Sterile compounding procedures in health-system pharmacies come with an inherent risk of contamination. As a result, USP <797> requires pharmacies to perform sterile compounding in a controlled environment—separate from other pharmacy activities. Integrating automation into a cleanroom design helps pharmacies achieve greater efficiency, security and safety in the handling and storage of medications and products used for sterile compounding.

**BoxPicker**® - An Ideal Cleanroom Storage/Retrieval Solution

**What is the BoxPicker Automated Pharmacy Storage System?**

BoxPicker is an automated high-density storage and retrieval system for controlled and verified dispensing of medications and supplies. BoxPicker is an expandable pharmacy solution that consists of operator stations and storage modules capable of storing 240 bins each. BoxPicker is operated by a robot that delivers medications to one of four secure access drawers at the operator station. This system is superior to conventional shelving systems because products are identified and verified electronically, providing inventory tracking, controlled access and replenishment.
The Cleanroom Connection

The BoxPicker Unit can be recessed into the pharmacy’s anteroom (see Figure 1). This configuration provides personnel within the cleanroom suite access to medications and supplies without having to leave the anteroom or remove protective clothing. It also eliminates the need for someone outside the cleanroom to remain available to retrieve external products.

The BoxPicker System is completely enclosed and installs flush with the anteroom wall to ensure proper USP compliance. Being flush with the wall also prevents any changes to standard cleaning routines. The normal positive pressurization of the anteroom relative to the surrounding areas prevents the transfer of particulate contamination by blowing air into the open BoxPicker Drawer, similar to opening the door to the anteroom.

Key Benefits of the BoxPicker Cleanroom Configuration

- Increases efficiencies in pharmacy and cleanroom staff operations
- Provides secure access to all supplies and medications within the sterile compounding suite
- Improves ongoing employee compliance with garbing practices
- When additional medications are needed, staff does not need to de-garb to retrieve replacements from the BoxPicker
- Glove replacement is all that is required to re-enter the cleanroom

BoxPicker is available with a refrigeration option for the storage and retrieval of temperature-sensitive medications and supplies.
Best Practices From Current BoxPicker Customers

- Remove packaging and overwrap from high-use, compounding medications before loading them into the BoxPicker. Slower-moving medications can remain in their original packaging (making them eligible for return) and be unwrapped in the anteroom before use.

- Similar to moving medications through a pass-through window, all medications and supplies picked from the BoxPicker should be wiped down or sprayed with alcohol (depending on pharmacy policy) before being moved into the cleanroom.

- Adding a BoxPicker does not alter cleaning procedures and routines; however, be sure that operator station cleaning is included in the normal cleaning schedule.

- Orders for IV admixtures can be routed directly to the BoxPicker if the product is stored there and staff can pull the medication using the queued request.

- Compounding supplies are not generally kept in the BoxPicker due to volume and weight–usually medications in all forms (vials, ampules, tablets, capsules, etc.)

Increased Medication Security While Reducing Picking Errors

- Greater security than carousel systems through controlled access to a single box/product at a time.

- Barcode scan in and scan out verification with password-protected operator access.

- Available dual-temperature, refrigerated half modules eliminate the need for separate, external refrigerators for storage of temperature-sensitive items.