



WIBObarrier® Containment Systems



Custom-fit and according to requirements.

Increased protection for employees, products and the surrounding area.



We protect you and your products

Nowadays, companies, laboratories, institutes and universities from the most varied industrial and scientific sectors work with materials that can be harmful to health. Conversely, numerous products must be protected against pollutants during the manufacturing process. The WIBOBarrier® system was especially developed for product and working ranges, in which stable protection of persons and high-quality clean air is required.

Place your trust in our expertise

Workstations and systems where risks can occur must be both functional and cost-effective. As a company with decades of experience, our experts at Weiss Pharmatechnik develop efficient, individual and favourably priced solutions, in close collaboration with you, our customer. Place your trust in our extensive knowledge.

Individual solutions

At Weiss Pharmatechnik, no two WIBOBarrier® systems are the same. Each of our standard devices is individually adapted to the customer's wishes and requirements. In this way, you only receive equipment from us that is exactly attuned to the unique needs of your company. Our experts pay attention to the safety and economic efficiency of your system here. They establish what is important to you. All of our individually adapted items of equipment do, of course, fulfil all of the necessary legal requirements.

We won't abandon you

We are here for you even after you have purchased your WIBOBarrier®. Continuous care of your system by our professional service team also ensures that the value of your equipment is preserved in the long-term and that it is used in a cost-effective manner. We provide all of the necessary certifications and re-certifications. Our service team is available to you around the clock and guarantees you the fastest possible support.

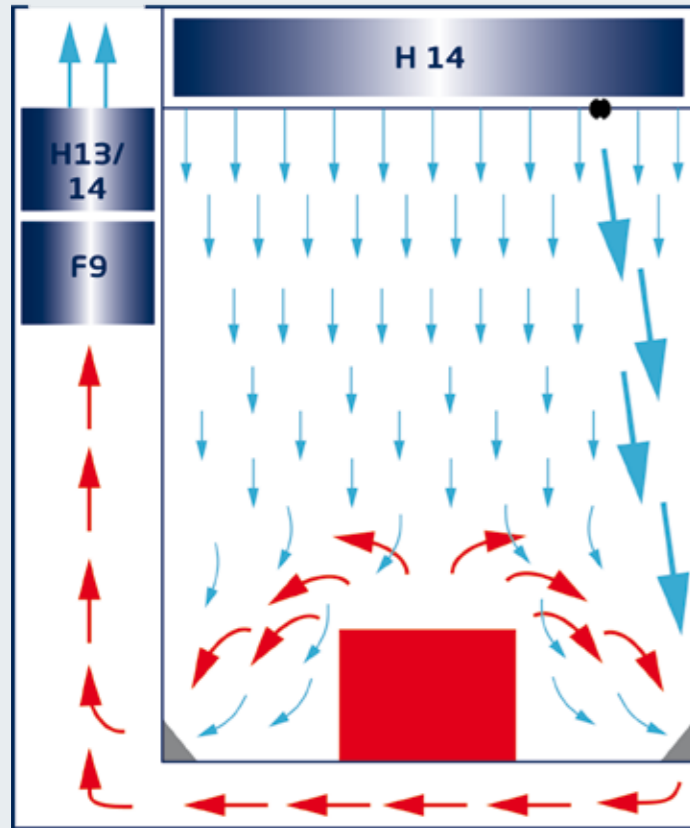


Ensuring a high level of safety

- Protection of products, the environment and persons
- High-quality clean air
- Safety and cost-effectiveness
- Individual customer solutions
- Comprehensive services

Safely shielded.

The innovative air curtain technology of the WIBObarrier®.



The WIBObarrier® principle.

The patented WIBObarrier® air flow control system operates in accordance with the three-zone principle:

- Zone 1: product area
- Zone 2: personnel area
- Zone 3: clean air curtain

A vertical clean air curtain separates the product area from the personnel area. Whilst the product area is streamed with HEPA-filtered clean air, the barrier curtain also offers protection against turbulence, which is caused by the employee's movements.

Airborne particles emanating from inside or outside are attracted by the barrier clean air curtain and guided to the suction vents on the front and back. The WIBObarrier® principle offers employees, the surrounding area and products the best possible protection.

The WIBObarrier® ejector nozzles are perfectly attuned to one another in terms of their shape, direction, speed and air quantities. This perfect interaction produces an optimum flow picture that is needs-based. The clean air curtain generated in this manner remains largely stable if employees reach through it.

Optimal protection of products and persons thanks to

- 3-zone principle
- Ejector nozzles that are attuned to one another
- Stable clean air curtain
- Dissipation of airborne particles
- Protection against turbulence



Protection by clean air zone

With the WIBObarrier® principle, expensive clean rooms and high clean room classes often become superfluous, as the clean room zone of the WIBObarrier® is often sufficient for many tasks. The equipment can be installed in grey or black areas. In existing clean rooms, the WIBObarrier® ensures that a high protection class is achieved. Clean air diffuser outlets offer cleanliness class ISO 5 in the product area. All WIBObarrier® equipment corresponds with the product exposures in accordance with OEL level and the cleanliness classes in accordance with DIN EN ISO 14644-1.

Areas of application

The WIBObarrier® is suitable for many different types of work such as emptying and filling, sampling, weighing or refining. The WIBObarrier® is available in different configurations as an open or closed system, depending on requirements and areas of application.

Safety is a given.

Reliable protection in the workstation.

Protection of products



- **Protection of products**
HEPA-filtered clean air protects the product against contaminants and cross-contamination.

Protection of persons



- **Protection of persons and areas**
Harmful vapours, aerosols and dusts are safely dissipated.

Protection against hazardous substances

Workstation threshold values are an important instrument for protecting employees against danger to their health and safety in the field of hazardous substances. These values were set by the legislator in the Gefahrstoffverordnung (GefStoffV) [Ordinance on Hazardous Substances]. This states at which concentration a substance is expected to have acute or chronically harmful effects on health in general.

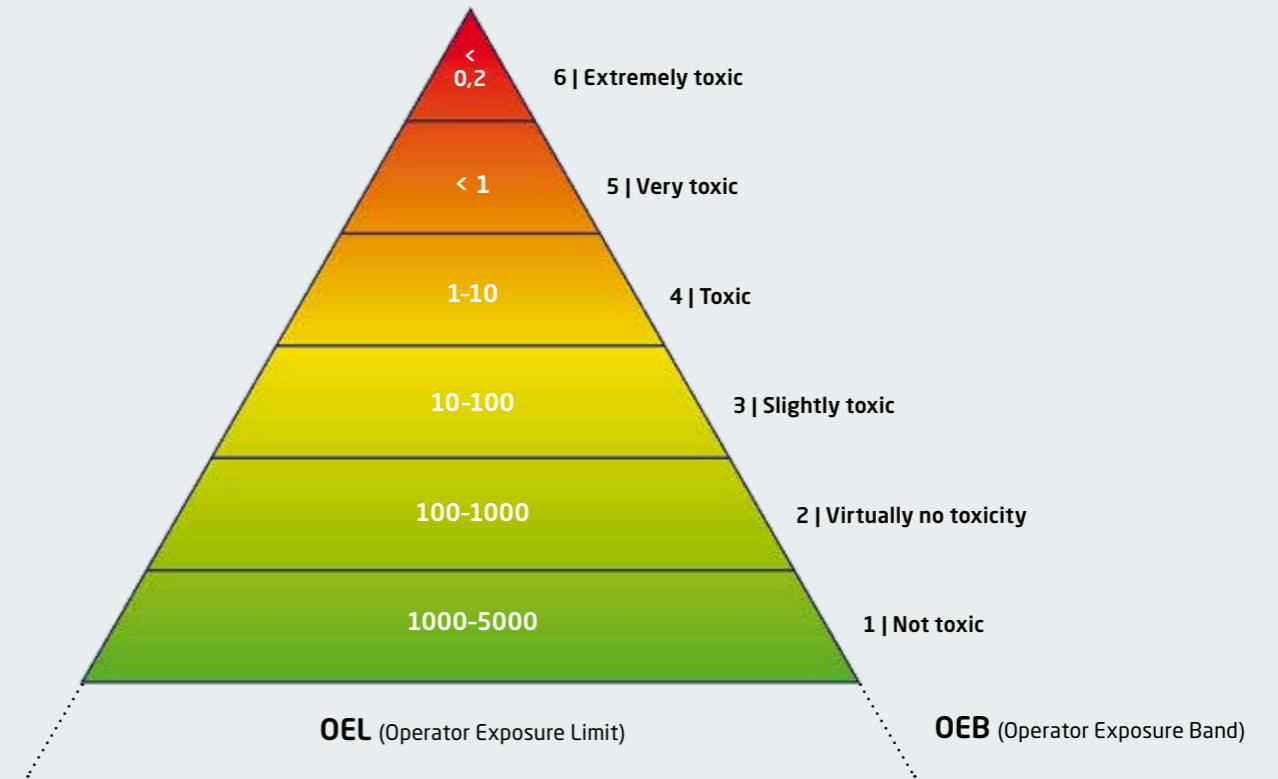
Determination of the occupational limit values takes place on the basis of existing occupational medicine experience and toxicological knowledge, which are retained in the workstation indicative occupational exposure limit values for the OEL of the European Commission, amongst others. The higher the OEL level, the higher the protection requirements. The OEB classifies the toxicity of the respective substances by subdividing the OEL values into six classes.

A WIBOBarrier® for every level

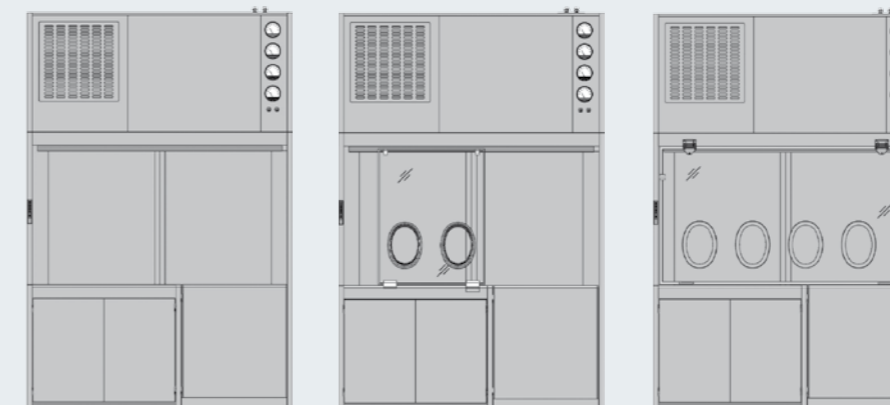
The WIBOBarrier® systems generally reach a containment level of up to OEB 5. There are configurations for product protection according to requirements and protection of products and persons. We at Weiss Pharmatechnik provide extensive consulting services regarding which item of equipment is best suited to your production.

The WIBOBarrier® is available in three configurations:

- as a completely open system (OCS)
- as an open system with sliding glass panel (OCS plus)
- as a closed system with front panel (CCS)



OEL - Operator Exposure Limit describes the average concentration of the active substance in $\mu\text{g}/\text{m}^3$ within the breathing zone of the operating personnel over a period of eight hours. **OEB - Operator Exposure Band** characterises the extent of the toxicity of the substance on a containment scale from 1 to 6.



The different safety levels (from left to right):

- open (OCS)
- with sliding glass panel (OCS plus)
- completely closed (CCS)

WIBObarrier® Open Containment System (OCS).

Ideal for protection of persons, areas and products.



Standard equipment

The open WIBObarrier® system is an ergonomic workstation, which reliably protects persons, products and areas. The air is filtered into the hood according to the clean room air quality using the H14 filter for volatile particles and guided into the working area as a unidirectional flow with a graduated flow speed of 0.17 m/s to 0.45 m/s. The additional vertical air curtain in the front range reliably separates the product and personnel area. The WIBObarrier® clean air curtain attracts airborne particles from both outside and inside and guides these to the front and back suctioning device intended for this purpose. The innovative WIBObarrier® air flow control principle in the product area guarantees that the clean air quality will remain stable if the employee reaches into the product area.

The contaminated air flows through a two-tier discharge air filtering system F9/H14 (or H13) in the back panel. The filters are accessible from the working area and can be changed with very little contamination (bag in/bag out).

The WIBObarrier® OCS is made from stainless steel in compliance with GMP and FDA guidelines and is freely accessible, making it easy to clean. The front suctioning device is configured in such a way that foreign matter, such as liquids, are barely able to penetrate it.

The equipment can be operated as a self-sufficient system for circulating air operations, regardless of the existing air flow control. Alternatively, it is possible to connect this to an existing discharge air system belonging to the customer.

Options

A front panel with glove ports also serves to protect against splashes or spreading. It can also be moved over the entire width of the back panel in a flexible manner. The WIBObarrier® OCS therefore offers unrestricted access to the product range, despite the protective panel. This means that the panel is only installed where it is actually needed and can be easily disassembled if required.

Further equipment such as lifting equipment, continuous liners, power sockets, other utilities and flow monitoring are possible.

The WIBObarrier® OCS is also available in explosion-proof form.

Application

The WIBObarrier® OCS is suitable for hazardous substances of OEB 1-4 and guarantees cleanliness class 5 in accordance with ISO 14644-1 in the product range.

WIBObarrier® Closed Containment System (CCS).

Safety when handling highly potent substances.



Standard equipment

The WIBObarrier® CCS is the right equipment for you if your production involves working with highly potent substances or API substances, where strict limitations apply in terms of handling. As with insulating technology, a closed front panel guarantees complete separation between the product range and the outside environment. Work on the product takes place using glove ports. Integrated ante-chambers are present for transferring products and materials.

The WIBObarrier® CCS also offers you the option of folding the front panel up or to the side so that the barrier is freely accessible. The well-proven WIBObarrier® clean air curtain also provides stable protection of persons and products with an opened separating panel. This means that the equipment can also be used for working with less hazardous substances.

The air is filtered into the hood according to the clean room air quality using the H14 filter for volatile particles and guided into the working area as a unidirectional flow with a graduated flow speed of 0.17 m/s to 0.45 m/s. An additional vertical air curtain in the front range reliably separates the product and personnel area. The contaminated air flows through a two-tier discharge air filter system F9/H14 (or H13) in the back panel. All filters are accessible from the working area and can be changed with very little contamination (bag in/bag out). The equipment is made from stainless steel in compliance with GMP and FDA guidelines and can be easily cleaned.

The WIBObarrier® CCS can be operated as a self-sufficient system for circulating air operations, regardless of the existing air flow control. Alternatively, it can be connected to an existing discharge air system belonging to the customer.

Options

The modular configuration of the WIBObarrier® CCS makes it possible to use the equipment for different tasks, flexible processes and different container sizes. This means that you save time and money on expensive modifications.

The system can also be equipped with a WIP system (Wash-In-Place hand spray) if desired, so that cleaning can also take place with the front panel closed. Further equipment such as lifting equipment, continuous liners, power sockets, other utilities and flow monitoring are possible.

The WIBObarrier® CCS is also available in explosion-proof form.

Application

The WIBObarrier® CCS is suitable for hazardous substances of OEB 1-5 and guarantees cleanliness class 5 in accordance with ISO 14644-1 in the product range.

WIBObarrier® LAB Containment.

The cost-effective solution for laboratory use.



In collaboration with the system manufacturer and Excellence United Partner Glatt, Weiss Pharmatechnik has developed an innovative item of equipment which combines the benefits of the WIBObarrier® system with the reliable Lab Containment Technology produced by Glatt. This new development for the laboratory sector offers you the best possible cost efficiency while at the same time optimising the flow of your processes with different OEB levels.

Standard equipment

The intelligent WIBObarrier® Lab Containment technology makes it possible to implement several laboratory processes in succession with only one WIBObarrier® system, such as weighing, granulation, filtering, drying, mixing, tableting and coating.

Each laboratory process unit or combination of two process units can be found on one mobile workbench, which can be moved into the clean room area of the barrier with ease. The clean room area is significantly reduced as a result of this and is only present where it is actually needed. This means that you save on space and costs for a larger clean room area. In order to keep cleaning expenditure as low as possible, the control of the process equipment takes place outside of the barrier system.

Options

The WIBObarrier® LAB Containment is available in three configurations:

- as a completely open system (OCS)
- as an open system with sliding glass panel (OCS plus)
- as a closed system with front panel (CCS)

WIBObarrier® systems from Weiss Pharmatechnik can be expanded to a variable degree according to OEB level and intended use and offer various options for combination and configuration. In order to further increase process efficiency, two WIBObarrier® systems can, for example, be used at the same time. The result is full process flexibility with minimal operating and investment costs.

Application

The WIBObarrier® LAB Containment is suitable for hazardous substances of OEB 1-4 when the front panel is open and guarantees cleanliness class 5 in accordance with ISO 14644-1 in the product range.

The choice is yours.

Further products in the barrier range.



WIBOBarrier® Duo

- Suitable for hazardous substances of OEB 1-4
- Guarantees cleanliness class 5 in accordance with ISO 14666-1 in the product range.

WIBOBarrier® Duo

The WIBOBarrier® Duo is an ergonomic clean room workstation that can be operated from either side, which offers a high level of protection of products, persons and areas. This equipment not only offers considerable savings in terms of space, but it can also often replace clean rooms entirely. The double barrier makes it possible for multiple employees to work concomitantly. Activities that go hand in hand can be carried out from both sides without problems. The WIBOBarrier® Duo works with the well-proven air flow control system of Weiss Pharmatechnik.

WIBOBarrier® Flow

The WIBOBarrier® Flow is a free workstation which, despite its open design, offers protection of persons, areas and products. HEPA filters are located in the hood, via which the clean air flows into the working area with low turbulence laminar flow. The nozzles integrated in the front region of the hood form a stable clean air separating curtain, which reliably protects the working area from the surroundings. A laminar air curtain is therefore not required, which makes product handling easier. The stable air flow also protects against the infiltration of unwanted particles.



WIBOBarrier® Flow

- Suitable for hazardous substances of OEB 1-4
- Guarantees cleanliness class 5 in accordance with ISO 14644-1



WIBOBarrier® horizontal

- Guarantees cleanliness class 5 in accordance with ISO 14644-1 if installed in the black area.

WIBOBarrier® horizontal

The WIBOBarrier® horizontal offers protection of persons, areas and products when filling containers. It captures released product particles, even when closing and docking. The integrated vertical and horizontal clean air curtains safely shield the protected area. The well thought-out construction with nozzles, controls and pressures that are exactly attuned to one another guarantee high directional stability, so that no particles can penetrate from outside. Clean air flows within the protected area. Product emissions are safely captured and dissipated. The modular construction means that it can be used in a number of ways.

WIBO Drum Port®

The WIBO Drum Port® makes it possible to safely bring products into the clean room area of your WIBOBarrier® CCS in compliance with GMP/FDA. The lifting equipment is located outside the system. Contamination of the product by dusts, which adhere to the top of the entire container, is avoided by targeted air displacement. A hose seal secures the inward transfer of the fibre drum. The outside of the fibre drum is protected against contaminants thanks to targeted, all-round air displacement. Less space is required inside, which reduces the air and cleaning requirement.



WIBO Drum Port®

- Suitable for hazardous substances of OEB 1-4
- Guarantees cleanliness class 5 in accordance with ISO 14644-1

We make it possible.

Special solutions for individual customer requirements.



Tailor-made for everyone

At Weiss Pharmatechnik, there is no standard WIBObarrier®. We always focus on our customers' requirements and find the best possible solution for their task. We have provided three examples of special solutions for you.

Barrier with material ante-chamber for Bayer

The Bayer factory in Weimar gave Weiss Pharmatechnik the task of making it technically possible for pharmaceutical materials (API) up to hazardous material class OEL 4 to be weighed out in an isolated area and then transferred to the batch container. For this purpose, it is vital that the systems for the weighing process function in a cost-effective, ergonomic manner under GMP conditions.

Weiss Pharmatechnik supplied two material ante-chambers for inward transfer of the material supply containers into the weighing chambers and two material ante-chambers with a film tunnel for outward transfer of the empty and opened containers without contamination. Both weighing chambers have been fitted with two WIBObarrier® OCS weighing workstations. The materials are weighed here and transferred into stainless steel containers. Employees then transport the containers for loading. The loading station consists of one WIBObarrier® emptying cabin with a work platform, a docking station for the container with vacuum lifting device for the container lid and a lifting device.



Emptying station for High Containment conditions

The WIBObarrier® emptying station was designed by Weiss Pharmatechnik especially for the semi-automatic emptying and filling of pharmaceutical materials up to OEB 5.

Pulverulent substances are transferred into containers in the protected area in a unidirectional manner via the material ante-chamber with roller conveyor and lifting gates locked into one another. A lifting device with additional tilting function guarantees comfortable handling. All work steps can take place with the front panel closed using glove ports. After inward transfer, the container is opened and the contents are transferred into the adjacent filling cabin with the assistance of a suction lance, via a hose connected to the container of the vacuum conveyor. The docked container station is located below the container, which makes it possible to carry out filling via a dual-valve system that complies with GMP.



High Containment conditions for pharmaceutical customers

The WIBObarrier® safety workstation BGKVO 200/170 with an integrated heating and drying oven TU 60/60 by Vötsch Industrietechnik makes it possible to dry pharmaceutical interim and end products and to process these further under containment conditions in the WIBObarrier®. This unique combination of equipment offers you not only increased protection of persons and products, but also guarantees that your products are processed in compliance with GMP and FDA. At the same time, the WIBObarrier® air flow control system prevents the dissipation of gases or airborne particles that emanate from the product.



We are there for you

Are you in need of a special solution for your production? If so, then speak to us. Our experts can offer you comprehensive advice and will find the optimum solution for your company.

Convincing efficiency.

Our technical data at a glance.

WIBOBarrier® safety workstation in circulating air operation

Type		BGKVO 150/143	BGKVO 200/143	BGKVO 250/143
Width	mm	1500	2000	2500
Height	mm	3000	3000	3000
Depth	mm	1435	1435	1435
Working area depth	mm	885	885	885
Working area height	mm	950	950	950
Height of front opening	mm	1050	1050	1050
Air circulation volume flow	m³/h	1800	2400	3000
Lighting	Lux	500	500	500
Noise level at a distance of 1 m	dB(A)	< 65	< 65	< 65

Subject to technical modifications.

Accessories and options for WIBOBarrier® OCS and CCS:

- Front panels with glove ports
- Adjustable area for lifting equipment
- Continuous liners
- Material ante-chambers
- Filter monitoring
- Differential pressure sensors
- Particle monitoring
- Power outlets
- Valves and utilities
- Sinks for detergent or solvents
- Weighing stones
- Floor units

WIBOBarrier® safety workstation in supply air and discharge air operation

Type		BGKVO 150/143	BGKVO 200/143	BGKVO 250/143
Width	mm	1500	2000	2500
Height	mm	3000	3000	3000
Depth	mm	1435	1435	1435
Working area depth	mm	885	885	885
Working area height	mm	950	950	950
Height of front opening	mm	1050	1050	1050
Discharge air volume flow	m³/h	1800	2400	3000
Required pre-pressure for discharge air	Pa	1100	1100	1100
Supply air volume flow	m³/h	1500	2000	2500
Required pre-pressure for supply air	Pa	500	500	500
Lighting	Lux	500	500	500
Noise level at a distance of 1 m	dB(A)	< 65	< 65	< 65

Subject to technical modifications.

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

Test it. Heat it. Cool it.



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.



Climate Technology, Air Dehumidification, Clean Rooms

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.



Clean Air and Containment Systems

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 and airlocks.

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