



# Precision Air-Conditioning Units Vindur® CoolMaster CW





# Giving your IT a deep breath.

Whether medium-sized or large data centres: rooms with high thermal loads require safe and economical climate control solutions. We'll support you!



## Frequent calculators need a cool head.

Advancing digitalisation continually increases the power density of servers - and hence the heat load. Therefore, highly reliable and powerful climate control isn't the only essential factor for major financial projects such as data centres. Energy and space efficiency are also becoming increasingly decisive factors for cost-effective operations. Meeting these challenges requires optimal planning. This will save you investment costs right from the start of the project.

## Great performance - small footprint.

With Vindur CoolMaster CW we present you our Precision Air-Conditioning Unit, long tried and tested and especially developed for IT and server rooms with high thermal loads. Positioning the fans in the underfloor area significantly creates more space for larger filters and heat exchangers. This increases performance and space efficiency considerably. In addition, our system can be used variably with several mechanical cooling systems. Vindur CoolMaster CW allows you to work highly effective and cost efficient.

# Fail-safe, space-saving and highly efficient.

Vindur CoolMaster CW Precision Air-Conditioning Units.

## Optimal design - efficient and safe.

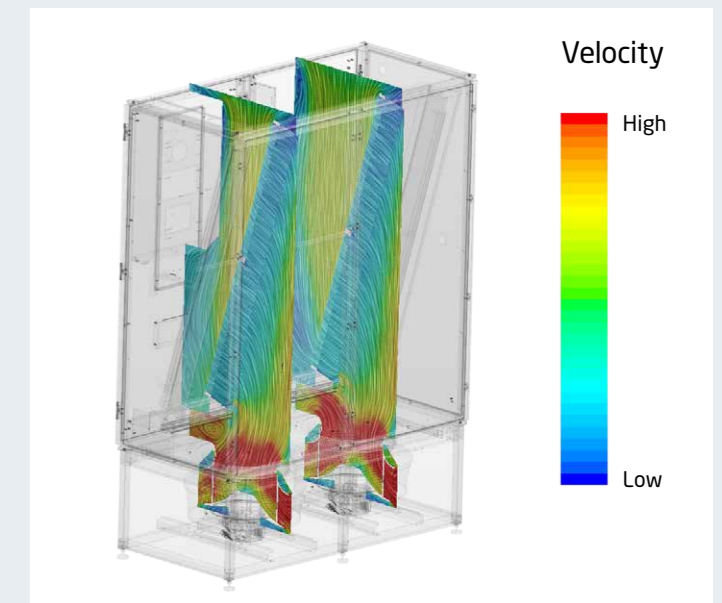
As a pioneer in underfloor fan technology, **weisstechnik** optimises solutions for performance, space requirements and system efficiency. Our Precision Air-Conditioning Units Vindur CoolMaster CW therefore offer ideal conditions for cost-efficient and safe operation of data centres.

## Highly available, anytime.

Every component, including the entire control system, is designed for maximum reliability. If one device fails in the network, the others automatically assume its function. This ensures fail-safe operation and high availability of your data centre.

## Central cooling - flexible installation.

Chilled Water (CW) Precision Air-Conditioning Units are ideal for data centres with central cooling. They are suitable for connection to either a chiller or a central cooling system. This eliminates the need for a compressor and refrigerant in the device. As stand-alone systems, they can be set up largely independently of the building.



## Our highlights:

- Fan fitted into a raised floor to save space
- Higher performance thanks to enlarged filter and heat exchanger surfaces
- Excellent performance-to-footprint ratio
- Particularly energy efficient

# More equipment, right from the start.

## Basic equipment setting standards.

### Interior



- **Direct - optimised air flow**  
Powerful EC fans integrated within a raised floor. This ensures deflection-free air flow and high system efficiency.
- **Increased - great performance, small footprint**  
The space-saving fan arrangement creates more space in the unit interior at unchanged footprint. This allows us to significantly increase the surface area of the heat exchanger and filter.
- **Clean - reduced effort**  
Synthetic fibre fleece cassette filters, directly attached to the heat exchanger, considerably reduce performance loss from contamination, as well as cleaning frequency and maintenance effort.
- **Precise - everything controlled**  
The high-performance heat exchanger is equipped with a 2-way control valve as standard.

### Regulation & Control



- **A flexible team**  
If necessary, up to 16 Vindur CoolMaster CW Units can be grouped together - including retrofitting - without a higher-level control and still share sensor values while operating redundancy networking. This not only reduces your control effort, but also increases security and offers maximum flexibility.



### By the way:

Vindur CoolMaster CW is available in ten different sizes - we surely have the right size in our range for you too!



# Tailor-made cooling.

Options for individual solutions.



## Interior



- **Need-based - integrated humidification**  
Especially important at low outside temperatures: integrated and controllable electrode steam humidification. It increases the humidity in the room as required, e.g. to prevent electrostatic charging of the server.
- **Cool - extra performance**  
For server rooms with a particularly high heat load, the high-density versions with extra large heat exchanger and expanded intake offer additional cooling capacity.

## Exterior



- **Secured - no backflow**  
In order to prevent the air from flowing back in the event of a fault or shutdown of the Vindur CoolMaster CW, a louvre damper can be attached to the top of the unit.
- **Flexible - independent set-up**  
Server room without a raised floor? No problem - a discharge plenum can also be integrated as an option, which allows you to set up the units without restrictions.

## Regulation & Control



- **Networked - highly variable**  
Vindur CoolMaster CW can be flexibly integrated via Modbus, BACnet and SNMP network into the building management system. In addition, web connection and visualisation are also possible.
- **Uninterruptible - even fail-safer**  
If required, the Precision Air-Conditioning Units can be equipped with double feed and automatic, uninterruptible network switching. Better safe than sorry.

### Special wishes?

For a particular specification or advice on installation please contact us directly at any time.

# Extremely flexible and highly intelligent.

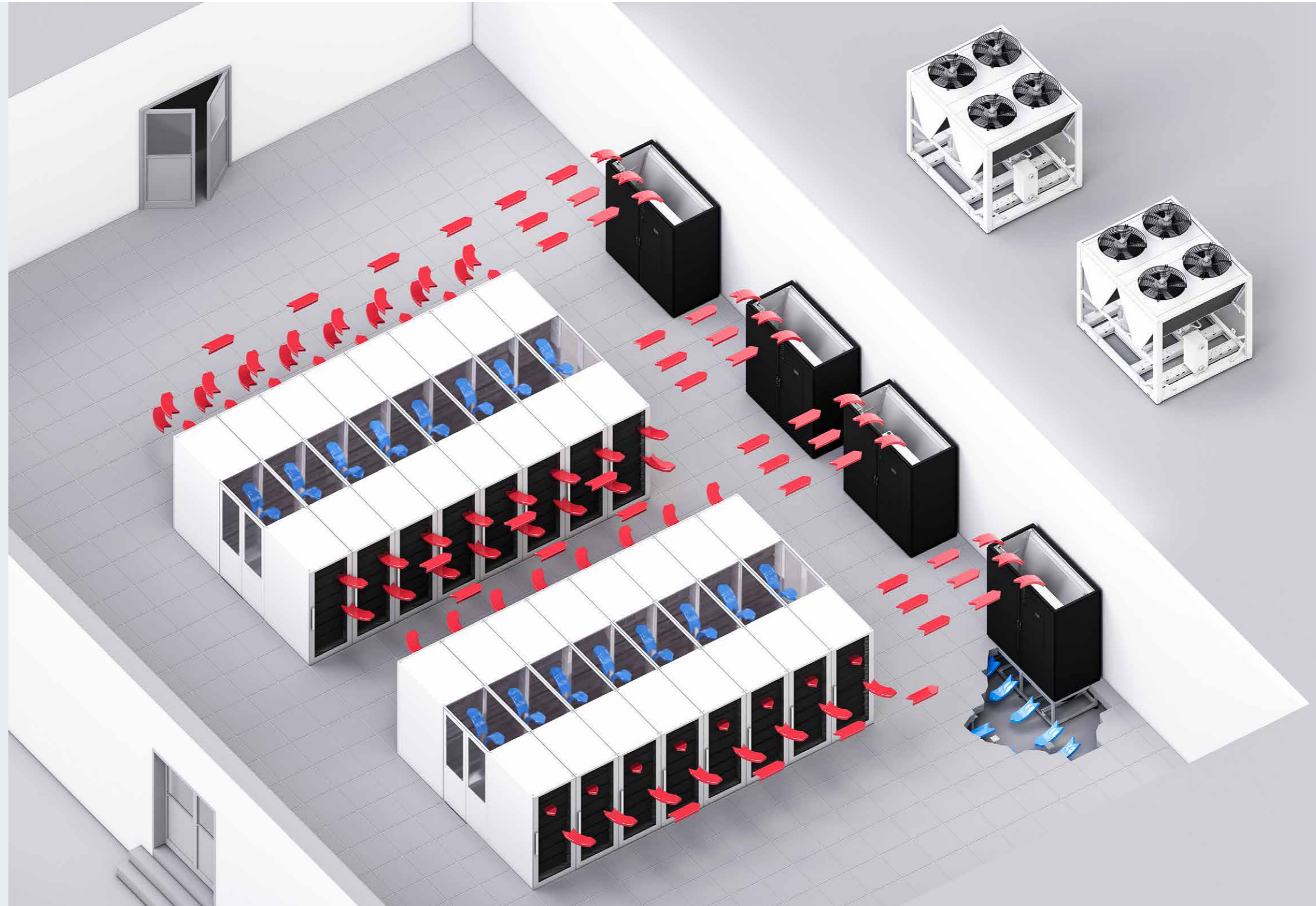
Adjust your cooling at any time.

The Precision Air-Conditioning Units Vindur CoolMaster CW are designed for use in server rooms with raised flooring. The cold air is discharged from under the unit and directed into the cold aisle via the raised floor. It then passes over the server into the hot room, from where it is drawn back to the air-conditioning system.

These powerful air-conditioning systems are designed for connection to an external chiller or a central cooling system and can be set up flexibly within the room. An additional discharge plenum can be added for use in rooms without an existing double floor.

Vindur CoolMaster CW is designed with the tried and tested Control System **intelli.4®**. In addition, other standard brands can also be programmed inhouse.

Thanks to intelligent control, the devices can be networked and run in master/slave mode.





# The operating principle.

Get a clear picture of Vindur CoolMaster CW.

## How the Precision Air-Conditioner works.

The refrigerant is supplied by an external water chiller or a central cooling system and fed into the oversized heat exchanger. The air sucked in at the top is led through the air filter and the heat exchanger and cooled with low pressure losses.

The highly efficient EC fan integrated in the double floor draws in the air and directs it into the cold aisle without any additional deflection losses.

Thanks to the large filter and heat exchanger surfaces, lower passage speeds can be achieved with lower pressure losses, which further increases efficiency.

## Construction high-density version.

Special high-density models are available for rooms with a particularly high heat load. These are equipped with an additional intake, are built higher and offer space for even larger heat exchangers and filters.

## Structure of a Precision Air-Conditioner



# Convincing technology. Reliable results.

## The performance data at a glance:

Precision Air-Conditioning Unit Vindur CoolMaster CW												
Size			30.4 CW <sup>1</sup>	60.4 CW	110.4 CW	140.4 CW	220.4 CW	260.4 CW	330.4 CW	380.4 CW	420.4 CW	400.4 CW <sup>2</sup>
<b>Nominal volume flow</b>	Nominal air flow	m <sup>3</sup> /h	3000	6000	11000	14000	22000	26000	33000	38000	42000	38000
	Air flow, max. <sup>3</sup>	m <sup>3</sup> /h	3300	6100	16000	17500	31000	33500	47000	59000	61000	45500
	External pressure loss	Pa	20	20	20	20	20	20	20	20	20	20
<b>Cooling CW - chilled water 15/21 °C and air intake 35 °C/30% RH</b>	Cooling capacity, total	kW	13.5	27.5	46.9	61.3	92.8	112.0	140.6	197.1	217.2	215.7
	Media volume flow	m <sup>3</sup> /h	1.9	4.0	6.7	8.8	13.3	16.1	20.2	28.3	31.2	31
	Cooler pressure loss	kPa	17.7	22.6	28.0	27.2	27.2	26.1	26.9	27.9	27.3	37.9
	Valve pressure loss	kPa	9.5	15.7	17.7	30.3	28.5	16.2	25.6	50.2	-	-
	Connection		Rp 3/4	Rp 1	Rp 1 1/4	Rp 1 1/2	Rp 1 1/2	Rp 2	Rp 2	Rp 2 1/2	Rp 3	76 mm
<b>Cooling CW HD<sup>4</sup> - chilled water 20/30 °C and air intake 38 °C/30% RH</b>	Cooling capacity, total	kW	-	25.9	44.2	57.7	87.3	106.3	132.4	155.4	171.6	180.0
	Media volume flow	m <sup>3</sup> /h	-	2.2	3.8	5.0	7.5	9.2	11.4	13.4	14.8	15.6
	Cooler pressure loss	kPa	-	20.9	21.7	22.3	19.5	25.3	19.9	22.7	24.5	23.2
	Valve pressure loss	kPa	-	12.2	14.4	25	22	33.1	20.8	28.7	35	15.2
	Connection		-	Rp 1	Rp 1 1/4	Rp 1 1/2	Rp 1 1/2	Rp 2	Rp 2	Rp 2 1/2	Rp 3	76 mm
<b>Filter in intake</b>	Construction type		Cassette filter									
	Filter class complies with DIN EN ISO 16890		ISO Coarse 90 % (G4)									
<b>Fans</b>	Construction type		EC motor, direct drive, free-running									
	Size		355	500	630	630	630	630	630	630	630	560
	Quantity	unit	1	1	1	1	2	2	3	4	4	3
	Power consumption, total <sup>5</sup>	kW	0.37	0.52	1.07	1.44	2.37	2.81	3.52	3.97	4.5	6.03
	Current consumption, max.	A	2.9	1.5	5.7	5.7	11.4	11.4	17.1	22.8	22.8	19.8
	Specific Fan Power (SFP)	kW/(m <sup>3</sup> /s)	0.44	0.31	0.35	0.37	0.39	0.39	0.38	0.38	0.39	0.57
<b>Sound data<sup>5</sup></b>	Sound power level, suction side	dB(A)	71	64	69.0	74	72	76	74	72	74	82
	Sound power level, pressure side	dB(A)	79	75	76	81	80	83	81	80	82	91
	Sound pressure level in open (2 m distance)	dB(A)	54	47	52	57	55	59	57	55	57	65
<b>Dimensions of base unit</b>	Width	mm	800	1100	1100	1400	1800	2200	2600	3100	3350	2550
	Depth	mm	645	695	895	895	895	895	895	995	995	995
	Height (above double floor)	mm	1800	1950	1950	1950	1950	1950	1950	1950	1950	2300
	Height (in double floor)	mm	-	550	600	600	600	600	600	600	600	700
	Footprint	m <sup>2</sup>	0.52	0.76	0.98	1.25	1.61	1.97	2.33	3.08	3.33	2.54
<b>Weight (incl. base frame)</b>		kg	215	340	385	450	585	700	845	1100	1250	1000
<b>Supply voltage</b>		V/Ph/Hz	400/3/50									

<sup>1</sup>Model design with fan in base unit.

<sup>2</sup>Model design for hyperscale applications.

<sup>3</sup>With average filter contamination.

<sup>4</sup>Model design with high-density heat exchanger.

<sup>5</sup>With nominal air flow.

## We measure ourselves by our service.

We think and act collaboratively service-oriented. With our service teams, we offer sustainable solutions for long-term safe system operation.



### Our services - lots of good reasons:

- Global service network
- Wide selection of preventive maintenance
- Reliable spare part supply
- Special deployments available any time
- Certified proper disposal of outdated devices

Our Service Experts are always near you.

**24/7-Service-Helpline:  
+49 1805 666 556**

### Expert advice

Our experienced experts are ready to support you from the first idea to after-sales service in every step of your project, by telephone or on the spot.

### Maintenance and servicing

We offer different service levels and guaranteed reaction times after the receipt of the fault report. Our full maintenance service provides additional safety with calculable costs.

### Spare parts management

Many spare and wearing parts are directly available in our warehouse. To further increase operational reliability, selected spare parts can additionally be stocked on site. We would be pleased to advise you further.

### Instruction and training

We provide regular trainings covering the application, operation and software of the units. We also offer customer-specific workshops on request at your location.

## Need a little bit more?

Air-conditioning solutions for specific requirements.

Cool minds in many IT and telecommunication companies worldwide choose the innovative air-conditioning units and systems made by **weisstechnik**. Wherever there are very special climatic requirements, we develop energy-efficient, high-performance and customer-specific systems for cooling data centres and server rooms. From planning and production to assembly and maintenance. Keeping your computers cool even when things get hot. Get in touch with us!

## Simply everything under control.

With our software and control packages.



### Intelligent control for optimal HVAC

- Simple and easy operation
- Virtually limitless extendability of I/Os and components
- Can be linked to standard communication and fieldbus protocols of other products
- Easy scalability of visualisation and operation
- Focus on changeability and extendability throughout the entire life cycle of the unit and systems



# Passionately innovative.

**We work in partnership to support companies in research, development, production and quality assurance. With 22 companies in 15 countries at 40 locations.**

**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

Greizer Straße 41-49  
35447 Reiskirchen/Germany  
T +49 6408 84-6500  
ict@weiss-technik.com  
www.weiss-technik.com



**Passion for Climate.**



Management System  
ISO 9001:2015  
ISO 14001:2015  
ISO 45001:2018

www.tuv.com  
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Illustrations may contain options.  
Subject to technical changes.