

Knowledge compact by Weiss Pharmatechnik:

Automated processes at any time of day and night.

Optimisation of repetitive laboratory processes.

The pipetting and aliquoting of substances in order to study or manufacture pharmaceutical products is generally subject to strict time and safety guidelines. The process is still predominantly carried out manually. This leads to disproportionate effort, especially when the process has to be started at varying times of the day and night and suitable personnel must be available for this. An automated robotics solution in an appropriate safety environment allows the process to be carried out more effectively and, above all, autonomously.



Customization.

This application describes a cooperation between **Weiss Pharmatechnik GmbH** and ESSERT Robotics in Bruchsal, Germany, which specializes in flexible automation solutions. The safety cabinet was specially designed to accommodate an ESSERT automation platform in compliance with DIN EN 12469. The customer is active in the pharmaceutical sector and in the production of hormone preparations.

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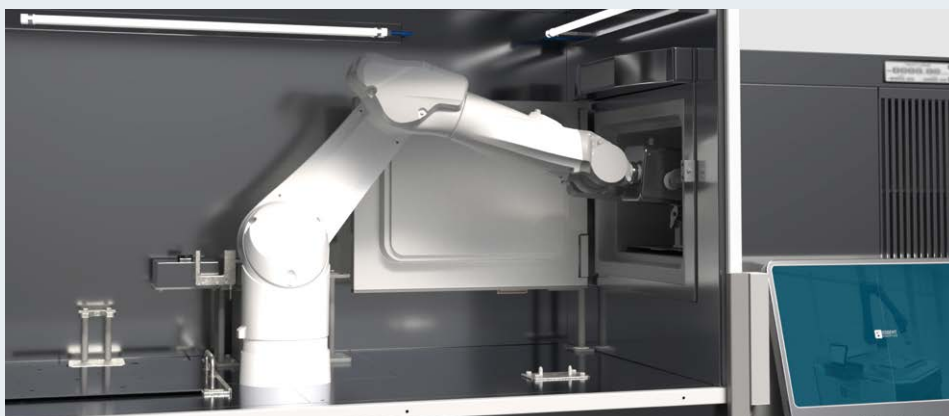
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Specially designed robotics.

An ESSERT SteriClean robot, specially developed for critical use in class A aseptic production areas, is integrated into the safety cabinet by **Weiss Pharmatechnik**. The 6-axis industrial robot can access multiple and also different sized source and target containers, from a few milliliters up to 3 liters. Depending on the application, the material to be pipetted can also be divided among several target containers. Vessels with frozen media can be remo-

ved from a fully integrated ultra-low temperature freezer via an electric gripper.

After a defined thawing time, the caps of the source vessels are automatically twisted off, the medium is removed and the intended vessels are sampled with it. Depending on the application, an automated decapper ensures higher throughput and, if desired, the samples can be labeled fully automatically.



The ESSERT OS operating system uses proven Audit Trail and PM Quality functions to meet all GMP (Good Manufacturing Practice) requirements. Precise positioning and multiple checks guarantee very high process quality.

Re-certification of the environmental conditions is not necessary.

Since in this application the manual process has already been performed in a safety cabinet, the environmental variable has not changed. Therefore, no re-qualification and validation is required for this process component. The regulatory effort is simpler and goes faster. The safety cabinet and cleanroom robot are designed for VHP biodecontamination with hydrogen peroxide.

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Customized safety cabinet - perfectly made to measure.

The microbiological safety cabinet of the UVF-S series has been successfully on the market for decades in long-term continuous use in biotechnology and pharmaceutical production. Today, it is used specifically for special applications with special dimensions and can be adapted to individual requirements.



Good to know!

In the fusion with robotics, repetitive laboratory work is fully automated. The time- and personnel-independent functions and energy-efficient modules contribute to significant cost savings. The compact design also saves valuable laboratory workspace.

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Reliably high process safety.

In the production of active pharmaceutical ingredients, process safety and contamination protection are top priorities. Our safety cabinets in special design protect people, products and the environment from contamination. They are used, for example, in areas where microbiologi-

cal substances, CMR agents and genetically modified microorganisms are handled, such as in BSL3 or BSL4 high-safety laboratories, in vaccine production or in the fermentation of biotechnological medicines.

Good to know!

The entire solution is made of stainless steel and is easy to clean. It is GMP-compliant and meets all requirements for the concept of hygienic design.



Low-vibration, electronically controlled EC fans ensure powerful, low-noise operation and high energy efficiency. The microbiological safety cabinet can be equipped with sockets, sampling fittings and various measuring probes, e.g. for on-site particle monitoring.

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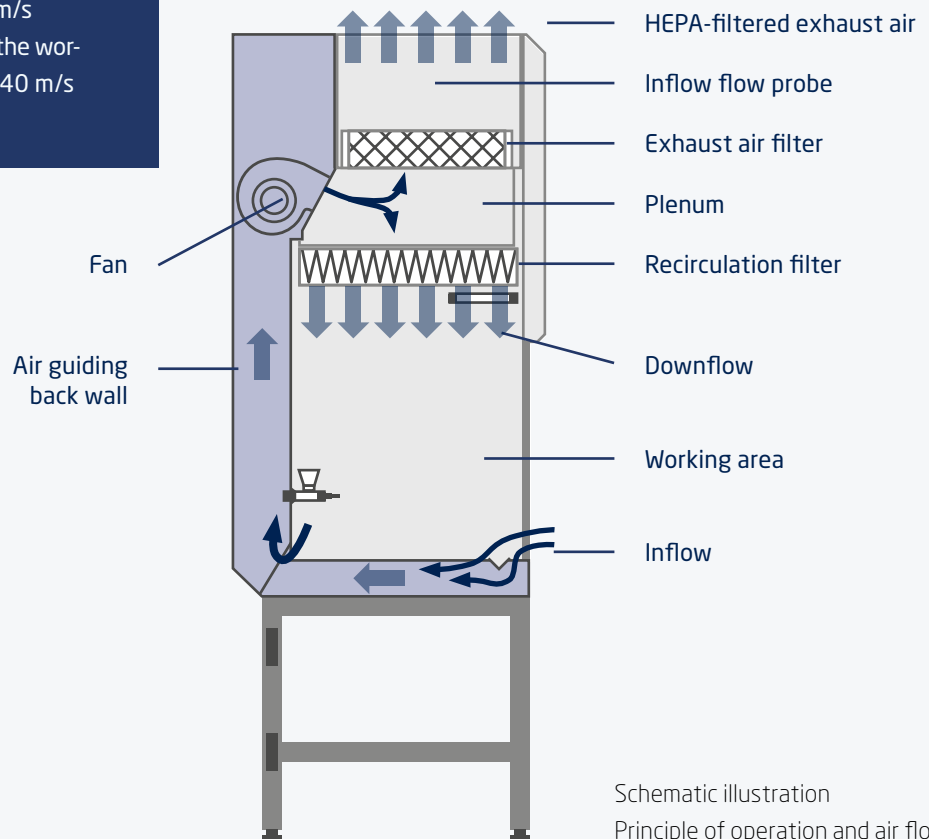
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Innovative air management.

The workbench provides clean air of class ISO 5 in accordance with ISO 14644-1 or clean air class A in accordance with EU-GMP Annex 1 (aseptic conditions). In addition, the contamination areas located beneath the workbench are kept at low pressure by an inflow of 0.5 m/s, thereby preventing any particles from escaping from the work area. The required air is taken from the installation space and dispensed again at the top of the workbench via a HEPA filter. Therefore, a connection to a ventilation system is not necessary. The air velocity is continuously monitored via a flow sensor.

Air velocity:

- HEPA-filtered circulating air, downflow: 0.45 m/s
- Negative pressure in the working area, inflow: > 0.40 m/s



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Flexibly configurable, entirely according to requirements.

In addition to the application shown here, solutions with vertical or horizontal, low-turbulence displacement flow can be implemented depending on requirements. The integration of „classic“ laboratory automation such as liquid handling systems, bioreactors or devices for protein purification can also be individually adapted to the task at hand. For use in larger plants, the WIBO-barrier systems with patented air curtain system or the WIBO Safe isolators are available. Here, too, the integration of robotics functions is possible on an individual basis.



Containment Isolator WIBO® Safe

- Applications: Dispensing, weighing and sample drawing of pharmaceutical substances
- Customized solutions for research, development, laboratory and production
- Highest safety when handling critical substances up to OEB level 6



Containment System WIBObarrier®

- Product protection of cleanroom class ISO 5 according to ISO 14644-1
- Robust retention according to ISPE-SMEPAC
- Customized design - as open system up to closed high containment system in isolator quality

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Conclusion: Effectively and safely increase throughput.

Pharmaceutical processes can be carried out with the solution from **Weiss Pharmatechnik** and ESSERT completely independently of personnel and at any time. The system is in operation precisely when it is needed, allowing downstream processes to be served just in time. Manual errors, ineffective use of personnel with shift allowances, contamination risks for persons and media, and downtime due to missing or unusable preparation are avoided.

- Greater throughput due to automation
- High flexibility in handling different media
- Independent of time and personnel
- Effectiveness with cost savings
- Meets high safety standards
- Individually adaptable to customer needs



Weiss Pharmatechnik is a competent supplier of sophisticated clean air and containment solutions. The product range includes barrier systems, laminar flow systems, safety cabinets, isolators, airlock systems and stability testing systems. A comprehensive service network in the D-A-CH region ensures smooth operation at all times. Weiss Pharmatechnik is a subsidiary of the Schunk Group with over 9,000 employees worldwide.

Get Your Pharmaceutical Solution.

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