



DISCOVER THE **DIFFERENCESM**



CONTINUOUS IMPROVEMENT CASE HISTORY

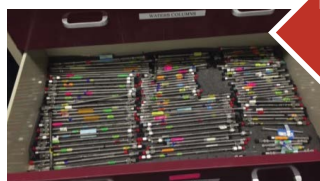
HPLC Column Storage and Retrieval

SITUATION

High-performance liquid chromatography (HPLC) is a technique in analytical chemistry used to separate, identify and quantify each component in a mixture. It relies on pumps to pass a pressurized liquid solvent containing the sample mixture through a column filled with a solid adsorbent material. Each component in the sample interacts slightly differently with the adsorbent material, causing different retention times for the different components and leading to their separation as they elute through the column.

In the DPT analytical laboratory, more than 1,000 different adsorbent columns are used to help identify and quantify compounds. To perform a test, the proper column must be selected and installed in the HPLC unit.

CHALLENGE



BEFORE

Columns kept in deep drawers, not organized within the drawer

When more than 1,000 columns are stored together in deep drawers, finding the exact column for a particular application can be frustrating and time consuming, often taking scientists 15 minutes or more. With approximately 50 DPT scientists in the labs, the total time spent each day was significant.

OBJECTIVE

DPT sought to replace the redundant, manual, paper-based system of column storage with an automated system that would enable scientists to quickly locate and retrieve the exact column they required.

SOLUTION

AFTER

Columns kept in bar-coded slots, easily found via an electronic, searchable database





As part of DPT's continuous improvement program, a cross-functional team studied the problem and recommended a new system, process and equipment that would automate column retrieval and storage. Deep drawers of loose columns were replaced by bar-coded slots specific to each column. When each test is complete, the system helps the scientist return the column to its proper position within the storage unit. The entire program was implemented by end of year 2015.

CONCLUSION

By dramatically reducing the time required to handle HPLC columns, DPT improved efficiency, throughput and turnaround throughout the lab. This process improvement initiative was one of many that have been undertaken as part of DPT's philosophy of continuous improvement, a program that seeks to detect inefficiencies and enhance systems and processes.

OUTCOME

After the system was installed, the time involved was reduced to less than a minute — for an average savings of 14 minutes per column retrieval cycle.

ABOUT DPT

DPT is a contract development and manufacturing organization (CDMO) helping pharmaceutical companies achieve success through optimal solutions to development and manufacturing challenges in semi-solids and liquids. From pre-formulation to analytical method development and technology transfers as well as production, packaging and distribution, DPT is your partner through every step. To learn more, visit DPTLabs.com.

