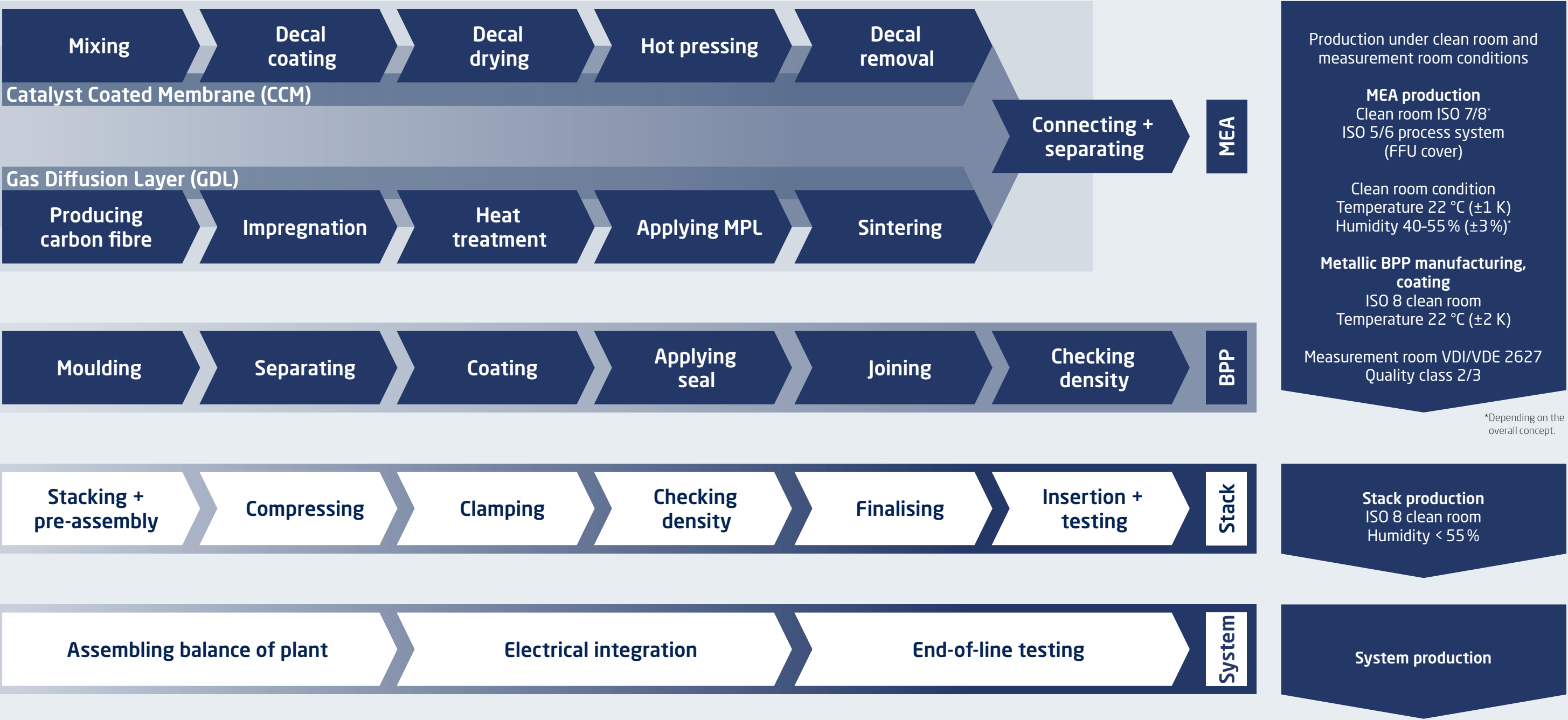
- ▮ Production of BPP¹ and MEA²
- ▮ Stack production
- ▮ System production

¹Bipolar plates. ²Membrane electrode assembly.

Production steps and conditions.

Optimal - efficient and safe.

Fuel cell production must be uncompromisingly safe and free of contamination.
Every step of the way: precise controls and safeguards for particle size and number, temperature and humidity are essential.



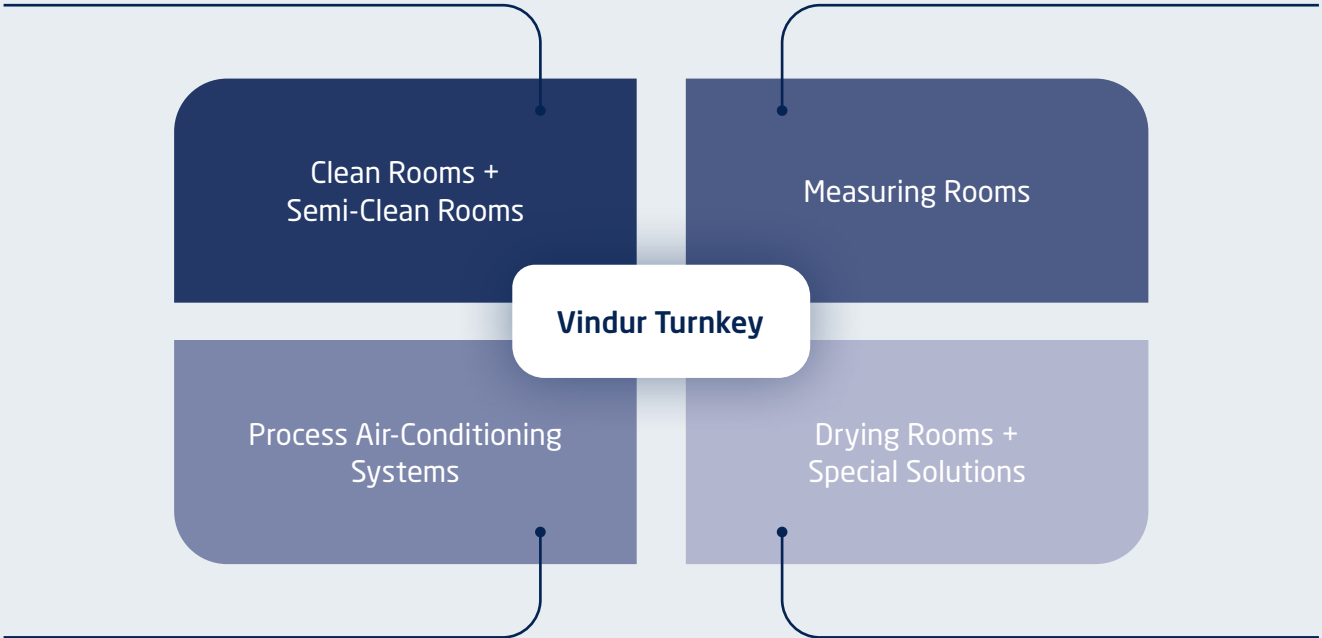
Always the right choice.

Future-proof and efficient Vindur Turnkey services from **weisstechnik**.

In future it will become even more important to create optimal climate conditions and the necessary air purity due to higher demands on product quality, stricter standards and increasing safety requirements. We develop individual solutions for your demanding processes.

Our clean room, semi-clean room and containment solutions ensure particularly clean, low-particle air conditions and exactly the climatic conditions you need for a product or process.

Our measuring rooms create extremely constant and precisely defined temperature, humidity and measuring conditions for sensitive products. The most diverse parameters can be set for you according to your needs.



Our process climate systems ensure that all the necessary conditions for your process are always met.

We custom-design and implement our specific solutions, as well as all other air-conditioning concepts for you – professionally and from a single source. Challenge us!

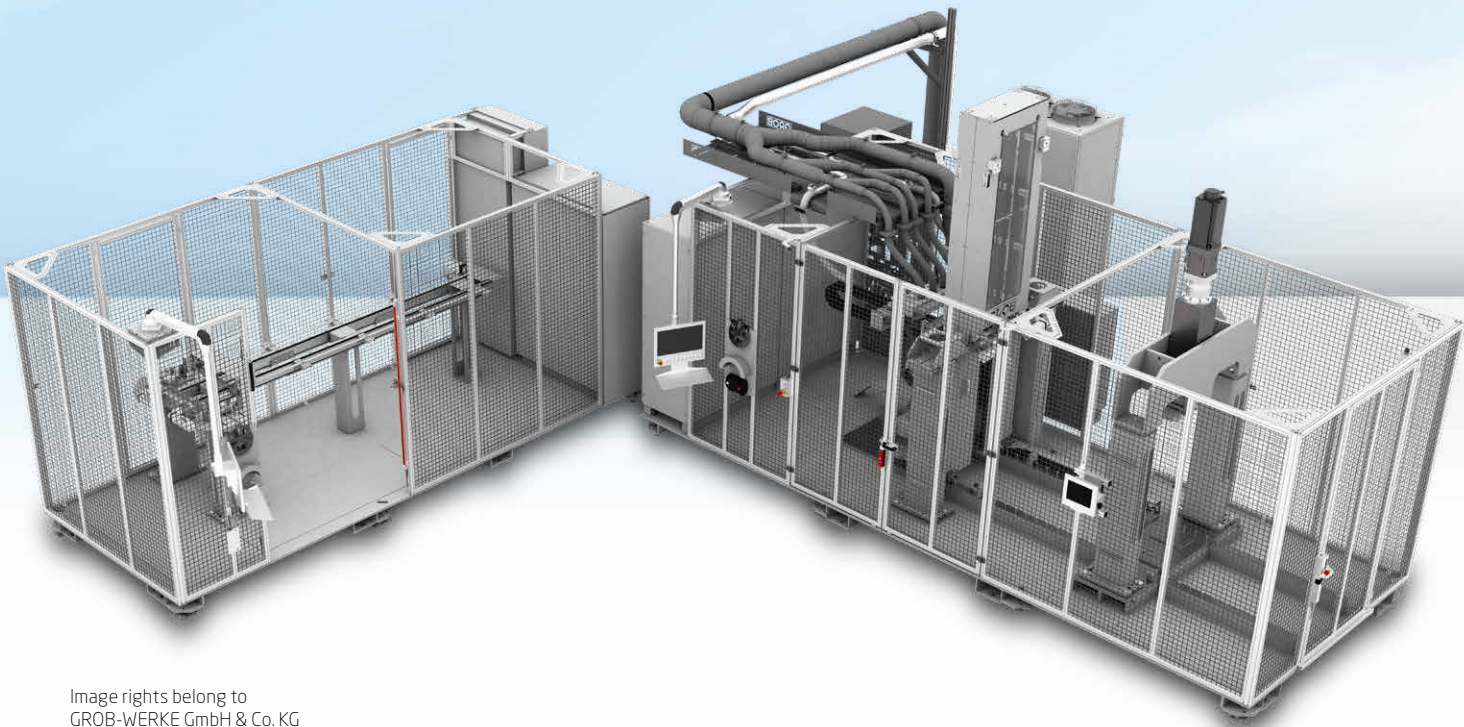


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Our Vindur Turnkey services.

In expert hands at every step.

With our flexible service modules, you benefit from our comprehensive expertise. Always when you need it and exactly as you need it: in individual project steps, with components or with us as general contractor.

Consultation and planning.

Our planning department provides comprehensive advice on technical possibilities, process requirements and normative specifications. In planning, we are guided by the HOAI (scale of fees for architects and engineers) and support you in all planning phases: basic evaluation, profitability calculation, preliminary planning, feasibility study, master plan, design planning and implementation planning.

Design and execution.

For the design, we use our product portfolio, which meets the highest air-conditioning requirements. Of course, we can also integrate existing system parts or components from other manufacturers for you on a project-specific basis and coordinate all components and interfaces.

Agile project management.

Thanks to tried-and-tested engineering and development processes, we ensure the smooth implementation of all your requirements. We work with agile project management methods and selected data processing systems such as 3D CAD, BIM and simulations.

Installation service and commissioning.

We are also extremely efficient in the service we provide for you. We thus ensure the fast and professional installation and successful commissioning of the systems. Our service experts are excellently qualified and, thanks to regular training, are always up to date with the latest technical knowledge.

International after-sales service.

We offer fast and competent service for our plants throughout the entire life cycle. You benefit from our large spare part stock and excellently trained service specialists. We maintain and repair systems on site or via remote maintenance. We also modernise your systems and offer training and education for our customers.

One-stop supplier for turnkey solutions.

- New construction of clean rooms, measuring rooms and process air-conditioning systems
- Conversion, expansion and modernisation of existing rooms and installations
- Custom solutions for individual requirements

New standards for future industries.

It is not just the automotive industry that benefits from our clean room, measuring room and mini-environment solutions and process design expertise. The fundamental technologies we develop for fuel cell manufacturing also pave the way for optimised contamination control and more efficient automated manufacturing in numerous other industries.



	Clean room	Measuring room	Semi-clean rooms	Process climate system
DIN EN ISO 14644/VDI 2083	✓			✓
DIN EN ISO 16232			✓	
VDI 6022	✓	✓		✓
VDI/VDE 2627		✓		
VDA 19			✓	
Machinery Directive	✓	✓		

Vindur Cockpit.

Intelligent service tool for your safety.

Fast reaction.

When air-conditioning systems in critical infrastructures malfunction, action must be taken quickly. Vindur Cockpit is the most effective solution for this. Your installed units are in contact with our service centre via reliable, user-friendly remote access services. All devices are programmed to communicate and transmit data at regular intervals or when an alarm is triggered. This enables us to react immediately to any incidents. We determine the best course of action based on data and ensure a timely, professional response. Online or through the use of a service specialist on site.

Professional remote service.

During remote maintenance, our service technician monitors your devices and systems by means of an encrypted VPN tunnel. This direct access to the user interface of the controller allows our services to start immediately from the desktop.

Effective maintenance operations.

Thanks to the extensive parametric data and measurements of the units, our experts can accurately isolate and diagnose any operating condition. In this way, we ensure that the technician is perfectly prepared for an immediate solution in the event of an assignment at your site.

Safe is safe.

When using Vindur Cockpit for the management of your climate solutions, the protection of your data is also a top priority for us. We ensure a secure connection and rely on reliable security measures and the highest IT security standards.



weisstechnik Academy. Successful practical application.



We make further education an informative and fun experience. For many years, the **weisstechnik** Academy has been standing for successful and innovative application, technics and product trainings in the fields air-conditioning solutions and environmental simulation. Always tailored to our customer's and partner's needs. Take advantage of our learning opportunities – online or in person on site!



Register now!



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 - ▢ Wide range of preventive maintenance
 - ▢ Reliable spare part supply
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development, production and quality assurance.

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weisstechnik

For a safe future.



Environmental Simulation

The first choice for engineers and researchers for innovative, safe environmental simulation facilities. In fast motion, our test systems can simulate all the influences in the world as well as for instance in space. In temperature, climate, corrosion, dust or combined stress tests. With a very high degree of reproducibility and precision.



Air Solutions

As the leading provider of clean rooms, climate technology and air dehumidification, we consistently ensure optimal climatic conditions for people and machines. For industrial production processes, in hospitals, mobile operation tents or in the field of information and telecommunications technology. From project planning to implementation.



Heat Technology

Experienced engineers and designers develop, plan and produce high-quality, reliable heat technology systems for a broad range of applications from heating and drying cabinets to microwave systems and industrial furnaces.



Pharmaceutical Technology

With decades of experience and know-how, we guarantee the most sophisticated clean air and containment solutions. Our comprehensive and innovative range of products includes barrier systems, laminar flow systems, safety workbenches, isolators, airlocks and stability test systems.

Weiss Klimatechnik GmbH

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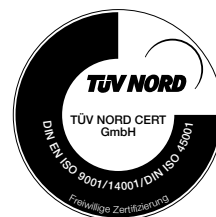
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Passion for Climate.