



**BOSCH**

Invented for life

A large, stainless steel industrial isolator system is shown in a clean, brightly lit environment. The system consists of several interconnected units. The central unit has a large glass viewing window and four circular ports, each covered with a blue protective cap. To the right, a control panel is mounted on a vertical stand, featuring a large touchscreen display showing a software interface with various graphs and data points. Above the control panel, there are several vertical indicator lights in red, green, and blue. The entire system is supported by adjustable stainless steel legs. The background is a light blue wall, suggesting a laboratory or pharmaceutical manufacturing setting.

## Isolator Systems

Safety and performance  
from one source



# Isolator Systems

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The safe and economical filling of aseptic and highly potent products requires comprehensive process know-how. To that end, Bosch offers you a unique integration approach – ranging from the isolator itself, to the bio-decontamination and air-handling technology to the qualification and validation of the entire system – all from one source.

### More than 25 years of experience

Bosch has decades of experience in the design and manufacture of isolators and complete production lines, with references available from all over the world. We offer you first-class technology for maximum performance, reliability and efficiency.

### Integration instead of interfaces

Complex filling lines with varying units of equipment require expertise in a range of different disciplines. Bosch's compact and optimally customized solutions with very high outputs and availability are only made possible by the synchronicity in our engineering and the comprehensive knowledge of our specialists. Thanks to the Bosch integration philosophy, you have just one contact person, with full responsibility, for your entire project.

### Process engineering expertise

Process dependability is an absolute must in the pharmaceutical industry. This statement is particularly true for isolators. To achieve short cycle times, in addition to having our own H<sub>2</sub>O<sub>2</sub> evaporator system, SafeVAP, we focus specifically on optimized air-handling concepts and on the use of suitable construction materials. For highly potent applications – in addition to special isolator concepts with safe return air filtration systems – special wash-down and pressure control options are also available.

### Microbiological expertise

Our team of scientists, engineers and laboratory technicians conduct physical, chemical, and microbiological tests and analyses in our own pharmaceutical laboratory with the objective of optimizing our own products and processes, customer-specific problems and customer-specific process sequences. For you this means dependability right from the planning phase onwards because our experts are at your side from the very beginning.

- 1 Aseptic isolator application
- 2 High-speed cartridge isolator – interior view
- 3 Aseptic, highly potent isolator application
- 4 H<sub>2</sub>O<sub>2</sub> evaporation system SafeVAP
- 5 Bosch Pharmedlab
- 6 Wireless glove testing system KHD3000
- 7 Integrated H<sub>2</sub>O<sub>2</sub> transfer air-lock ISS
- 8 Isolator line mock-up



### First-rate design and quality

As a result of constant research and development work, Bosch systems provide outstanding quality and ergonomics. Easy-to-clean surfaces and attention to detail are distinguishing features of the Bosch design. Thanks to our extensive material testing, only materials with optimal properties are used for all manufacturing processes, ensuring efficient bio-decontamination cycles and highly dependable operation.

### Qualification and validation

The full range of services offered by Bosch is rounded off by comprehensive consulting, GMP risk-analysis and training, the qualification of your system and other services that extend through to cycle development.

## ADVANTAGES AT A GLANCE

- ▶ Decades of experience in the design and manufacture of isolators and complete production lines
- ▶ Everything from one source – the isolator, filling machine and overall concept
- ▶ Worldwide references for complex production lines for aseptic and highly potent aseptic applications
- ▶ A high degree of flexibility and scalability thanks to modular design
- ▶ Process know-how (biodecontamination, air-handling technology, wash-down processes, etc.)
- ▶ High product quality with compact, GMP-compliant design
- ▶ Physical, chemical and microbiological testing done onsite at our pharmaceutical laboratory
- ▶ Complete solutions including qualification, validation, training and consulting
- ▶ Lean project management with single point of contact



# System expertise

Bosch offers a wide range of supporting equipment and peripheral products for example: the fast H<sub>2</sub>O<sub>2</sub> transfer air-lock (ISS), our vacuum cleaning system (SterileVAC) and the wireless glove testing system (KHD 3000).

In addition to isolators, the portfolio in the barrier systems segment is completed by a full range of RABS and closed RABS offerings.

Even the integration of existing components and machines from third-party manufacturers into an overall system tops off our system expertise. The innovative and fully integrated solutions available from Bosch's modular system make Bosch your ideal partner.



Active open RABS with corresponding air handling unit

Passive open RABS



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